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## ABSTRACT

In response to a call for more theoretical linkages in the literature on international students, the relationship between noncognitive variables and social interactions was investigated in this study. Both variables have been associated with international students' success. International students (N=124) (at the University of Maryland, College Park) completed a survey during a summer orientation, and results of a factor analysis were interpreted as evidence that noncognitive variables and social interactions were important yet independent factors. The Noncognitive Questionnaire, a measure of noncognitive variables, has been shown to predict academic success for international students, but academic success is apparently independent of the domain of successful interaction with people from the U.S. Thus, though some researchers focus on helping international students achieve academic success, assisting these students in building social support systems is also necessary to increase their satisfaction with their college experience. For researchers, there is a need to continue to integrate the various findings of studies of international students and to determine how and whether the various constructs proposed can be linked conceptually. For practitioners, it is important to note that different factors may be associated with different kinds of successes (i.e., academic, social), so multidimensional strategies may be most helpful for international students. Contains 18 references.  
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INTERNATIONAL STUDENTS:  
DISTINGUISHING NONCOGNITIVE VARIABLES  
FROM SOCIAL INTERACTION PATTERNS

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SUMMARY

In response to Pedersen's (1991) call for more theoretical linkages in the literature on international students, the relationship between noncognitive variables and social interactions was investigated in this study. Both variables have been associated with international students' success. One hundred twenty four international students completed a survey during summer orientation, and results of a factor analysis were interpreted as evidence that noncognitive variables and social interactions were important yet independent factors.

The Noncognitive Questionnaire (NCQ), a measure of noncognitive variables, has been shown to predict academic success for international students, but academic success is apparently independent of the domain of how international students interact socially with people from the United States. Thus, while some researchers focus on helping international students to achieve academic success (Charles & Stewart, 1991), assisting these students in building social support systems is necessary as well to increase their satisfaction with their college experience (Hayes & Lin, 1994).

For researchers, there is a need to continue to integrate the various findings of studies of international students and to determine how and whether the various constructs proposed can be linked conceptually. Theories are necessary to guide our empirical work and to help us connect our findings. For practitioners, it is important to note that different factors may be associated with different kinds of successes (i.e., academic, social) so multi-dimensional strategies may be most helpful for international students.

On U.S. college campuses, the international student population continues to increase; during the 1990-91 academic year, foreign students numbered over 400,000 (Zikopoulos, 1990). While all entering college students, whether international or U.S., are faced with the challenge of learning to succeed in a new environment, international students may encounter additional pressures which may adversely affect their educational experience. According to Pedersen (1991), many international students "must learn a wide range of culturally defined and typically unfamiliar roles in a short time under conditions of considerable stress" (p. 12).

Recognizing that more information about international students may assist professionals working with them, empirical studies have been conducted to investigate topics including culture shock (Furnham & Bochner, 1986), international students' needs and concerns (Heikinheimo & Shute, 1986; Manese, Sedlacek, & Leong, 1988; Parr, Bradley, & Bingi, 1992), their preferences for help sources (Leong & Sedlacek, 1986), and their stress level and social support systems (Mallinckrodt & Leong, 1992). Two variables that have been associated with the successful adjustment of international students are social interactions with people from the U.S. and noncognitive variables.

#### Social interactions with people from the U.S.

Benefits to interactions. Several reasons have been proposed to explain the positive effects on international students of socializing with people from the U.S. Furnham

and Bochner (1986) reported that host nationals could serve as important sources of "cultural information" in the role of "culture friends and informal trainers" (p. 15). On college campuses, information is a valuable commodity, whether it is related to registration procedures or where to eat lunch. Having U.S. help sources could make the life of an international student less stressful. International students who were more involved with people from the U.S. were found to be more satisfied in both academic and nonacademic areas (Klineberg & Hull, 1979).

In a study of 266 international students, Schram and Lauver (1988) noted that increased social contact was associated with lower alienation scores. In another study, adaptation was higher at a Rocky Mountain public university for those international students who had spent more of their leisure time with people from the U.S. rather than with fellow international students (Surdam & Collins, 1984). Thus, social interactions with people from the United States seemed to have a positive effect on international students by linking them to resources, increasing satisfaction levels, decreasing alienation, and enhancing the adaptation process.

