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**Beliefs, Attitudes, Perceptions, and Barriers toward International Involvement among  
College of Agriculture and Life Science Students**

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**Abstract**

*A study was conducted to assess perceptions of potential barriers that might affect students' perceptions and likelihood of participating in international learning at the University of Florida's College of Agricultural and Life Sciences. To conduct the study, an 89 item web-based questionnaire was randomly sent to a sample of undergraduate and graduate students. In all, 256 students responded, for a response rate of 34%. Results showed that the most relevant barriers toward participating included concern about financial costs and overall time involved. Their ratings of a set of attributes related to skills possessed by students involved in international activities was above average, while their rating of the degree to which they possessed the attributes was in the average range. Areas which showed a substantial difference between importance and possession of attributes included "knowledge of the humanitarian issues between the U.S. and other countries," and attributes relating to exports, marketing and humanitarian issues. Perceived barriers was the most significant predictor of intent and perceptions toward international participation, followed by the perceived degree of importance of a set of attributes typically possessed by students who have engaged in an international experience. Based on these findings, possible strategies that may mitigate potential barriers and enhance students' willingness to participate in internationalization efforts might include focusing on educating students about specific attributes that may result from international experiences, as well as publicizing and promoting those "student success stories" where this effect is illustrated.*

**Keywords:** International Experience, International Involvement, Students

### **Introduction**

It is common knowledge among those in the academic realm that there are myriad advantages for students who have great global perspectives and competencies. Employers who are hiring graduates from colleges of agriculture expect that these new hires should have knowledge, skills and understanding that will equip them for today's global workplace. Graduates should be able to work with diverse cultures and people, as well as work productively in heterogeneous teams. They should have a good grasp on issues and events that affect things throughout the world.

Unfortunately, in many cases, students do not have the global knowledge, understanding and skills that employers would truly like to see. In a study to assess students' knowledge and attitudes about international agricultural issues "only 5% achieved a passing score in a knowledge assessment about agricultural policies, products, peoples, and cultures" (Wingenbach, Boyd, Lindner, Dick, Arispe, & Haba, 2003, p. 25). Within this same study, these students felt that the international news stories on TV were most influential on their attitudes, and they minimized the opportunities for interaction with international agricultural exchange students.

Colleges of agriculture have been searching for ways to better integrate an international component into the tripartite mission of research, teaching and extension (Acker, 1998 & 1999). It is very apparent, however, that there is still much to be done in regards to internationalizing colleges of agriculture, based upon a review of literature focused on the internationalization of agricultural education and related disciplines. In their review, Moore and Woods (2003) reported the following major findings: a) internationalization of agricultural education programs has positive effects on college students, university personnel and stakeholders; b) the internationalization of programs has been

limited in scope; c) the internationalization of programs is a response to and a reflection of globalization; and d) effective teaching and learning in this regard requires a global classroom – where cultural differences can become familiar.

In a study related to international participation, Andreasen (2003) found that there were a number of external and internal barriers affecting personal involvement. Among the external reasons cited were: lack of administrative support, interference with tenure, lack of time, financial constraints, lack of language skills, conflict with classes and lack of opportunities. Internal reasons included: fear of different cultures, ethnic prejudices, cultural biases, lack of desire, not being able to communicate, fear of political unrest, a "sense of American superiority," and a fear of lost opportunities while one was away.

There is great value for students who participate in international experiences and courses, and sometimes this does not become evident until the student has had time to process and reflect. Bruening and Frick (2004) found that participation in internationally focused courses helped to create a possible environment for learning about international agriculture, it helped them understand different cultures, and in some cases, it helped them develop interest in studying foreign languages. Moreover, Bruening and Frick found that international experiences helped students to recognize narrowness of previous perceptions and understandings, in addition to broadening overall experiences, understanding world markets and developing self confidence. Similar findings relating to improved perspectives and self-confidence were reported by Zhai and Scheer (2002) among students who participated in international study abroad programs.

Bruening and Shao (2005) utilized a Delphi study of AIAEE members to identify appropriate content and methods for international agricultural undergraduate courses. The primary topic areas for

inclusion were: role of agriculture in economic development; globalization and the implications/affect on agriculture; the role of culture in agricultural international development; differentiating developed and developing countries; importance of world-view; and agricultural and extension systems in different countries. Primary instructional methods focused on experiential learning; presentations including dialogue with those who have international experience; field trips or studies of one to three weeks to diverse agricultural practices; internships; and, international field trips.

