

# Development of the CernySmith Assessment (CSA) as an Integrative Cross-Cultural Adjustment Assessment

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**Abstract:** Researchers over the past 25 years have uncovered meaningful theories and measures regarding cross-cultural adjustment. However, in light of recent cross-cultural adjustment developments, future factors and scales need to address both psychological and socio-cultural/behavioral constructs for on-field expatriates. That is, finding the most integrative set of on-field cross-cultural adjustment variables is still growing and proves illusive. Furthermore, sufficient item coverage as well as reliable and valid instrumentation is needed. This study presents the CernySmith Assessment (CSA) which is an online 97-item instrument with 20 reliable and valid subscales assessing organizational, cultural, relational, behavioral, and personal domains which constitute the instrument.

**Key words:** cross-cultural adjustment assessment, expatriate adjustment, on-field assessment, intercultural stressors, intercultural adjustment, intercultural measurement, intercultural coaching assessment.

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## 1. Introduction

Estimates of direct costs of failed cross-cultural assignments range from two to three times a typical U.S. employee salary to over \$1 million (Palthe, 2004). In addition, the indirect costs of loss of face, morale, and negative experiences for the spouse and family are significant. Fortunately, a significant body of literature identifies a variety of cross-cultural adjustment models and variables (Ward & Rana-Deuba, 1999; Navara & James, 2002; James, Hunsley, Navara, & Alles, 2004; Matsumoto, LeRoux, Robles, & Campos, 2007). Although this knowledge serves inestimable knowledge functions, finding the most integrative set of on-field cross-cultural adjustment variables is still growing and proves illusive. Variables and models related to adjustment tend to be less integrated, in some cases confined to models rather than actual

instruments, or in other ways needing other refinements. This condition goes against recent literature calling for clarification and integration of intercultural adjustment (Ward & Rana-Deuba, 1999; Palthe, 2004; Matsumoto, LeRoux, Robles, & Campos, 2007).

The purpose of this study is to report a longitudinal development of literature-based and clinically-uncovered factors that have been empirically verified and expanded into a holistic assessment of cross-cultural adjustment.

### 1.1. Defining cross-cultural adjustment as multi-faceted

Early research often viewed intercultural adjustment as a singular rather than a multi-faceted concept (Grove & Torbiorn, 1985). However, Mendall and Oddou (1985) corrected that notion in seminal research which indicated four dimensions: (1) self-orientation (reinforcement substitution, stress reduction, and technical competence), (2) other-orientation (relationship development, willingness to communicate), (3) perceptual dimension (understanding and correct attributions, nonjudgmental, non-rigid), and (4) cultural-toughness dimension. Other researchers (Hammer, 1987; Hawes & Kealey, 1981; Harris, Moran, & Moran, 2004) indicated three dimensions of intercultural effectiveness: (1) intercultural relationship effectiveness, (2) cultural adjustment (including family adjustment), and (3) task/job performance. Other studies confirm expatriate adjustment as for example Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, (2005), Palthe (2004), and Van Vianen, de Pater, Kristof-Brown, & Johnson (2004) who validated a similar pattern of adjustment outcomes including cultural adjustment, interaction adjustment, work adjustment, and job performance. Lee's (2005) regression analysis of job satisfaction, family support, learning orientation, organizational socialization, and cross-cultural training revealed that job satisfaction best predicted adjustment.

A major contribution to acculturation and adjustment stress extended a model of two axes of acculturation: maintenance of original cultural identity and maintenance of relations with other cultural groups which when dichotomized leads to four acculturation strategies: integration, separation, assimilation, and marginalization. As Ward & Rana-Deuba (1999) describe the extension of various previous models (Berry, 1997; Searle & Ward, 1990; Ward & Kennedy, 1994) two distinctive adjustment outcomes appear both measured by different variables: (1) psychological adjustment (i.e., depression, global mood disturbance, which are strongly influenced by personality, life changes, and social support) and (2) sociocultural adaptation (i.e., amount of difficulty experienced in daily routines and task, often dependent on language ability, cultural distance, contact quantity with host nationals, and length of residence). These definitional concerns frame the development of instruments such as the one presented here, since they seek comprehensive, integrative measurement.