Barriers to interactions. However, it may be difficult for some international students to form relationships with new people in a new environment, especially given a lack of fluency in English, encounters with racial discrimination, or shyness. In a study of 53 foreign students from two Midwestern universities, Owie (1982) discovered that foreign students reported significantly greater social alienation

than other college students. At 100 different institutions, Parr, Bradley, and Bingi (1992) surveyed 163 randomly selected international students and found that those with many concerns and worries about their extended families, cultural differences, finances, and school were less socially outgoing. Possibly, social isolation may contribute to an increase in concerns and worries since help sources are not being contacted and utilized. Leong and Sedlacek (1986) reported that international students were less likely than U.S. students to seek help with personal problems from friends. This reluctance to confide in peers may contribute to a cycle of loneliness, alienation, and depression.

#### Noncognitive variables

Noncognitive variables, which have been used to predict academic success for nontraditional U.S. students (i.e., racial minorities) (Tracey & Sedlacek, 1984), have been shown to relate to academic success for international students as well (Boyer & Sedlacek, 1988). The eight noncognitive variables, measured by the Noncognitive Questionnaire (NCQ), are: positive self-concept, realistic self-appraisal, ability to deal with racism, preference for long term goals, availability of a strong support person, successful leadership experience, demonstrated community service, and knowledge acquired in a field. Boyer and Sedlacek (1988) found that international students with positive self-concepts and strong support people were able to earn higher grades than those with lower self-concepts and less support. An ability to understand racism also predicted persistence for

their sample of 248 international students at a large, eastern university.

Pedersen (1991) noted that the literature on international students has been so "varied, divergent, and unrelated in its approaches that it is difficult to develop any theoretical consistency among the research results" (p. 14). The purpose of this study was to try to address this concern by examining whether a relationship existed between noncognitive variables and social interactions of international students. Social interactions with U.S. people have been associated with greater satisfaction, more successful adjustment, and less alienation for international students. Noncognitive variables have been linked with the academic success and persistence of these students. Thus, it was hypothesized that these constructs might be measuring a variable that could account for the successful overall adjustment, both social and academic, of international students.

#### Method

##### Participants

The survey was administered to 124 international students during summer orientation at a large, eastern university. The majority of the sample was male (66%) with a racial composition of: Asian (62%), White (30%), Black (4%), Hispanic/Latino (3%), and Other (1%). The respondents' mean age was 24 years, and 61% were graduate students. These students were recent arrivals to the U.S.; most (77%) of the students had been in the U.S. for less than one month with

33% of that number being in the country for less than one week. Of the 33 countries of origin indicated, 20% of the students were from India, with 13% from Germany, 11% from Taiwan/Republic of China, 8% from England or Great Britain, 7% from Japan, 6% from China, and 5% from Korea.

### Instruments

The Noncognitive Questionnaire (NCQ; Tracey & Sedlacek, 1984) is composed of 29 multiple choice, open-ended, and Likert-type items and is designed to assess the eight noncognitive variables. Adequate validity and reliability of the measure have been established (Tracey & Sedlacek, 1984). For the purposes of this study, only the items assessing four noncognitive variables (positive self-concept, availability of a strong support person, ability to understand racism, and realistic self-appraisal) were used since Boyer and Sedlacek (1988) reported the predictive utility of these four noncognitive variables for international students' academic success.

The measure assessing social interactions with people from the U.S. was based upon 21 Likert-type items from a questionnaire measuring barriers to and facilitators of meaningful social relationships between Asian international students and U.S. students (Yang, Teraoka, Eichenfield, & Audas, 1994). Thirteen items assessed barriers, and eight items measured aspects of social interaction.

### Procedure

During two one-hour sessions scheduled as part of summer orientation for international students, participants

completed the survey which was distributed and collected by graduate and undergraduate students working for the counseling center. After the surveys were completed, one of the graduate students gave a presentation on culture shock and adjusting to life at the university.

#### Data Analyses

In order to determine whether a single construct could represent the relationship between social interactions and noncognitive variables, a principal components factor analysis was conducted with varimax rotation.

#### Results

The results of the factor analysis showed an eight factor solution, accounting for 64% of the common variance. The hypothesis was not supported in that the noncognitive variables accounted for a factor independent of and apparently unrelated to the other seven factors which represented various social interaction constructs. Therefore, it does not seem that these constructs are measuring a single variable that could account for both social and academic success of international students.