In the University of Florida Strategic Plan (2002), internationalization of the campus and the curriculum was identified as one of the primary focus areas. This effort was designed to extend to undergraduate and graduate students as well as faculty. The College of Agriculture and Life Sciences (CALs) responded to this campus-wide initiative by naming a faculty member to lead these efforts, beginning an international minor and certificate program and expanding study abroad opportunities.

If the university is able to make significant headway in this regard, it will help make it one of the premier institutions that prepare its graduates for careers that are more globally focused. However, how ready are its students to participate in international programs and activities? What do they know about opportunities available to them, and do they perceive potential barriers to their ability to engage in these endeavors? What are the factors that have most relevance in terms of students' perceptions of and willingness to participate in internationalization efforts?

In an attempt to understand how agricultural experience may be related to interest in international learning programs and activities, a previous study was conducted (Place, Irani & Friedel, 2004) among undergraduate and graduate students in the College of Agricultural and Life Sciences (CALs) at the University of Florida. Results indicated that, in general,

agricultural students have limited international backgrounds and experience with respect to international learning opportunities. Nevertheless, the level of interest in participating and willingness to travel to other regions of the world to engage in international activities was fairly high.

### **Purpose and Objectives**

The purpose of this study was to follow-up a study conducted in 2003 among University of Florida's College of Agricultural and Life Science students, assessing their perceptions of international involvement with a new data collection effort designed to develop a better understanding of the potential barriers that might affect students' perceptions and likelihood of participating in international learning opportunities available to them while still in college. As such, the objectives of the study were as follows: A) describe student respondents' background demographics, as well as their knowledge of international learning opportunities; B) describe students' perceptions of potential barriers toward partaking in such opportunities; C) describe and determine differences between respondents' perceptions of the importance of, and the degree to which they felt they possessed a set of attributes related to skills possessed by students involved in international activities; and D) develop a predication model comprised of those factors that exert the most significant influence on students' intent to engage in international opportunities.

### **Methods**

This is the second year of a multiyear study of students' perceptions of international involvement activities at the University of Florida. The target population for this study ( $N = 3,860$ ) was comprised of all undergraduate and graduate students in the College of Agricultural and Life Sciences. To conduct the study, a random

sample ( $n = 800$ ) of students was drawn from the university's student records database. Sample size was calculated on the basis of sampling size formula, using a margin of error of .05, then adjusted to account for estimated probable response rate and nonworking emails addresses. The study, developed as an online Web form, utilized an 89-item, researcher-developed survey instrument that was descriptive in nature. The instrument included sections designed to measure respondents' perceptions, beliefs and intentions related to international involvement while a student, as well as related demographic questions. Other variables of interest included respondents' self perceived knowledge, as well as their ratings of the importance and the degree to which they felt they possessed a set of attributes formulated as statements and related to skills exhibited by students involved in international activities.

Additionally, a new section was added to the instrument consisting of a ten item Likert-type scale designed to assess students' perceptions of a set of potential barriers toward partaking in international activities adapted from Andreasen (2003). To assure face and content validity, a panel of experts reviewed the questionnaire, and it was subsequently revised to reflect panel members' suggestions. The final survey was developed as an online, Web-based survey instrument, using form development and data collection procedures as outlined by Dillman (2000) To initiate the survey, respondents first received an email cover letter informing them about the Web-based survey and providing them with a respondent code to keep track of respondents and non-respondents. After the initial posting of the survey, respondents were given two weeks to return it. A follow-up reminder was then sent to non-respondents. A third and fourth (final) reminder were then sent at ten day intervals. Data was directly captured in a database for subsequent statistical analysis. To control for non-response error, date of submittal was

tracked in the database to facilitate comparison of early and late respondents on the variables of interest. No differences were observed. Given the nature of the study, this approach to controlling for non-response error was deemed sufficient, as respondents were seen as those who had at least some level of interest. An assumption that has been cited in similar studies supports the concept of non-response error not being a factor if the desired population is comprised of those who have a pre-existing interest (Miller & Carr, 1997).

Post hoc reliability for the scaled items as calculated via Cronbach's alpha was  $\alpha = .87$  (Place, Irani & Friedel, 2004) for the original study and  $\alpha = .93$  for the present study.