### 1.2. Variables related to adjustment

In addition to definition, the literature hosts numerous adjustment variables ranging from psychological to social and behavioral. First, as an example of psychology variables, for example, Brinkmann and Van Weerdenburg (2003) identify emotional stability (as mapped in their MPQ instrument), cultural empathy, sensitivity, managing uncertainty, and building commitment. Matsumoto, LeRoux, Robles, & Campos (2007) among others indicate that personality and general intelligence indicators alone offer some explanation of adjustment but not as powerfully as other predictors of adjustment (noted later). Caliguiri, (2000) reported minimal support for the Big Five (Extraversion, Neuroticism, Openness, Conscientiousness, and Agreeableness) as meaningful indicators. In a related study, Navara and James (2002) utilized

satisfaction with life, self-esteem, social support, a hassles scale, perceived stress scale, and locus of control as measures compare expatriate satisfaction.

Second, a variety of social and behavioral variables link with expatriate adjustment. The set includes sojourner expectations (Tucker & Baier, 1982 and their Overseas Adjustment Inventory; Weissman & Furnham, 1987), openmindedness (Tucker & Baier, 1982), respect for other beliefs (Tucker & Baier, 1982; Wiseman, Hammer, & Nishida, 1989), trust in people (Tucker & Baier, 1982), tolerance (Tucker & Baier, 1982), personal control (Tucker & Baier, 1982; Dodd, 1998), flexibility, patience, adaptability, self-confidence/initiative, interpersonal interest, and interpersonal harmony (Tucker & Baier, 1982). Other predictors include ethnocentrism (Brinkmann & Van Weerdenburg, 2003; Wiseman, Hammer, & Nishida, 1989), empathy (Dodd, 1987), self-efficacy (Palthe, 2004), self-monitoring (Dodd, 1987), and organizational support such as role clarity, role discretion, and host company socialization (Palthe, 2004).

Third, relational variables have been important in intercultural adjustment research. Kealey (1989), Abe and Wiseman (1983), Chen (1989), Hammer (1987), Martin and Hammer (1989), Norton (1984), Throngprayoon (1988), and Lakey and Hill (1991) and others have reported meaningful associations for interpersonal relationships and sojourner adjustment (Hawes and Kealey, 1981; Chen, 1989; Abe and Wiseman, 1983; Hammer, 1987; Hammer, Nishida, and Wiseman, 1996; Imahori and Lanigan, 1989; Kim, 1991; Martin, 1987; Martin and Hammer, 1989; Anderson, 1994; Spitzberg, 1989). Hawes and Kealey (1981) included interpersonal flexibility, respect, relationship building, self-control under stress, and sensitivity to host country issues. Kealey (1989) later operationalized interpersonal skills as caring, self-centeredness, and activity. Chen (1991) identified self-disclosure, message skills, social skills, interaction management, ritual management, contact initiating, decision-making, and assertiveness. Brinkmann and Weerdenburg (2003) referred to sustaining interaction ability, such as working short term as in customer service or long-term such as in team building in specific cultures. Palthe's (2004) regression analysis predicted antecedents of interaction adjustment such as self-efficacy, spousal adjustment, and host company facilitation of socialization in the new culture. Matsumoto, LeRoux, Robles, and Campos (2007) reported that the ICAPS (emotional regulation, openness, flexibility, and critical thinking) predicted adjustment.

Fourth, family and spouse adjustment correlate with expatriate adjustment and effectiveness (Bradford, Allen, & Beisser, 1998). This point is underscored in numerous studies which view previous research as needing to include a family/spousal component (Tucker & Baier, 1982; Hammer & Clarke, 1987; Dodd, 1998; James, Hunsley, Navara, & Alles, 2004, Palthe, 2004).

Fifth, situational factors contribute to adjustment. Among various situational elements are cultural distance, knowledge of the specific culture (Wiseman, Hammer, & Nishida, 1989), personal attributes, cultural awareness (Chen, 1989), ability to understand others, and ability to deal with different social systems (Abe and Wiseman, 1983), and length of the sojourn assignment contribute to adjustment (Hawes & Kealey, 1981; Kealey, 1989; Chen, 1989; Hammer, 1987; Dunbar, 1992; Tanaka, Takai, Kohyama, & Fujihara, 1994; Searle & Ward, 1990; Harrison, Chadwick, & Scales, 1996; Hsiao-Ying, 1995), and positive host cultural contact (Lakey & Hill, 1991; Gudykunst & Hammer, 1988).

### 1.3. The present study

Intercultural researchers and practitioners recognize the multi-faceted nature of on-field intercultural adjustment underscored by these sample studies. While great strides have moved the field forward in conceptualization, an integrative model to assess expatriate adjustment in its multi-faceted forms is needed. Consequently, this study presents the development of an on-field, integrated cross-cultural adjustment assessment.

