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Unraveling the psychological correlates of intercultural adjustment potential

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Abstract

This article reports three studies that examine the personality and behavioral correlates of the Intercultural Adjustment Potential Scale (ICAPS), which measures constructs empirically related to adjustment, including emotion regulation, openness, flexibility, and critical thinking. Study 1 involved a reanalysis of previously published data and examined the convergent, concurrent predictive, and incremental validities of these dimensions to predict adjustment. Study 2 replicated Study 1 with different measures. The findings from both studies provided strong evidence for the validity of the ICAPS scales to predict adjustment above and beyond that already predicted by personality. In Study 3 participants completed the ICAPS, a nonverbal emotion recognition task, and a behavioral task related to adjustment. The ICAPS predicted actual behaviors above and beyond that already predicted by emotion recognition. These results are discussed in terms of a possible universal set of psychological skills necessary for life adjustment.

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Keywords: Intercultural adjustment; ICAPS; Emotion regulation; Openness; Flexibility; Critical thinking

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1. Introduction

In this article we examine the psychological and behavioral correlates of intercultural adjustment potential, which refers to the ability to adjust well to life in a cultural environment different than that which one is accustomed to. This research is important because it highlights the psychological characteristics that are associated with successful adjustment, and because it has ramifications not only for research but for application. Below we discuss the importance of intercultural adjustment and a newly created measure of intercultural adjustment potential called the ICAPS. We then discuss the possibility that the scales assessed by the ICAPS are related to personality and the necessity of demonstrating that the ICAPS can predict adjustment above and beyond personality.

1.1. Intercultural adjustment and the intercultural adjustment potential scale (ICAPS)

Intercultural adjustment and adaptation are concerns for many who deal with the stress of living in a new and different culture, and adapting to a new culture can have both positive and negative consequences. On one hand the negative consequences of poor adjustment include psychological and psychosomatic concerns (Shin & Abell, 1999; Kim & Gudykunst, 1988); early return to one's home country (Montagliani & Giacalone, 1998); emotional distress (Furukawa & Shibayama, 1995); communication (Gao & Gudykunst, 1991; Okazaki-Luff, 1991); culture shock (Pederson, 1995); depression, anxiety, diminished school and work performance, and difficulties in interpersonal relationships (Matsumoto et al., 2001). On the other hand, positive consequences include gains in language competence; self-esteem, awareness, and health (Babiker, Cox, & Miller, 1980; Kamal & Maruyama, 1990); self-confidence, positive mood, interpersonal relationships, and stress reduction (Matsumoto et al., 2001).

Because of the importance of intercultural adjustment, there have been many attempts to identify the factors that influence it (reviewed in Matsumoto, 1999; Matsumoto et al., 2001). In recent years there has also been attempts to develop individual-level measures to assess constructs that are theoretically or empirically related to intercultural adjustment, including the Cross-Cultural Adaptability Inventory (CCAI) (Goldstein & Smith, 1999; Kelley & Meyers, 1995; Montagliani & Giacalone, 1998), the Multicultural Personality Questionnaire (MPQ) (Moi, Van Oudenhoven, & Van der Zee, 2001; Van der Zee & Van Oudenhoven, 2000, 2001; van der Zee, Zaal, & Piekstra, 2003; van Oudenhoven, Mol, & Van der Zee, 20030; Van Oudenhoven & Van der Zee, 2002), the Intercultural Development Inventory (IDI) (Altshuler, Sussman, & Kachur, 2003; Hammer, 1998; Hammer, Bennett, & Wiseman, 2003; Paige, Jacobs-Cassuto, & Yershova, 2003; Straffon, 2003), and the Intercultural Sensitivity Inventory (ISI) (Bhawuk, 1998; Bhawuk & Brislin, 1993).

Recently Matsumoto and his colleagues developed the Intercultural Adjustment Potential Scale (ICAPS), a 55-item test that assesses the potential to adjust well to a new or different culture. To date, 14 studies have documented its temporal and internal reliability and construct, convergent, and incremental validities (6 reported in Matsumoto et al., 2003), 8 in Matsumoto et al. (2001). Most importantly the ICAPS' concurrent predictive validity was established with a variety of outcome measures, including subjective adjustment; standardized measures of depression, anxiety, life satisfaction, marital satisfaction, psychopathology, and culture shock; academic performance; language competence; and self-, peer-, and expert ratings of adjustment on the basis of interviews. Its future predictive validity was established in a study in which the ICAPS was assessed prior to sojourners' departure from the home country, and was correlated with subsequent culture shock, subjective adjustment, and life satisfaction after entering the host country. Across these studies the ICAPS has been validated with Japanese exchange students in the US; Japanese businesspersons employed in the US; Japanese housewives married to Japanese businesspersons; Japanese housewives married to Americans; Americans who have traveled abroad; and students and non-students from Sweden, India, Central, and South America.

That the ICAPS has been validated with individuals from various cultures suggests that the psychological constructs it assesses represent a pancultural set of skills necessary for intercultural adjustment. That it has also been correlated with life and marital satisfaction, and with the Millon Clinical Multiaxial Inventory (MCMI) (Matsumoto et al., 2001, Study 5), suggests that the ICAPS can predict intracultural adjustment as well. The ICAPS was positively correlated with MCMI Histrionic, Desirability, Narcissistic, and Bipolar Manic scales, and negatively correlated with all other adjustment indices. Matsumoto and his colleagues suggested that the ICAPS captures the high energy of the Bipolar Manic scale in its useful range, the positive self-image of the Narcissistic scale, and the useful aspect of expressiveness measured by the Histrionic scale. (The Histrionic and Narcissistic scales "may at times reflect personality strengths;" Millon, 1997, p. 125.) Also, the positive correlations with Histrionic and Narcissistic scales probably existed because our college student participants were concerned with their self-presentation on both scales, as was suggested by the positive correlation with Desirability and the negative correlation with Debasement.

1.2. Overview, purpose, and hypotheses of Study 1

One question about the ICAPS that has not been previously addressed is the degree to which it is merely a substitute measure of personality. In fact, in Matsumoto et al.'s (2001) Study 5, the ICAPS was administered along with the Big Five Inventory (John, 1989, 1990), and was negatively correlated with Neuroticism and positively correlated with all four other dimensions, suggesting not only that the ICAPS captures elements of all five factors but that all five factors are related to adjustment as well.¹ Thus one important issue that needs to be addressed is the

¹Some findings involving a related measure, the MPQ, also lend support to this notion. In one of its validation studies (Van der Zee & Van Oudenhoven, 2000), the MPQ was administered to 257 undergraduates (98% of them had Dutch nationality) along with the Neo-Personality Inventory (NEO-PI) (Costa & McCrae, 1992), a Need for Change scale (Feij, Zuilen, & Gazendam, 1984), and a Rigidity scale

incremental validity of the ICAPS to predict adjustment above and beyond general measures of personality. If its incremental validity can be established, then we can reasonably conclude that the ICAPS is capturing something unique to the prediction of adjustment that is not measured by general personality constructs.