### Results

Of the 800 students surveyed, 48 instruments were returned due to unusable addresses, which reduced the accessible sample to  $N = 752$ . Of this number, 256 responded, for a response rate of 34%; however, 15 of the respondents were removed from the sample based on their having taken the survey during the previous year's study (a question was included on the instrument to this effect). The resulting sample ( $n = 241$ ) included 36.1% ( $n = 87$ ) male and 61.8% ( $n = 149$ ) female respondents. Five students did not answer this question. Of those who did respond, the majority were undergraduates: 18% were college seniors ( $n = 43$ ), 25.5% were juniors ( $n = 61$ ), 8.8% were sophomores ( $n = 21$ ) and 13.4% ( $n = 32$ ) were freshmen, while 16.7% of respondents ( $n = 40$ ) were master's level graduate students and 17.6% ( $n = 42$ ) were Ph.D. students.

*Objective One: Describe student respondents' background demographics, as well as their knowledge of international learning opportunities.*

In response to a question asking respondents to describe their family's ancestry, a majority of students who

responded (75.3%) indicated that they were of European/Caucasian ancestry ( $n = 174$ ). The second highest category of response (7.4%), was Mexican/Latin American ancestry ( $n = 17$ ) followed by Asian (6.9%,  $n = 16$ ). Other responses included African American (5.2%,  $n = 12$ ) and Native American (2.2%,  $n = 5$ ). Arab ( $n = 1$ ), Puerto Rican ( $n = 3$ ) or “other Caribbean” ( $n = 3$ ) were chosen by 3% of respondents.

Respondents were asked about the size of the city or town where they grew up. 33.1% ( $n = 78$ ) indicated that they were from a large suburban city ranging from 25,001-100,000 in population. 29.7% ( $n = 70$ ) were from a small suburban city with population between 2501- 25,000, while 27.1% ( $n = 64$ ) were from a large urban city with population over 100,000. Finally, 10.2% ( $n = 24$ ) indicated they were from a rural town, with population less than 2,500.

With respect to language, the majority of respondents indicated that they had a working knowledge of at least two languages (48.1%;  $n = 114$ ), while another 29.5% ( $n = 70$ ) indicated they had a working knowledge of one language. There were 36 respondents (15.2%) who indicated they had a working knowledge of three languages, 15 respondents (6.2%) had a working knowledge of four languages and two respondents (.8%) indicated that they had a working knowledge of six languages. English was the primary language spoken, (78%), followed by Spanish (14%). Smaller

percentages spoke a variety of languages, including Chinese, French, Portuguese, Tamil, Arabic, Vietnamese and Turkish. When it came to speaking languages fluently enough to comfortably get around in another country, 63.2% of respondents ( $n = 141$ ) spoke one language fluently, while another 32.3% ( $n = 72$ ) spoke two languages fluently; 3.1% ( $n = 7$ ) spoke three languages fluently, while 1.3% ( $n = 3$ ) spoke four languages fluently—enough to get around in another country.

Respondents were also asked to indicate how knowledgeable they were in regards to international activities available through their undergraduate college department, their college of agricultural and life sciences, their university and in general outside the university. Responses ranged on a scale from 1=not knowledgeable to 5 = very knowledgeable. Results showed that respondents were somewhat knowledgeable about activities in general outside the university ( $M = 2.49$ ,  $SD = 1.04$ ), followed by at the university ( $M = 2.16$ ,  $SD = .92$ ), in their department ( $M = 2.00$ ,  $SD = 1.14$ ) and in their college of agricultural and life sciences ( $M = 1.98$ ,  $SD = .1.03$ ). Means and frequencies were calculated for each response item, then averaged together to create a summated index. Standardized item alpha for the resulting perceived knowledge of international activities construct was  $\alpha = .81$ , and these are noted in Table 1.

Table 1

*Respondents' Perceived Level of Knowledge with Respect to International Involvement Activities*

I am knowledgeable about international involvement activities:	<i>N</i>	<i>M</i> *	<i>SD</i>
In general outside the university	239	2.49	1.04
At the university	238	2.16	0.92
In the college of agricultural and life sciences	238	1.98	1.03
In my department	236	2.0	1.14
Grand Mean	239	2.16	0.80

*Note.* \*Mean based on scale of 1=Not Knowledgeable, 2=Slightly Knowledgeable, 3=Somewhat Knowledgeable, 4=Knowledgeable, and 5=Very Knowledgeable.