## 2. Methods

### 2.1. Participants

The participants were 1,133 expatriates, 47 % males and 53% females, ages 13 - 77 with an average age of 42. Their current term on the field averaged 5 years and their total field experience averaged 13 years. Educational levels included 2% Grade School, 8% High School, 7% Associates Degree, 38% Bachelors Degree, 36% Masters Degree, and 8% Doctoral Degree. The marital status included 33% single, 65% married, and 2% divorced, separated or widowed. The number of children reported included 40% none, 6% one, 21% two, 18% three, 11% four, and 4% five or more. The sample represented several occupations: 7 % business, 1% diplomatic, 87 % humanitarian, and 4 % student study abroad sojourners. Collectively, participants lived and worked in some 130 different countries representing 46 different passport countries: 1% Hong Kong and Singapore, 2% Germany, 1% Netherlands and Switzerland, 3% United Kingdom, 1% Afghanistan and South Africa, 10% Canada, 76% United States of America, 1% Australia and New Zealand, and 6% miscellaneous.

### 2.2. Procedures

The CSA developed over a period of seven years. The first step in developing the instrument merged stress-related adjustment factors from the literature primarily drawn largely from humanitarian cross-cultural personnel findings (i.e., Dye, 1974; Gish, 1983; Foyle, 1987; Williams, 1988; O'Donnell & O'Donnell, 1992; Cerny & Smith, 1995; Cerny & Smith, 2002; and Kotesky, 2004). A second step was to combine coaching and clinical files regarding client adjustment experiences drawn from the clinical psychologist authors of this research and other practitioners in order to combine common elements. In consultation with Dr. Kelly O'Donnell, this procedure guided a pilot model outlining ten categories of expatriate stress: cultural, occupational, spiritual, relational, historical, crisis, organizational, support, psychological, and physical. The researchers then distilled these stressors into a pilot 100-item Likert screening instrument rating the degree of distress experienced over the past month. After repeated coaching use and field clinical trials over a 5-year period in 30 different countries, a revised instrument applied a more positive adjustment screen by reversing the values of the distress ratings.

The revised model and scale became the CernySmith Assessment (CSA). Furthermore, by individualizing occupational/organizational terminology for eight questions of the 100, four different English language versions of the CSA were developed addressing different occupational groups of intercultural workers and their families: BC (Business/Corporate), CG(Civil/Government), HR (Humanitarian/Relief), and M (Military). Then, the randomized items on the research version was available online for 19 months during which 1,695 persons took the CSA online, but only 1,133 were usable (528 males, 605 females) for the research. Many of the online responses requested further coaching interventions, a process which provided important personal face-to-face evidence for face validity of the items. The 100 items

were submitted to factor analysis and reliability testing as the major focus for this study to develop the final scale.

As part of the scale, 10 open-ended measures from among the ten stressor categories allowed participants to identify and write in issues of concern to them and also to rate their level of distress. This process later allowed a comparative procedure to test construct validity of the objective questions.

### 2.3. Data analysis strategies

Using SPSS, the 100 items were submitted to Factors Analysis using Principle Components as the extraction procedure. Results produced a percentage of variance explained per factors, Eigen values (1.0 or great) for each factor, and a total variance explained. Chronbach's alpha offered confirmatory reliability within the resulting factors. Gender differences were analyzed using t-test for independent measures with results acceptable at  $<.05$  probability.

## 3. Results

The researchers submitted the 100 items to a factor analysis using a Principle Component Analysis extraction method and a Promax with Kaiser Normalization rotation method. With a .60 primary factor cut and a .40 secondary cutoff, the analysis yielded 22 significant factors. Three items of the 100 were omitted from the research because their factor correlations were less than .30, including difficulty meeting financial obligations .27, physical or sexual abuse .26, and legal problems .24.

A second factor analysis focused on internal reliabilities across the remaining 97 items. This analysis resulted in 22 factors. To test for internal consistency again, each resulting factor was analyzed using Chronbach alpha coefficients. The number of factors was reduced from 22 to 20 since original Factors 18 and 21 were removed based on low reliability coefficients. The resulting 20 factors (referred to as subscales) met an Eigen value of 1.0 or greater and produced a total explained variance of 57.48%. Each subscale's (factor) internal reliability yielded a Chronbach alpha at .68 or above. The 97 items yielded a Chronbach alpha total scale reliability of .96. These results then led to a general norming procedure for each of the now 20 subscales by using means, ranges, and standard deviations to arrive at the low and high categories and descriptions (table 2). Separate norms for males and females were developed in the same way, since t-tests comparing males and females across the total CSA scores were significant ( $t = 3.85$ ,  $df = 1131$ ,  $p = .001$ ). No other demographic variables were found to have statistically significant differences with the exception that both men and women above age 55 rated their adjustment more positively than younger participants did.