Study 1 also addresses other questions. The ICAPS was originally validated using a total score summed across all 55 items. Factor analyses using normative data (napproximately 2300, half of whom are non-US born and raised)² identified four psychological constructs underlying it: Emotion Regulation (ER), Openness (OP), Flexibility (FL), and Critical Thinking (CT) (Matsumoto et al., 2001). While previous research has documented the correlation of the ICAPS Total score with personality, no study has established those correlations with the ICAPS factor scores. There is ample reason to expect them. If the ICAPS ER factor is a measure of emotion regulation, as we have hypothesized from the content of its items and as how it works in the prediction of adjustment, then it should correlate with Neuroticism, which measures a person's inability to regulate emotion in a normal fashion (Costa & McCrae, 1992). ICAPS OP was constructed to be similar to Openness as measured in tests of the big five dimensions of personality and so should correlate with another measure of it. ICAPS FL should correlate negatively with Conscientiousness because persons in the high ranges of Conscientiousness are characterized by rigidity in behavior and thought. ICAPS CT should correlate negatively with Agreeableness as the content of CT is composed of items whose content expresses attitudes contrary to prevailing norms, which is the opposite to that of Agreeableness. One of the goals of Study 1 was to test these relationships.

A final goal of Study 1 was to document the ability of the ICAPS factor scores to replicate the predictive validity of the four factor scores on adjustment (Matsumoto et al., 2003) using a different measure of adjustment. Additionally, it is important to do so with the same measure that will be used to test the incremental validity of the ICAPS. Based on previous findings, we would expect that the scale scores would be positively correlated with scales that reflect positive adjustment and negatively correlated with scales that reflect negative adjustment. We would also expect that the strength of the predictive validity of the scales would decrease across the four factors as they account for less of the total variance and are more unreliable.

Study 1 involved a new analysis of data originally reported in Matsumoto et al.'s (2001) Study 5. In that study, participants completed the ICAPS along with a measure of the big five personality constructs (the BFI-54), psychological adjustment

⁽footnote continued)

⁽Lutejinm, Starren, & Van Dijk, 1985). All four of the MPQ scales were positively correlated with extraversion and negatively with Neuroticism; Openness, Emotional Stability, and Social Initiative were correlated positively with Agreeableness and Conscientiousness; Openness (MPQ), Social Initiative, and Flexibility were correlated positively with Openness (Neo-PI) and Need for Change; and Flexibility was negatively correlated with Rigidity.

²Initial FA reported in Matsumoto et al. (2001) involved 1751 participants. Since that report, additional data have been incorporated into the normative database, and new FAs have confirmed the initial findings.

(the MCMI), and a rival measure of intercultural adjustment (the CCAI). The following new hypotheses were tested:

Hypothesis 1. (Convergent validity). (1a) that ICAPS ER would be negatively correlated with BFI Neuroticism; (1b) that ICAPS OP would be positively correlated with BFI Openness; (1c) that ICAPS FL would be negatively correlated with BFI Conscientiousness; and (1d) that ICAPS CT would be negatively correlated with BFI Agreeableness.

Hypothesis 2. (Predictive validity). That ICAPS ER would be positively correlated with MCMI Histrionic, Narcissistic, Bipolar Manic, and Desirability, and negatively correlated with the rest, as was found with the ICAPS Total score. We also expect the same general pattern of correlations with the other ICAPS scales although not to the same degree as ICAPS ER.

Hypothesis 3. (Incremental validity). That ICAPS total and ER scores would predict adjustment above and beyond that already accounted for by the big five personality dimensions.

2. Study 1

2.1. Method

Participants were 136 students (101 females, 35 males) recruited from undergraduate psychology classes and participating in partial fulfillment of class requirements. They completed five instruments: the ICAPS-55, the Cross-Cultural Adaptability Inventory (CCAI) (Kelley & Meyers, 1995), the Big Five Inventory (BFI) (John, 1989, 1990), the Millon Clinical Multiaxial Inventory-II (MCMI-II) (Millon, 1997; Millon & Davis, 1997), and a Demographic Questionnaire. Packets containing the five questionnaires, a consent form, and an instruction sheet were distributed to students who volunteered for the project in their classes. Participants completed the questionnaires at their leisure and returned them the following class period.³

2.2. Results

2.2.1. Convergent validity

Pearson correlations indicated that ICAPS ER was strongly correlated negatively with Neuroticism, ICAPS OP was correlated strongly and positively with Openness, and ICAPS FL was correlated negatively with Conscientiousness, supporting Hypotheses 1a, 1b, and 1c. ICAPS CT was correlated positively with Agreeableness,

³As the CCAI was not germane to the goals of the present study, no further mention will be made of it. More details concerning the methodology involved in this study can be found in Matsumoto et al. (2001).

	BFI							
	Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness			
ICAPS total	.455***	.296***	.320***	278***	.571***			
ICAPS ER	.391***	.154*	.102	679^{***}	.207			
ICAPS OP	.192*	.220**	.154*	.091	$.568^{***}$			
ICAPS FL	205^{**}	189*	205^{**}	001	.111			
ICAPS CT	033	.176*	.101	091	.121			

Table 1										
Pearson	correlations	between	the	ICAPS	and	BFI,	Study	1 (all	n =	136)

p < .05; ** p < .01; *** p < .001.

which is opposite what was predicted in Hypothesis 1d. Thus, three of the four predictions of Hypothesis 1 were supported (Table 1) (the results for the ICAPS total score were previously reported in Matsumoto et al., 2001).

2.2.2. Predictive validity

Pearson correlations (Table 2) indicated that ICAPS ER was positively correlated with MCMI Narcissistic, Histrionic, and Desirability, and significantly negatively correlated with 17 of the remaining MCMI 21 scales as predicted. These results provided strong support for Hypothesis 2.

2.2.3. Incremental validity

We conducted a hierarchical multiple regression for each MCMI scale using stepwise criteria on each step. In each analysis, all scalar and dichotomous demographic variables were entered on the first step to control for their possible contributions; on the second step, the five BFI scales were entered; on the final step, all five ICAPS scores were then entered. (Because the ICAPS total score is not a mathematical derivative of the four scale scores, we argue that it does not present multicollinearity problems in the regression.)⁴ ICAPS scores significantly predicted nine MCMI scales above and beyond what was already accounted for by personality: debasement, borderline, thought disorder, dysthymia, anti-social, histrionic, compulsive, desirability, and delusional disorder (Table 3). These results provided a moderate degree of support for the incremental validity of the ICAPS to predict adjustment above and beyond that already predicted by personality.

⁴There are other reasons why we opted to include all five ICAPS scores in this analysis. Because we used stepwise regression, we reckoned that if any ICAPS scales were too highly correlated with each other, both would not enter the regressions because the inclusion criteria of stepwise would not allow that to occur. Had we chosen to use simultaneous regression we would not have used all five scores. Also the low total variance accounted for by the four factors, which was 18.6% in the original factor analysis (Matsumoto et al., 2001), suggested to us that the ICAPS total score includes psychological constructs not captured by the four factors that emerged.