*Objective Two: Describe students' perceptions of potential barriers toward partaking in international involvement opportunities.*

To achieve this objective, students were asked to respond to a series of Likert-type questions about their perception of potential barriers toward participating in international involvement programs and activities. Responses ranged from (1) strongly disagree to (5) strongly agree. Of the 10 questions asked, five of the items focused on tangible barriers such as difficulties in adding credit hours, time, need to work, not speaking the language and lack of knowledge, while the other five focused on attitudinal factors such as fear/uncertainty, not wanting to spend time away from family and friends, not seeing the value or relevance, concern about financial costs and lack of interest.

For the tangible barriers, results indicated that respondents agreed with the statement that the overall time it would take to participate was a barrier ( $M = 3.48$ ,  $SD = 1.16$ ). Respondents also somewhat agreed that the difficulty of adding more credit hours to their existing academic programs of study ( $M = 3.21$ ,  $SD = 1.22$ ) and lack of

knowledge about potential opportunities ( $M = 3.17$ ,  $SD = 1.15$ ) were barriers.

Respondents were more neutral about the role of needing to work/can't get time off from my job ( $M = 3.10$ ,  $SD = 1.30$ ) and not being able to speak the language ( $M = 3.02$ ,  $SD = 1.21$ ).

With respect to the intangible barriers, respondents most agreed with the statement that concern about financial costs of programs was a barrier ( $M = 4.07$ ,  $SD = 1.09$ ), followed by not wanting to spend time away from friends and family ( $M = 2.92$ ,  $SD = 1.35$ ). They disagreed that fear/uncertainty associated with participating in international programs ( $M = 2.50$ ,  $SD = 1.22$ ), lack of interest ( $M = 1.81$ ,  $SD = 1.04$ ) and not seeing the value or relevance ( $M = 1.65$ ,  $SD = .84$ ) were barriers.

As before, means and frequencies were calculated for each response item, then averaged together to create a summated index. Standardized item alpha for the resulting perceived barriers toward participating in international activities construct was  $\alpha = .71$ , and these are noted in Table 2.

Table 2

*Perceptions of Potential Barriers to Personally Participating in International Involvement Activities*

Response scale item	<i>N</i>	<i>M</i> *	<i>SD</i>
Difficulty of adding more credit hours to existing academic program of study.	239	3.21	1.22
Overall time it would take to participate.	239	3.48	1.16
Fear/uncertainty associated with participating in international programs in another country.	239	2.50	1.22
Not wanting to spend time away from family/friends.	239	2.92	1.35
Need to work/can't get time off from job.	239	3.10	1.30
Can't speak the language.	239	3.02	1.21
Don't see the value or relevance.	239	1.65	0.84
Lack of knowledge about available opportunities.	239	3.17	1.15
Concern about financial cost of programs.	239	4.07	1.09
Lack of interest.	239	1.81	1.04
Grand Mean	240	2.89	0.61

*Note.* \*Mean based on scale of 1=Strong Disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly Agree.

*Objective Three: Describe and determine differences between respondents' perceptions of the importance of, and the degree to which they felt they possessed a set of attributes related to skills possessed by students involved in international activities.*

To conduct the analysis, a five-point Likert scale was utilized to measure self-perceived levels of importance and possession across nine attribute items. Mean ratings were categorized according to the following standard: means ranging from 1.00 – 1.49, low; 1.50 – 2.49, below average; 2.50 – 3.49, average; 3.50 – 4.49, above average, and; 4.50 – 5.00, high. Means and frequencies were calculated for each attribute item, then importance attributes and possession attributes were averaged together to create a summated index. Standardized item alphas for the resulting importance of attribute and possession of attribute constructs was  $\alpha = .88$  for importance attributes and  $\alpha = .83$  for possession attributes.

Descriptive results showed that respondents perceived the overall

importance of the set of attributes as above average ( $M = 4.21$ ,  $SD = 0.59$ ). One item in this construct, ability to interact with people from other parts of the world ( $M = 4.53$ ,  $SD = 0.76$ ) was categorized as 'high' and all of the rest were in the 'above average' range. The overall degree to which respondents felt they possessed the set of attributes was rated to be average ( $M = 3.49$ ,  $SD = 0.61$ ). Five items in this construct were categorized as 'above average.'