The eight factors were labeled: (1) Valuing relationships with U.S. people (7 items), (2) Initiating contact with U.S. people (4 items), (3) Speaking the language (3 items), (4) Having friends (2 items), (5) Noncognitive variables (4 subscales), (6) Having negative experiences (2 items), (7) Wanting citizenship (2 items), and (8) Losing identity (1 item). Interestingly, the seven items in the first factor were all considered "barriers to social

interactions with Americans" by Yang and colleagues (1994).

(insert Table 1 about here)

#### Discussion

It has been observed that there is little systematic research and few comprehensive theories in the literature on international students (Pedersen, 1991). In this study, an attempt was made to link the construct of noncognitive variables, which has been proven to predict academic success for international students, and the construct of social interactions with U.S. people, which has been associated with the positive adjustment of international students to U.S. institutions of higher learning.

From an interpretation of the factor analysis, it appears that these constructs are independent and are not measuring one overall variable accounting for international students' academic and social success. The NCQ was developed to predict academic success of nontraditional students, which is apparently independent of the domain of international students' social interactions. Thus, if only one of the two, noncognitive variables or social interactions, are measured, investigators may be missing important information that may contribute to a better understanding of the total experiences of international students in the U.S. While some resesarchers focus on helping international students achieve academic success (Charles & Stewart, 1991), efforts to help these students in building social support sytems are necessary as well to increase their satisfaction with their college experience (Hayes & Lin, 1994).

Several implications for researchers and practitioners can be drawn from this study. First, there is a need to integrate the various findings on international students and to determine how and whether various constructs can be linked conceptually. Theories are necessary to guide our empirical work and to help us connect our findings. Additional studies investigating possible relationships between constructs are needed, and models should be built to increase our understanding of how the studies of international students form a coherent overall theory.

Additionally, it is important to note that different factors may be associated with different kinds of success for international students. Assessment of each international student on an individual basis may be necessary to understand in which areas, academic and/or social, the person may need assistance. Measures with adequate reliability and validity for this student population are needed, and longitudinal studies which track international students during their education could assist in clarifying the ways in which cultural adjustments are made (Boyer & Sedlacek, 1988). Finally, qualitative methods, rather than closed-ended questionnaire items, may be helpful in understanding various aspects of the international student experience which may be difficult to assess using a written, self-report survey. For example, Plamondon (1995) interviewed 13 international students at the beginning and end of their first semester at a large, eastern university and noted how interviewees dealt with challenges and made adjustments over the course of four

months. There are many interesting hypotheses and questions that could be explored to help clarify international students' issues and ultimately to assist these students in maximizing their academic and social success at U.S. universities.

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Table 1

Factors and loadingsFactor 1: Valuing relationships with U.S. people - 7 items

I think many Americans are not interested in close relationships with people of my culture.	.71
I <u>don't</u> have enough time to spend on social interactions.	.70
I <u>don't</u> have enough money to spend on social interactions.	.67
I prefer to enjoy my leisure time with myself and/or my family.	.64
I <u>don't</u> feel comfortable with Americans	.60
My way of living is different from Americans.	.58
My values and beliefs are different from Americans.	.57

Factor 2: Initiating contact with U.S. people - 4 items

I like to take opportunities to let Americans know about my culture/people.	-.82
I'm interested in American people/culture.	-.65
I <u>don't</u> think it's necessary to make friends with Americans; I have enough friends from my own country or other countries.	.60
I'm <u>not</u> interested in meeting people.	.59

Factor 3: Speaking the language - 3 items

My English is not good enough to have conversations with Americans.	.81
Interactions with Americans help me improve my English.	.70
I'm afraid I will be isolated from friends of my own culture if I have close relationships with Americans.	.39

Factor 4: Having friends - 2 items

I have friends who have introduced me to American people.	.80
My American friends have helped me live in this country.	.72

Factor 5: Noncognitive variables - 4 subscales

Availability of strong support person subscale	.67
Realistic self-appraisal subscale	.58
Ability to deal with racism subscale	.58
Self concept subscale	.47

Table 1 (continued)

Factors and loadings

<u>Factor 6: Having negative experiences - 2 items</u>	
I have experienced negative interactions with Americans.	.71
I am <u>not</u> prejudiced against American people.	-.62
<u>Factor 7: Wanting citizenship - 2 items</u>	
I want to become an American citizen.	.84
Generally, Americans are open and friendly.	.48
<u>Factor 8: Losing identity - 1 item</u>	
I'm afraid I will lose my national identity if I have close relationships with Americans.	.87



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