MCMI scale	ICAPS scales									
	Total ICAPS	ICAPS ER	ICAPS OP	ICAPS FL	ICAPS CT					
Aggressive	111	028	150*	118	173*					
Antisocial	096	082	062	.022	216^{**}					
Avoidant	396***	456***	175*	.067	.040					
Compulsive	143*	186*	111	355***	023					
Dependent	191*	224**	035	203^{*}	039					
Histrionic	.237**	.155*	.131	217^{*}	206^{*}					
Narcissistic	.147*	.149*	.017	114	187^{*}					
Schizoid	351***	216*	247**	.105	.023					
Drug dependence	083	074	023	052	154*					
Desirability	.175*	.088	.084	430***	150					
Delusional disorder	147^{*}	158*	158*	110	075					
Debasement	402^{***}	440^{***}	198*	.038	084					
Bipolar manic	.144*	.001	.139	180^{*}	117					
Anxiety	322^{***}	379***	168*	.000	060					
Alcohol Dependence	277***	312***	090	064	122					
Self-defeating	290^{***}	376***	057	079	060					
Schizotypal	394***	381***	252**	.104	011					
Passive-aggressive	303^{***}	389***	094	031	101					
Borderline	377***	415***	138	022	110					
Thought disorder	270^{**}	288***	178^{*}	039	015					
Somatoform	247^{**}	338***	136	052	066					
Paranoid	201^{*}	221**	158*	153	103					
Major depression	357***	383***	160^{*}	.038	083					
Dysthymia	410^{***}	443****	188^{*}	.066	095					

Table 2 Predictive validity correlations between ICAPS and MCMI, Study 1

p < .05; p < .01; p < .001; p < .001.

2.3. Discussion

The results provided strong support for the convergent validity of the ICAPS scales with the big five personality dimensions. We predicted these correlations by suggesting that the skills measured by the ICAPS are related somewhat with specific personality traits captured by the big five. That ICAPS ER, OP, and FL correlated with the intended dimensions lends credence to their composition and supports the notion of how they may work in facilitating adjustment. The failure to find the predicted negative correlation between ICAPS CT and Agreeableness was surprising, and we have no interpretation of this finding.

The results also provided strong support for the predictive validity of the ICAPS scales, and replicate those reported earlier using the ICAPS total score (Matsumoto et al., 2001). ICAPS ER correlated negatively with 15 of 22 MCMI scales; its strongest correlations were with Avoidant, Dysthymic, Borderline and Debasement, suggesting that persons scoring high on ICAPS ER confront difficult social situations rather than avoid them, are generally free of negative mood, have a

Dependent variable	R	R^2 change with ICAPS	Significant predictors on last step
Debasement	.541	.034	Neuroticism (.372)
			ICAPS total (232)
Borderline	.526	.023	Neuroticism (.371)
			ICAPS total (192)
Thought disorder	.418	.028	Neuroticism (.292)
			Extraversion (173)
			ICAPS OP(171)
Dysthymia	.546	.029	Neuroticism (.352)
			Total ICAPS (222)
Antisocial	.329	.028	Agreeableness (252)
			ICAPS CT (171)
Histrionic	.603	.055	Extraversion (.507)
			Agreeableness (171)
			ICAPS CT (195)
			ICAPS FL (184)
Compulsive	.478	.076	Openness (321)
•			Conscientiousness (.164)
			ICAPS FL (286)
			Openness (321)
Desirability	.587	.178	Conscientiousness (.176)
			Openness (179)
			ICAPS FL (.391)
			ICAPS CT (298)
			ICAPS total (.238)
Delusional disorder	.258	.031	Neuroticism (.205)
			ICAPS OP (177)
Bipolar manic	.474		Extraversion (.460)
-			Neuroticism (.304)
Anxiety	.444		Neuroticism (.383)
			Openness (190)
Alcohol dependence	.413		Neuroticism (.321)
-			Openness (229)
Schizotypal	.548		Extraversion (363)
			Neuroticism (.222)
			Openness (171)
Passive-aggressive	.450		Neuroticism (.392)
			Openness (186)
Somatoform	.460		Neuroticism (.406)
			Openness (180)
Paranoid	.321		Neuroticism (.252)
			Openness (176)
Aggressive	.428		Agreeableness (344)
			Extraversion (.230)
			Openness (210)
Avoidant	.608		Extraversion (454)
			Neuroticism (.296)
Dependent	.439		Openness (305)
			Agreeableness (.302)
			Neuroticism (.232)

Table 3 Results of incremental validity tests for the ICAPS, Study 1

Dependent variable	R	R^2 change with ICAPS	Significant predictors on last step
Narcissistic	.471		Extraversion (.423)
			Agreeableness (278)
Schizoid	.591		Extraversion (591)
Drug dependence	.196		Agreeableness (196)
Self-defeating	.478		Neuroticism (.409)
			Openness (210)
Major depression	.462		Neuroticism (.369)
			Openness (243)

Table 3 (continued)

tendency to have an optimistic outlook on life, have stable identities, are free of radical mood swings and a capacity for enduring relationships, and have a generally positive way of presenting themselves. Emotion regulation is important to adjustment because healthy functioning requires humans to control and manage their emotions and expressions depending on social context and to channel the experienced emotional energies toward positive and constructive outcomes. Conversely the inability to regulate emotions well in social life would result in difficulties in interacting appropriately with others, in coping with daily stress and hassles, and in allowing emotions to motivate constructive and healthy behaviors.

One or more of the ICAPS scales correlated in the expected direction with every one of the MCMI's clinical scales, suggesting that the ICAPS captures a very wide variety of adjustment indices. It also suggests the utility of using both the ICAPS factor scores as well as the total score as some aspects of adjustment are captured by the factor scores but not by the total. That ICAPS ER did not correlate with MCMI Bipolar Manic while ICAPS Total did suggests that the scores do indeed pick up unique aspects of adjustment.

ICAPS OP correlated negatively with 11 MCMI scales, which was fewer than that predicted by ICAPS Total and ER. As suggested above, one would predict the same general pattern but fewer significant correlations because of the smaller proportion of variance ICAPS OP accounts for relative to the other two scores. A notable difference from the findings for ICAPS Total and ER was that ICAPS OP correlated significantly and negatively with the Aggressive personality disorder scale, suggesting that a unique contribution of the OP factor has to do with a lack of hostility and openness to others.

That ICAPS FL correlated very strongly and negatively with MCMI scales for compulsivity and desirability is convergent with our labeling this factor as flexibility and lends predictive validity to that label. That ICAPS CT correlated negatively with four MCMI scales reflected both the expected directionality and the diminished proportion of the variance accounted for by this fourth factor.

The incremental validity results suggested that the ICAPS contributes unique variance to the prediction of general psychological adjustment, and that it may capture aspects of personality not captured by the big five in predicting adjustment.

Thus there may be something unique in the ICAPS being measured relative to the prediction of adjustment, a topic to which we return in the General Discussion.

3. Study 2

3.1. Overview

In order to replicate the findings from Study 1, in Study 2 we tested the convergent, predictive, and incremental validities of the ICAPS using another widely used personality measure-the California Psychological Inventory (CPI). The CPI scales can be grouped into four categories: Social Ascendancy, Normative Behavior, Achievement, and Miscellaneous. In addition, three factor scores can be created— Internality (V1), Norm-Favoring (V2), and Realization (V3). Based on the theoretical framework presented earlier, we predict that ICAPS Total and ER should correlate with the social ascendancy scales as those are indicators of positive social skills and abilities. ICAPS Total and ER should also correlate with CPI V3 as it is associated with success in life, and negatively with V1 because it measures a tendency to withdraw from active involvement with the social world. ICAPS Total and ER should also correlate with the normative behavior scales of the CPI as most of these scales are indicative of internal organization, which leads to successful coping with one's culture of origin. ICAPS Total, ER, and CT should be associated with CPI scales measuring achievement and ability as these are aspects of successful coping, and self application requiring self-discipline and the ability to think critically, which are aspects of what we believe those parts of ICAPS measure. Finally ICAPS total, ER, OP, and CT should correlate positively with CPI Psychological Mindedness as it predicts the dispassionate ability to analyze social situations and the mental processes required to cope in general, control one's own emotions, an openness to the various attributes of self, others and unique situations, as well as a capacity to think critically.