**Table 1 Summary of factors, variance explained, and scale reliabilities across the CSA**

Factor	Variance explained	Chronbach alpha
Organizational relationship (OR)	22.34%	.87
Spiritual life (SL)	3.95%	.88
Stress management (SM)	3.67%	.94
Resiliency (RE)	2.67%	.88
Cross-cultural skills (CS)	2.57%	.81
Situational crisis (SC)	2.09%	.74
Habits (HA)	1.97%	.81
Work load (WL)	1.91%	.77
Decision Making (DM)	1.77%	.84
Transitions (TS)	1.73%	.92
Organizational support (OS)	1.56%	.86
Physical health (PH)	1.53%	.78
Cross-cultural relationships (CR)	1.45%	.92
Family adjustment (FA)	1.31%	.68
Extended family/friends (EF)	1.27%	.68
Optimism (OP)	1.20%	.93
Trauma resolution (TR)	1.16%	.69
Relationship support (RS)	1.11%	.85
Effective relationships (ER)	1.10%	.82
Companionship (CO)	1.04%	.78

Total variance 57.48%. Factors accepted with Eigen of 1.0 > using Principle Components

Table 2 presents high and low score descriptors for each factor developed from thematic item content.

**Table 2 Factor/subscale names and subscale content**

Factor name	Subscale contents described as high and low descriptors
Organizational relationship	Harmonious team adjustment, positive experiences with leadership, good organizational fit ( <i>low</i> : possible leadership or organizational culture concerns, may feel misunderstood)
Spiritual life	Fulfilling spiritual relationships and practices, meaningful and purposeful existence ( <i>low</i> : spiritual emptiness, lethargic in devotional practices, lacking vital relationships, discouraged)
Stress management	Generally satisfied with experience, evidence of personal assertiveness and effectiveness, expressive ( <i>low</i> : important unaddressed personal concerns, needs to be heard and understood, may be lonely)
Resiliency	Confident, resourceful, clear balanced thinking, feelings are appropriate for circumstances ( <i>low</i> : vulnerable to troubling intrusive thoughts, disturbed by uncomfortable negative feelings, fearful)
Cross-cultural skills	Adapting positively to unfamiliar language, foods and customs; acquiring cultural competency, enjoying aspects of culture ( <i>low</i> : significantly stressed in adjusting to unfamiliar culture, not fitting in, uncomfortable feelings of helplessness, language acquisition difficulty)
Situational crisis	Feeling safe in reasonably stable environment ( <i>low</i> : dangerous aspects of current situation, safety threatened by hostile environment or traumatic event)
Habits	Comfortable with personal choices, expressing freedom from unwanted compulsions, self accepting ( <i>low</i> : conflicted about unwanted habit, feeling guilty and discouraged)
Work load	Managing time well, positive balance of work and personal focus, maintaining correspondence ( <i>low</i> : feeling overloaded with work, stressed by email and other correspondence, possibly poor time and priorities management)
Decision making	Clear thinking with ability to focus and remember accurately, energetic ( <i>low</i> : cloudy thinking with a scattered focus, decision-making and memory concerns)
Transitions	Adjusting positively to transitions, adequate housing and living environment, able to meet personal needs ( <i>low</i> : stressful transitions and