We tested the following hypotheses:

Hypothesis 1. (Convergent validity). (1a) That ICAPS total and ER will correlate positively with the CPI Social Ascendancy scales and V3, and negatively with V1; (1b) that ICAPS total and ER will correlate positively with the Normative Behavior scales of the CPI; (1c) that ICAPS total, ER, and CT will correlate positively with CPI Achievement scales; (1d) that ICAPS ER, OP, and FL will correlate positively with CPI Flexibility; (1e) that ICAPS Total, ER, OP, and CT will correlate positively with CPI Psychological mindedness.

Hypothesis 2. (Predictive validity). That ICAPS ER would be positively correlated with the Histrionic, Narcissistic, and Desirability scales of the MCMI, and negatively correlated with the rest.

Hypothesis 3. (Incremental validity). That ICAPS total and ER would predict adjustment above and beyond that already accounted for by the CPI.

3.2. Methods

3.2.1. Participants

Participants were 145 university undergraduates fulfilling class requirements (120 females, 25 males, age range 20–47 years, $M_{age} = 26.3$). Most were single (80.7%); 13.1% were married, and 2.8% were divorced (others not reporting). Ethnicity was self-reported as 37.2% Caucasian, 3.5% African, 27.5% Asian, 11.7% Hispanic or Latino, and 6.2% as Indian or Middle Eastern (13.8% not reporting).

3.2.2. Instruments

In addition to the ICAPS-55, the two main measures included were the CPI and MCMI.

- 1. *California Personality Inventory* (CPI). The CPI contains 462 true-false items. We computed 23 scores according to standard procedures (Gough, 1986): dominance, capacity for status, sociability, social presence, self-acceptance, sense of well-being, responsibility, socialization, self-control, tolerance, good impression, communality, achievement via conformance, achievement via independence, intellectual efficient, psychological mindedness, flexibility, femininity, independence, empathy, internality, norm-favoring, and realization.
- 2. *Millon Clinical Multiaxial Inventory*-III (MCMI). The MCMI-III is a 175 item true-false questionnaire that measures 26 dimensions of psychopathology, and was included as a measure of adjustment: schizoid, avoidant, depressive, dependent, histrionic, narcissistic, antisocial, aggressive/sadistic, compulsive, passive-aggressive, self-defeating, schizotypal, borderline, paranoid, anxiety disorder, somatoform disorder, dysthymic disorder, alcohol dependence, drug dependence, post-traumatic stress disorder, thought disorder, major depression, delusional disorder, desirability, bipolar manic, and debasement . A score for each scale was created according to the standardized procedures (Millon, 1997; Millon & Davis, 1997).⁵

Two other measures and a demographic assessment were included to complement the main measures:

3. Social Opinion Questionnaire (SOQ). The SOQ is a 28-item scale assessing altruism (LeRoux, 1999) (reliability and validity data available from second author). Participants rate the degree to which each item is true for them using a scale ranging from 1, not at all, to 7, very true. An overall score was computed by reversing the negative items and then summing all items.⁶

⁵We wanted to use the same scale to measure adjustment to retain some degree of comparability of the results to previous findings. Thus we opted to use again the MCMI. The data for Study 2, however, were collected several years after the data for Study 1 were collected, and therefore the later version of the MCMI was used. Nevertheless the scales are reliable to each other, and provide a considerable degree of comparability in findings.

⁶The key to establishing the convergent construct validity of the ICAPS is to search for measures of personality constructs that are different from those measured by the ICAPS but theoretically relevant to intercultural adjustment. We felt that altruism is such a construct. A theoretical argument could be made to suggest that intercultural adjustment requires some degree of altruistic behavior, such that people who

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- Myers-Briggs Type Indicator (MBTI). The MBTI is a 126-item scale that measures four major ways of being: (1) where you like to focus attention (extroverted or introverted), (2) the way you look at things (sensing or intuition), (3) the way you like to go about deciding things (thinking or feeling), and (4) how you deal with the outer world (judging or perceiving). Four scores were computed using the standard procedures (Briggs Myers, 1977).
- 5. *Demographic Questionnaire*. A demographic questionnaire assessed items regarding age, gender, marital status, ethnicity, language spoken, country of origin, social class, political orientation, and other demographic information.

3.2.3. Procedures

Packets were distributed to participants via their classes at two different times to minimize spurious correlations based on simultaneous data collection. At one distribution packets contained a consent form, a demographics form, the ICAPS-55, and the CPI. The second distribution included a second consent form and the remaining measures. Participants completed the forms on their own and returned them to class within a few days. Consent forms were separated from the rest of the questionnaires to guarantee anonymity.

3.3. Results

3.3.1. Convergent validity

Correlations were computed between the ICAPS and the CPI, SOQ, and MBTI. ICAPS Total and ER were both highly and positively correlated with the CPI scales measuring Social Ascendancy and Normative Behavior, providing strong support for Hypotheses 1a and 1b. Both ICAPS scales were also strongly and positively correlated with the three achievement scales of the CPI; ICAPS OP was also positively correlated with one achievement scale, providing support for Hypothesis 1c. ICAPS OP, FL, and CT were all positively correlated with CPI Flexibility, strongly supporting Hypothesis 1d. And ICAPS Total, OP, and CT were all strongly and positively correlated with CPI Psychological mindedness, strongly supporting Hypothesis 1e.

The five ICAPS scores were also correlated with the four scores of the MBTI (Table 4, bottom), suggesting that persons with high ICAPS scores tend to emphasize holistic thinking over concern with details and to be actively engaged in the social world around them. The correlations between the ICAPS and SOQ suggest that persons who score high on ICAPS tend to have a high level of social involvement and caring for others.

⁽footnote continued)

score higher on altruism may adjust better than those who score relatively lower. In addition one could argue that altruism is more prevalent in collectivistic cultures, where members are embedded more in the social fabric of the culture. For these reasons we deemed altruism to be a construct that should correlate with the ICAPS and be theoretically relevant to adjustment issues.

CPI scales	ICAPS scales							
	Emotion regulation	Openness	Flexibility	Critical thinking	Total score			
Social ascendancy								
Dominance	.513**	.178*			.465**			
Capacity for status	.514**		.169*	$.170^{*}$.417**			
Sociability	.526**	.182*			.474**			
Social presence	.546**	.199*	$.187^{*}$.464**			
Self-acceptance	.518**		.174*		.439**			
Independence	.576**	.300**			.438**			
Empathy	.533**	.152*	.154*		.500**			
Normative behavior								
Tolerance	.479**			.348**	.435**			
Sense of well-being	.495**	.231*		.194*	.384**			
Communality	$.249^{*}$.313**	.149*	.275**			
Responsibility	.309**		.239*	.370***	.261**			
Socialization	.245*	.161*	.363**	.249*	.174*			
Self-control	.243*	.232*	.159*	.346**	.167*			
Good impression	.274**	.346**		.198*	.158*			
Achievement								
Achievement via independence	.511**			.222*	.424**			
Intellectual efficiency	.516**			.229*	.485**			
Achievement via conformance	.354**	.187*	.295**	$.176^{*}$.312**			
Miscellaneous								
Flexibility	.292**	$.278^{**}$.364**	$.187^{*}$.201*			
Psychological mindedness	.558**	$.160^{*}$.159*	$.197^{*}$.461**			
Femininity	184^{*}	304^{**}	.244*		178^{*}			
Factor scores								
Internality	327**	180^{*}		$.206^{*}$	319^{**}			
Norm-favoring		.213*	.420**	.166*				
Realization	.547**			.262**	.457**			
SOQ—Altruism	.416**	356**		.356**	.381**			
MBTI								
Sensing-intuition	311****	.338***	.370***	206^{*}	237^{*}			
Extroversion-introversion	.352***	.203*		240*	.347***			
Thinking-feeling		.309***		248**				
Judging-perceiving			.338***					

Table 4 Significant correlations between ICAPS and the CPI and SOQ, Study 2

p < .05; p < .01; p < .001.

Because the ICAPS scales were correlated with such a large number of CPI dimensions, we computed backward regressions on each of the five ICAPS scores to identify the CPI scales that are correlated with each ICAPS scale (Table 5). The results provided a much more efficient glimpse of the personality correlates of the ICAPS scales.

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ICAPS ER $(R^2 = .487)$ ICAPS OP ($R^2 = .462$) Statistically significant CPI scales Statistically significant CPI scales Beta Beta -.171 Communality .170* Femininity Psychological mindedness .191* Empathy .183 Good impressions Psychological mindedness .139 .316 .256* Self-acceptance Flexibility .211 Flexibility .168* Sense of well-being .200 Independence .205* Social presence .276* Achievement via independence $-.288^{*}$ Self-control .416 Tolerance .359* ICAPS FL ($R^2 = .413$) ICAPS CT ($R^2 = .214$) Statistically significant CPI scales Statistically significant CPI scales Beta Beta Communality .292* Norm-favoring .217* Socialization .331* Responsibility .310* Flexibility .178* Flexibility .296* Achievement via independence .176 Sociability .178 .299** Intellectual efficiency Sociability .206 Social presence .365* ICAPS total ($R^2 = .389$) Statistically significant CPI scales Beta .217** Tolerance .174+ Communality .263** Sociability Empathy .212* -.152* Femininity

Results of backward regressions of CPI scales on ICAPS scores, Study 2

Table 5

 $^{+}p < .10; \ ^{*}p < .05; \ ^{**}p < .01; \ ^{***}p < .001.$

3.3.2. Predictive validity

ICAPS ER was positively correlated with MCMI Histrionic, Narcissistic, and Desirability (Table 6), and strongly negatively correlated with 20 of the remaining 23 scales. The same pattern of results, with fewer significant findings, was found for the other ICAPS scales as well. These results replicate those found in Study 1 and provide strong support for Hypothesis 2.

We also computed backward regressions of the ICAPS scores on the MCMI scales (Table 7). ICAPS total was positively correlated with Narcissistic, and negatively with Schizoid and Passive-Aggressive. ICAPS ER was positively associated with Narcissistic, Drug Dependence, and Bipolar: Manic, and negatively associated with Somatoform, Paranoid, Borderline, Avoidant, and Desirability.

	ICAPS scales				
	Emotion regulation	Openness	Flexibility	Critical thinking	Total score
Schizoid	468***	229*			438**
Avoidant	616**	285^{**}			495^{**}
Depressive	435**	416**			386**
Dependent	457**	414^{**}		$.170^{*}$	427^{**}
Histrionic	.425**	$.225^{*}$		213	.404**
Narcissistic	.242	$.279^{**}$		309**	.238*
Antisocial	257**		256**		197^{*}
Aggressive-sadistic	409^{**}			195*	305**
Compulsive		.264**	.350**		
Passive-aggressive	497^{**}	210^{*}		184*	444**
Self-defeating	472**	300^{**}			429**
Anxiety	413**	287^{**}			341**
Alcohol dependence	388**	201*	206^{*}		263**
Dysthymia	508^{**}	295^{**}			459**
Somatoform	438**	254**			418**
Bipolar manic			172^{*}		
Post traumatic stress disorder	410^{**}	355**			284**
Drug dependence			269**		
Schizotypal	459**	250^{*}			332**
Paranoid	576**			179*	453**
Borderline	443**	386***	174^{*}		349**
Major depression	447^{**}	343**			378^{**}
Delusional disorder	335**			163*	240^{*}
Thought disorder	348**	312***			331**
Desirability	.367**	.464**		232*	.373**
Debasement	529**	352^{**}			474^{**}

Table 6 Significant correlations between ICAPS and the MCMI, Study 2

p < .05; p < .01; p < .001.

3.3.3. Incremental validity

As in Study 1, we computed a series of hierarchical multiple regressions to test the incremental validity of the ICAPS. Stepwise criteria were used for inclusion, and the MCMI scales were used as criterion variables. On the first step, all scalar and dichotomous demographic variables were entered; on the second step, all CPI scales were entered; on the final step, all five ICAPS scores were entered. The ICAPS contributed unique variance above and beyond the CPI scales on 22 of the 26 MCMI scales (Table 8). The same analyses using the MBTI scales on the second step indicated that the ICAPS contributed unique variables (data tables available from the authors). Thus, both sets of analyses provided strong support for the incremental validity of the ICAPS to predict adjustment above and beyond that already accounted for by personality.

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ICAPS ER $(R^2 = .542)$		ICAPS OP $(R^2 = .428)$			
Statistically significant MCMI scales	Beta	Statistically significant MCMI scales	Beta		
Narcissistic	.241*	Histrionic	331*		
Drug dependence	.177*	Depressive	373^{*}		
Bipolar: manic	$.290^{*}$	Self-defeating	$.349^{*}$		
Somatoform	186	Paranoid	.247*		
Paranoid	361*	Antisocial	.294*		
Borderline	419^{*}	Borderline	441*		
Avoidant	337^{*}	Desirability	.659*		
Desirability	407^{*}				
ICAPS FL ($R^2 = .177$)		ICAPS CT ($R^2 = .236$)			
Statistically significant MCMI scales	Beta	Statistically significant MCMI scales	Beta		
Compulsive	.437*	Debasement	.620*		
Passive-aggressive	.379*	Passive-aggressive	460^{*}		
Paranoid	319*	Dependent	$.360^{*}$		
		Anxiety	292		
		Thought disorder	322		
ICAPS Total ($R^2 = .305$)		-			
Statistically significant MCMI scales	Beta	-			
Schizoid	227^{*}	-			
Narcissistic	.222**				
Passive-aggressive	345***				
20	-				

Table 7 Results of backward regressions of MCMI scales on ICAPS scores, Study 2

p < .05; p < .01; p < .01; p < .001.

3.4. Discussion

The results of Study 2 confirmed the convergent validity of the ICAPS as well as its ability to predict adjustment above and beyond that accounted for by personality. The incremental validity findings in this study were better than those in Study 1 and lend further support to the notion that the psychological constructs captured by the ICAPS go beyond that typically measured by personality scales in predicting adjustment.