	living disruptions, difficult housing situation, unable to relax, tired, lacking privacy)
Organizational support	Active organizational support, realistic expectations and thoughtful organizational policies, clarity of direction ( <i>low</i> : lacking needed organizational support and direction, unhelpful organizational expectations or policies)
Physical health	Generally positive health, adequate medical resources, energetic ( <i>low</i> : health concerns for self or family; possible weight loss, sleep difficulty, or inadequate medical resources)
Cross-cultural relationships	Positive relationships with nationals, comfortable with role expectations, optimistic social perspective ( <i>low</i> : lacking supportive cross-cultural connections, not fitting in, social discomfort)
Family adjustment	Harmonious relationships, supportive parenting, children doing well ( <i>low</i> : parental miscommunication, parent child concerns, concern for a family member)
Extended family/friends	Supportive relationships with distant friends and family, no major medical concerns for extended family ( <i>low</i> : worrying about or grieving loved ones back home, missing family and friends)
Optimism	Lighthearted, easygoing, meaningful relationships, hopeful ( <i>low</i> : depressed and anxious, isolated and worrying, low energy, may be feeling hopeless)
Trauma resolution	Generally positive recovery from past injuries ( <i>low</i> : painful memories about disturbing past issue)
Relationship support	Realistic expectations that overcome obstacles, supportive family and friends, energy for relationships ( <i>low</i> : relationship disappointments, emotionally isolated, not feeling understood, discouraged)
Effective relationships	Close meaningful interpersonal bonds, positive communication and sensitivity skills, able to receive emotional support ( <i>low</i> : relationship conflicts, may argue unnecessarily, mixed feelings, possible sexual concerns)
Companionship	Feeling emotionally connected within current relationships, developing new relationships ( <i>low</i> : lonely; missing meaningful, stable emotional and social connections)

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97 items with positive and negative description of the scale indicated.

Face validity occurred during the development phases of collecting common factors found in the cross-cultural stress and adjustment literature and by the clinical files generated by the two lead authors. These sources lead to the measurable items. Content validity was approached by taking the 10 open-ended items identified as unique stressors which were then rated by each participant using a Likert measure. These ratings were also put into the larger factor analysis and emerged as unique factors confirmed with a .94 reliability. Next, this concept, named Personal Well being was correlated with all other subscales/factors on the CSA. The significant ( $p = .0001$ ) and relatively high correlations ranged from .61 to .96 with the other CSA factors except for still significant ( $p = .001$ ) but lower correlations with extended family ( $r = .44$ ), family adjustment (.30), and situational crisis ( $r = .36$ ). This independent open-ended assessment correlated with the CSA factors supports content validity.

#### 4. Discussion

Research from a pilot 100-item, Likert scale tested empirically and clinically for a 5-year period in 30 countries led to a revised set of 97 items to create the CernySmith Assessment. After analyzing for factor structures and confirming with internal reliability coefficients, the CSA emerged from online data testing with a largely humanitarian sample of expatriates that also included business people, diplomats, and students. The sample was composed of 1,133 expatriate personnel and family members living and working in 130 host countries who were from 46 passport countries. The final instrument revealed a 57.48% explained variance across 97 items with 20 unique factors. Chronbach alpha reliability revealed a .96 for the total CSA score.

Norming procedures for the overall group and gender differences produced high and low scores across the 20 factors by applying means and standard deviations. Face and content validity sources support the efficacy of the scale.

The CSA at this phase of development appears to be a prolific instrument with its large sample size, gender and culture variability, and a strong coaching/clinical application. The first two authors have used the instrument significantly in consultation and intervention with both cross-cultural crises and wellness. The client reports indicate the instrument's accuracy, and the coaching/clinical applications have been successful because of the instrument's direction. Furthermore, the CSA addresses more than a single unit of adjustment, a concern noted in the literature and previous research (section 2.1). That is, these items reveal five content domains: (1) organizational (organizational relationship, organizational support, workload), (2) cultural (companionship, cross-cultural skills, transitions, cross-cultural relationships, situational crisis), (3) relational (relational support, effective relationships, family adjustment, extended family-friends), (4) behavioral (resiliency, decision making, optimism, stress management), and (5) personal (spiritual life, habits, physical health, trauma resolution). These domains directly integrate many of the concerns over defining adjustment (Matsumoto, LeRoux, Robles, & Campos, 2007; Ward & Rana-Deuba, 1999).

The research needs to be developed further with predictive validity to provide empirical rather than clinical data regarding the CSA. Does the instrument in fact produce scores that match the participants' issues on the field as we think is the case? Such data, although often difficult to

capture statistically such as when a client is under stress and in need of intervention in a host culture, would further insure confidence in this integrated instrument.

## 5. Conclusion

This research presents compelling evidence that the 20 subscales explain a significant amount of variance related to intercultural adjustment for expatriates. The relatively high reliabilities support each of the scales which range across 97 items. The CSA represents a more integrated approach to cross-cultural adjustment assessment since it incorporates scales measuring most of the organizational, cultural, relational, behavioral, and personal variables frequently cited in the literature. In this way, the CSA makes a unique and lasting contribution to the cross-cultural adjustment studies.

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