The negative correlations on the many MCMI scales suggest that the ICAPS is predictive of positive mental health and a freedom from psychopathology. The positive correlations between ICAPS Total and ER with MCMI Histrionic and Narcissistic support this interpretation as these are often elevated in normal persons who present themselves in positive manners, and who are assertive in self-expression and think highly of themselves. The regressions of the MCMI on the ICAPS suggest that adjustment involves an absence of excessive dependency and passive-aggressive

Dependent variable	R	R^2 change with ICAPS	Significant independent variables on last step
Debasement	.788	.133	Sense of well-being (290)
			Tolerance (354)
			ICAPS CT (.239)
			ICAPS OP (264)
			ICAPS ER (225)
Borderline	.707	.069	Sense of well
			Achievement vs. conformance (204)
			ICAPS OP (238)
			ICAPS ER (199)
Thought disorder	.653	.029	Sense of well-being (567)
			ICAPS OP (176)
Dysthymia	.702	.078	Sense of well-being (567)
			ICAPS Total (213)
			ICAPS CT (.190)
Desirability	.709	.119	Social presence (.370)
			Flexibility (180)
			ICAPS OP (.296)
			ICAPS total (.229)
			ICAPS CT (165)
Delusional disorder	.676	.029	Tolerance (284)
			Sense of well-being (481)
			Independence (.457)
			ICAPS ER (224)
Anxiety	.623	.050	Sense of well-being (448)
			ICAPS OP (177)
			ICAPS ER (186)
Alcohol dependence	.607	.027	Self-control (348)
			Sense of well-being (231)
			ICAPS ER (189)
Schizotypal	.658	.027	Sense of well-being (543)
			ICAPS ER (190)
Passive-aggressive	.730	.056	Realization (535)
			Norm-favoring (197)
			ICAPS OP (181)
			ICAPS total (190)
Somatoform	.675	.059	Sense of well-being (566)
			ICAPS CT (.128)
			ICAPS total (172)
Paranoid	.699	.069	Empathy (172)
			Socialization (236)
			ICAPS ER (332)
Aggressive	.729	.020	Realization (294)
			Dominance (.444)
			Sense of well-being (384)
			Empathy (182)
			ICAPS ER (189)
Avoidant	.761	.083	Sociability (267)
			Good impression (256)
			ICAPS ER (340)

Table 8 Results of incremental validity tests for the ICAPS, Study 2

Dependent variable	R	R^2 change with ICAPS	Significant independent variables on last step
			ICAPS CT (161)
Dependent	.690	.115	Good impression (283)
			Social presence (266)
			ICAPS total (289)
			ICAPS OP (228)
			ICAPS CT (.158)
Narcissistic	.772	.018	Sociability (.358)
			Sense of well-being (296)
			Independence (.411)
			Achievement vs. independence (221)
			ICAPS CT (141)
Schizoid	.642	.036	Sense of well-being (312)
			Internality (.275)
			Realization (296)
			ICAPS CT (.201)
Drug dependence	.439	.044	Self-control (352)
•			ICAPS FL (213)
Self-defeating	.605	.093	Sense of well-being (274)
0			ICAPS total (293)
			ICAPS OP (233)
Major depression	.670	.097	Sense of well-being (419)
5 1			ICAPS CT (.192)
			ICAPS ER (244)
			ICAPS OP (191)
Depressive	.674	.116	Sense of well-being (385)
1			ICAPS OP (332)
			ICAPS total (241)
PTSD	.640	.081	Sense of well-being (419)
			ICAPS OP (252)
			ICAPS ER (195)
Antisocial	556		Self-control (- 259)
- Inteloo Unui			Achievement vs. conformance (-294)
Histrionic	673		Sociability (442)
monite	.075		Internality (-294)
Compulsive	509		Norm favoring (435)
Compulsive	.507		Self-control (180)
Bipolar manic	564		Self-control (-465)
Bipolai manie	.504		Communality (= 281)
			Communanty (=.201)

Table 8 (continued)

expression of hostility as well as social avoidance, and that an optimistic view of the self is helpful in adjustment. ER was associated with a consistent and positive self-image while also being realistic about the self, realistic in appraisal of others, an enjoyment of social interaction, high energy level and a willingness to try new things. OP was related to a consistently optimistic view of one's self without needing to exaggerate one's accomplishments, skepticism, willingness to break a few rules and a willingness to tolerate uncertainty and vacillate in decision making. FL was related

to a high level of trust, maintaining a steady focus on and concern for self-imposed tasks and evading social expectations. CT was related to a thorough and honest analysis of the self without blaming others for one's frustrations, freedom from anxiety, a willingness to rely on others as well as clearly perceiving consensual reality.

The results of the backward regressions of the CPI on the ICAPS Total suggested that adjustment involves an active involvement of the self with others, a tolerance of differences among people including an absence of intolerance and bigotry, empathy for others, a healthy level of adjustment to one's own culture and a tendency to be task focused. ER was associated with self-acceptance, independence, psychological insight, adjustment to one's own culture, ability to adopt varying strategies to deal with new situations, and concern for others. FL was associated with charisma, having internalized the social mores of one's own culture, an ebullient sense of being able to cope with life, adjustment to one's own culture, and friendliness. OP was associated with strong internal ego control of impulsiveness, tolerance of differences among people including an absence of bigotry, keen social and intrapersonal insight, an intrinsic drive for achievement, flexibility and task orientation. CT was associated with the ability to consider the effects of one's own behavior on others, flexibility, comfort with the rules and mores of one's own society, and an active seeking out of the company of others.

4. Study 3

4.1. Overview

Until now, the predictive validity of the ICAPS has been demonstrated using a variety of outcome measures, including self-reported indices of adjustment, psychometrically standardized measures, and self, peer and expert ratings based on focus group interviews (Matsumoto et al., 2001, 2003). Still, no study has tested the ability of the ICAPS to predict actual behaviors that are related to adjustment in real life. The purpose of Study 3 was to do so.

In this study, we used an In-Basket task to assess behaviors that are theoretically related to everyday adjustment. A variety of different types of In-Basket tasks are available, and in general they are used to measure leadership and management abilities (Carless & Allwood, 1997; Frederiksen, Saunders, & Wand, 1957; Hakstian & Scratchley, 1997; Howard, 1997; Srinivas & Motowidlo, 1987). The exercise used in the present study required participants to resolve organizational problems; deal with personnel issues; develop policies; participate in special projects; and handle communications from their supervisor, other divisional managers, customers, and subordinates. Based on their actual behavioral responses, scores were derived on dimensions such as organization, planning, quality of decision, decisiveness, communication, problem analysis, delegation, goal setting, sensitivity, initiative, and fact-finding.

Many of these dimensions are clearly related to everyday adjustment. Adjustment requires that people analyze problems clearly (fact finding and problem analysis), regulate emotions (sensitivity, goal setting), and take initiatives and make decisions (initiative, decisiveness, quality of decision). Adjustment requires people to take stock of their resources and to make decisions about how to deal with crises, manage those resources, and accomplish goals.

This task is additionally relevant to adjustment because in many cultures, one of the highest forms of success is to become a manager or director of social organizations, particularly businesses. Using a measure such as the in-basket, which is indicative of success as a manager of business enterprises, is apropos to our endeavor of predicting adjustment in the US and similarly economically based cultures. We further believe that the in-basket is likely to predict the capacity to rise within any society as long as the particular form of the in-basket is culturally appropriate for the persons being measured. A corollary to this reasoning is that the ICAPS predicts not only cross-cultural adjustment but capacity to perform well in culturally varied business settings also.

In this study we also incorporated a nonverbal task of emotion recognition. The results of Studies 1 and 2 as well as Study 5 in Matsumoto et al. (2001) suggest that the ICAPS captures something above and beyond personality in predicting adjustment. One likely construct may be emotional intelligence (EI) (Salovey & Mayer, 1990). Although measures of EI are typically correlated with personality constructs such as the big five (e.g., see Roberts, Zeidner, & Matthews, 2001), the correlations are generally low, suggesting the conceptual independence of EI from personality, and thus its potential to contribute unique variance to the prediction of adjustment. EI has been correlated with similar aspects of life functioning, adjustment, interpersonal relationships, managerial skills, life satisfaction, depression, and the like (George, 2001; Martinez-Pons, 1997; Morand, 2001; Salovey & Mayer, 1990; Schutte et al., 2001). In fact, ICAPS ER is directly related to one of the components of EI, although ICAPS was constructed with the express purpose of predicting intercultural adjustment.

The ability to understand emotion is a major component of EI and emotion recognition has been shown to be one of its most consistent and stable components (Mayer & Geher, 1996; Mayer & Salovey, 1993; Mayer, Salovey, Caruso, & Sitarenios, 2001). Recently, Matsumoto and his colleagues (Matsumoto et al., 2000) developed a measure of emotion recognition ability called the JACBART—the Japanese and Caucasian Brief Affect Recognition Test—which we used in this study. Its inclusion allows for a direct comparison of the ability of the ICAPS to predict adjustment-related behaviors against that of a measure of emotion recognition, which is a stable component of EI.

4.2. Methods

4.2.1. Participants

The participants were 106 undergraduates enrolled in psychology courses at San Francisco State University (29 males, 77 females, age range 19–56, $M_{age} = 26.10$).

Their self-reported ethnicities were as follows: 31.1% Asian, 29.2% Caucasian, 10.4% Latino, 3.8% Middle Eastern, 2.8% African-American/Black, 2.8% Other, and 19.8% biethnic/multiethnic (i.e., listed more than one ethnicity).

4.2.2. Instruments

In addition to the ICAPS-55, the JACBART and an In-Basket task were used. The JACBART contains 56 facial expressions of emotion from Matsumoto and Ekman's JACFEE (Matsumoto & Ekman, 1988). Each is shown for 1/5 s, embedded within a 1 s presentation of the same person's neutral expression. Expressions are presented randomly and are preceded by an orienting tone and presentation number 1 s prior to the presentation, with a 3 s interstimulus interval. For each item, participants selected which emotion from a list of seven (anger, contempt, disgust, fear, happiness, sadness, and surprise) best represented the emotion portrayed. These nominal judgments were converted into accuracy scores by recoding them to "1" if it was the emotion term intended and "0" for all other terms. Eight scores were computed by summing the number of correct responses for each of the seven emotions (8 expressions each)—anger, contempt, disgust, fear, happiness, sadness, and surprise—and all emotions combined (total score, 56 expressions). Alphas ranged from .51 (SU) to .82 (CO). The alpha for total ERA was .88.

The In-Basket task required participants to resolve organizational problems; deal with personnel issues; develop policies; participate in special projects; and handle communications from their supervisor, other divisional managers, customers, and subordinates. Participants assumed the role of a manager who had recently been promoted from an assistant plant manager to a regional manager for a computer microcircuits manufacturing company, and were instructed to respond to the items in the in-basket. Each basket contained 33 items: instructions and a scenario to set up the exercise, three organizational charts, a description of department heads, two 1-month calendars, ten blank company letterhead memos, five sheets of blank white paper, and 28 In-Basket items. Participants' responses were assessed on ten dimensions: Organization and Planning, Quality of Decision, Decisiveness, Written Communication, Problem Analysis, Delegation, Goal Setting, Sensitivity, Initiative, and Fact Finding. A team of three assessors independently rated each dimension, using a 7-point scale ranging from 1, low, to 7, high. Reliabilities (intraclass correlations) ranged from .67 to .83 (mean = .73). A total score was also calculated by summing the dimension scores for each participant.

In addition, a demographic questionnaire assessed gender, age, marital status, household living situation, ethnicity, religion, place of birth, citizenship, language, economic status, occupation, and education.

4.3. Procedure

Participants were tested in groups of 4–11 individuals. Upon arrival at the laboratory, they sat at individual tables to ensure that they had adequate space to work on the In-Basket. They were given a brief introduction to the study and completed consent forms. Instructions for all tasks were read aloud by the

experimenter while participants followed along. They completed the demographics questionnaire, and then the ICAPS-55 and JACBART tasks; the latter two were counterbalanced. The JACBART was presented on a 19-inch color monitor that was located between 3 and 9 ft in front of the participants. After completion of the demographics form, ICAPS, and JACBART, participants were given one hour to complete the In-Basket.

4.4. Results and discussion

Pearson correlations between the ICAPS and JACBART scores with the 11 scores derived from the In-Basket (Table 9) indicated that ICAPS Total, ER, OP, and the JACBART SU scores predicted the In-Basket Total score. ICAPS total and ER also predicted six of the other In-Basket scales; ICAPS OP predicted five other scales. Six scales, five of them from the JACBART, predicted Problem Analysis. The association between the ICAPS and the total in-basket procedure suggests that many of the same skills that are useful to managers in solving the complex problems of running a business, and are related to adjustment, are predicted by the ICAPS. The correlations between the In-Basket's Problem Analysis subscale and the JACBART suggests that the discovery of difficulties in the management of a complex work situation are related to skill at understanding others' emotional expressions.

We computed a series of multiple regressions to elucidate further the nature of the relationship between these variables. In the first set, we simultaneously regressed the In-Basket scores on the ICAPS and JACBART totals (Table 10).⁷ The results indicated that ICAPS and JACBART total scores collectively predicted five In-Basket dimensions, including the In-Basket total score; a sixth was marginally significant. Betas indicated that the JACBART added only marginally to the ICAPS' ability to predict adjustment-related behaviors except in the area of Problem Analysis. Thus, the ICAPS and JACBART seem to predict different types of behaviors.

We computed forward regressions on the In-Basket scores using the four ICAPS and seven JACBART scales as the predictors. The ICAPS and JACBART scales predicted 8 In-Basket scores (Table 11). In particular, ICAPS ER was a significant predictor of five scores. JACBART CO and SA predicted Problem Analysis without further contribution from the ICAPS. The ICAPS scales were better predictors of the remaining In-Basket tasks with the exception of Goal Setting, in which the JACBART DI scale added to the ICAPS ER subscale in prediction. ER, the largest factor in the ICAPS, was the best predictor of Quality of Decision, Decisiveness, Delegation, Goal Setting and In-Basket Total without significant contributions from either JACBART or the other ICAPS factors. ICAPS OP was the only significant predictor of the quality of Written Communication in the In-Basket procedure.

⁷Because the JACBART Total score is mathematically related to its other scores, we opted to separate it from the others in analyses. In doing so, we then used the ICAPS Total score for comparison purposes.

	Organization and planning	Quality of decision	Decisiveness	Written communication	Problem analysis	Delegation	Goal setting	Sensitivity	Initiative	Fact finding	Total score
ICAPS total			.212*	.231**		.243**	.229**		.186*	.163*	.230**
ICAPS ER		.201*	.213*	.204*		.256**	.248**		.193*		.243**
ICAPS OP				.322***	.154*			.169*	.177*	$.190^{*}$	$.197^{*}$
ICAPS FL											
ICAPS CT								.221*			
JACBART total					$.280^{**}$						
JACBART anger											
JACBART contempt					.269***						
JACBART disgust					.191*		.237**				
JACBART fear											
JACBART happiness											
JACBART sadness					.251**						
JACBART surprise					.196*						.162*

Table 9	
Significant product moment correlations between ICAPS and JACBART with In-Basket, Study	3

p < .05; p < .01; p < .01; p < .001.

Table 10

Results of simultaneous multiple regressions on In-Basket scores using ICAPS and JACBART total scor	es
as predictors, Study 3	

Dependent variable	R	\mathbf{R}^2	Predictors	Standardized beta coefficients
Organization and planning	.164	.027	ICAPS total	.160
			JACBART total	.021
Quality of decision	.150	.023	ICAPS total	.152
			JACBART total	009
Decisiveness	.216+	.047	ICAPS total	.205*
			JACBART total	.043
Written communication	.246*	.061	ICAPS total	.217*
			JACBART total	.085
Problem analysis	.290*	.084	ICAPS total	.091
			JACBART total	.261**
Delegation	.263*	.069	ICAPS total	.226*
			JACBART total	.103
Goal setting	.243*	.059	ICAPS total	.215*
-			JACBART total	.082
Sensitivity	.101	.010	ICAPS total	.038
-			JACBART total	.088
Initiative	.087	.035	ICAPS total	.190+
			JACBART total	025
Fact finding	.173	.030	ICAPS total	.153
			JACBART total	.059
In-Basket total	.259*	.067	ICAPS total	.241*
			JACBART total	.120

**p*<.05; ** *p*<.01.

Table 11

Results of forward regressions on the In-Basket dimensions, using ICAPS and JACBART scales as predictors, Study 3 $\,$

Dependent variable Organization and planning	R	R ²	Predictors No variables entered	Standardized beta coefficients	
Quality of decision	.201*	.041	ICAPS ER	.201*	
Decisiveness	.213*	.045	ICAPS ER	.213	
Written communication	.322***	.103	ICAPS OP	.322***	
Problem analysis	.344**	.119	JACBART CO	.240*	
2			JACBART SA	.206*	
Delegation	.256**	.066	ICAPS ER	.256**	
Goal setting	.335***	.112	ICAPS ER	.238	
e			JACBART DI	.225	
Sensitivity	.300**	.090	ICAPS CT	.251*	
5			ICAPS OP	.205*	
Initiative			No variables entered		
Fact finding			No variables entered		
In-Basket total	.243*	.059	ICAPS ER	.243*	

p < .05; p < .01; p < .001

In-Basket Sensitivity was best predicted by the combination of ICAPS CT and OP subscales.

We also reconducted the above analyses using hierarchical multiple regression on the In-Basket scores, including demographic variables that were significantly correlated with each of the In-Basket scores on the first step (thus controlling for their possible contributions to the predictions), and the ICAPS and JACBART scores on the second step using forward entry criteria. Two sets of analyses were computed, once using the ICAPS and JACBART total scores, the second using their scale scores. The results essentially replicated the previous findings. ICAPS or JACBART total scores added a significant amount of variance to the prediction of 7 of the 10 In-Basket dimensions, as well as the In-Basket total (detailed tables of findings available upon request). In particular, ICAPS total significantly predicted Decisiveness, Written Communication, Delegation, Goal Setting, Initiative, Fact Finding, and the In Basket total score above and beyond what was already predicted by the previously identified demographic variables.

The ICAPS or JACBART scale scores added a significant amount of variance to the prediction of 8 of the 10 In-Basket dimensions and the total score (detailed table of findings available upon request). ICAPS scales significantly predicted Decisiveness, Written Communication, Delegation, Goal Setting, Sensitivity, Initiative, Fact Finding, and the total score above and beyond what was already predicted by previously identified demographic variables. ICAPS ER predicted In-Basket Decisiveness, Written Communication, Delegation, and Goal Setting; ICAPS OP scale predicted In-Basket Sensitivity and Initiative. The JACBART predicted Problem Analysis beyond that predicted by the demographic variables.

5. General discussion

Studies 1 and 2 indicated that the ICAPS scale scores converge with a number of personality dimensions and predict adjustment above and beyond that already accounted for by personality. Study 3 indicated that the ICAPS can predict actual behaviors related to adjustment and in many cases above and beyond that already predicted by emotion recognition, which is a component of EI. Further studies are necessary to compare the ability of the ICAPS to predict adjustment and related behaviors against a more comprehensive battery of EI in order to not only replicate these findings but also to elucidate on which EI processes ICAPS may be capturing, if any. So far the findings of these studies suggest that adjustment can be accounted for by a combination of personality, EI, and perhaps other psychological constructs so far not yet tested.

What other psychological constructs might these be? One possibility may be standard intelligence. Standard intelligence tests measure many forms of cognition, including critical thinking and memory. People with higher scores on standard intelligence have greater capacity for knowledge and better abilities to access that knowledge. They can process information more quickly and in more complex ways. Standard intelligence is typically independent of personality, which lends further credence to the possibility that it may account for adjustment independently. Future research will need to explore this possibility, and the degree to which the ICAPS is conceptually and empirically independent of the contribution by standard intelligence to the prediction of adjustment.

Future research will also need to expand the base of personality constructs that are explored in the prediction of adjustment. Study 1 examined the big five dimensions while Study 2 examined many of the research scales of the CPI, the four dimensions of the Myers Briggs, and altruism. Still, other personality constructs may also contribute to the prediction of adjustment, such as locus of control, self-monitoring, sex-role ideologies, and perhaps specific sorts of attributions and self-schemata. Explorations into their ability to predict adjustment relative to the ICAPS are necessary.

That the psychological skills underlying the ICAPS has been shown to predict adjustment in a wide variety of samples, such as Taiwanese, Dutch, Japanese, Swedes, Central and South Americans, Indians, and US Americans suggests that the psychological processes necessary for successful adjustment around the world may be panculturally universal. Previous findings documenting correlations between both the MPQ and ICAPS with variables such as life satisfaction, marital satisfaction, and academic achievement, which go beyond intercultural adjustment outcomes, support this notion (Matsumoto et al., 2001, 2003; Van der Zee & Van Oudenhoven, 2001). Such a possibility broadens and extends the work completed to date not only on intercultural adjustment, but on adjustment and adaptation to life in general. The potential ramifications of this line of work to our understanding of the influence of personality, EI, and standard intelligence are considerable. Future research will need to explore these possibilities in more detail with more cross- and within-culture samples.

That there was considerable overlap between the findings for ICAPS ER and the ICAPS total score deserves some comment. On one hand such overlap is to be expected, as the correlation between ICAPS total and ER is always strong (e.g., in Study 1 r(137) = .83, p < .0001) and ER emerged as the first factor in exploratory factor analyses of the ICAPS. On the other hand, we opt to report the findings using both scores for several reasons. First while the ICAPS ER score is computed as a factor score, the ICAPS total score was derived by an item-by-item analysis of their ability to predict adjustment independent of the factor analyses that generated the ER scale. Second, ICAPS total score is accounted for by other constructs. Third, previous studies have consistently shown that the best predictor of adjustment is the total score. Fourth, there is a number of findings reported here that suggest some degree of independence between the total and ER scores, including the results of the stepwise regressions reported in Study 2.

The studies reported were not conducted without limitation, especially concerning the relatively small numbers of males. While we attempted to examine the possible influence of gender on the relationships we report, future studies will need to include more males to ensure that the correlations we report hold true for both men and women.

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