Differences between perceived importance and perceived possession for each attribute were then calculated. Four attributes had a difference of 0.80 or greater. In rank order these include (difference noted in parentheses): "Knowledge of the humanitarian issues between the U.S. and other countries" (1.11), "Knowledge of global agricultural export markets and marketing systems" (1.03), "Knowledge of the economic issues between the U.S. and other countries" (1.00), and "Knowledge of the political issues between the U.S. and other countries" (0.98). These results are noted in Table 3.

Table 3

*Attributes of Students Involved in International Activities Importance and Possession*

Attribute	Importance		Possession		Difference <sup>a</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Understanding the differences between developed and developing nations	4.04	0.80	3.81	0.84	0.23
Awareness of the cultures of other countries	4.35	0.77	3.81	0.85	0.54
Knowledge of the economic issues between the U.S. and other countries	4.22	0.85	3.22	0.97	1.00
Knowledge of the political issues between the U.S. and other countries	4.25	0.80	3.27	0.98	0.98
Knowledge of the humanitarian issues between the U.S. and other countries	4.18	0.78	3.07	0.93	1.11
Knowledge of global agricultural export markets and marketing systems	3.88	0.93	2.85	1.09	1.03
Knowledge of what other countries' culture has added to U.S. society	4.04	0.90	3.51	0.90	0.53
Ability to interact with people from other parts of the world	4.53	0.76	3.95	0.95	0.58
Ability to function as a citizen in a global society	4.39	0.96	3.88	0.96	0.51
Grand Mean	4.21	0.59	3.49	0.61	

Note. <sup>a</sup>Difference = Importance Mean – Possession Mean.

*Objective Four: Develop a predication model comprised of those factors that exert the most significant influence on students' intent to engage in international opportunities.*

To develop a predictive model, multiple linear regression using the stepwise method was subsequently conducted, using a one item measure of intent to participate in international activities ( $M = 3.44$ ,  $SD = 1.18$ ) as the dependent measure, and the indexed scales for perceived barriers,

knowledge, and importance and possession attributes as independent variables. The regression yielded two highly significant models, with the strongest model explaining 14% of the variance in intent ( $R^2 = .14$ ). The perceived barriers index was the strongest predictor of intent, followed by the importance of attributes index. The indexes for knowledge and possession of attributes were not significant predictors in the model (see Table 4).

Table 4

*Significant Predictors of Intent to Participate in International Involvement Programs and Activities (N = 240)*

Variable	<i>B</i>	<i>SE B</i>	$\beta$
Step 1			
Barriers	-.64	.12	.33
Step 2			
Barriers	.55	.12	-.28
Importance of attributes	.37	.13	.19

Note.  $R^2 = .11$  for Step 1,  $\Delta R^2 = .14$  for Step 2,  $p < .01$ .

A second stepwise regression was run, this time including the demographics variables gender, year in college, ancestry, urban/rural background, languages you have a working knowledge of, languages you speak fluently, and the perceived barriers, knowledge, importance attributes and possession attributes indexes as independent variables. A perception toward participation index comprised of nine Likert-type items measuring respondents' willingness to participate in international activities, and travel to another country for an international experience, combined with items measuring

perceptions of personal importance, benefits to career, altruism, mutual benefits, self interest, and mutual benefits between and potential source of competition between countries was computed and utilized as the dependent measure. Standardized item alpha for the resulting scale was  $\alpha=.82$ ;  $M = 3.44$ ,  $SD = 1.18$ . The regression yielded two significant models, with the strongest model explaining 43% of the variance in intent. In this model, the strongest predictor of intent was the importance index, followed by the perceived barriers index (see Table 5).

Table 5

*Significant Predictors of Perceptions of Participating in International Involvement Programs and Activities*

Variable	Beta	SE	T	Sig.
Perceived barriers index	-.339	.069	-6.54	.001
Importance of attributes index	.484	.071	9.27	.001

### **Conclusions, Recommendations and Implications**

Previous findings (Place, Irani, & Friedel, 2004) have suggested that, in general, student respondents had limited knowledge about international learning opportunities, and limited experience in these activities. Nevertheless, the level of interest in participating and the degree to which respondents felt international learning activities were important was fairly high. A major implication of the present study was that low levels of knowledge and awareness might be related to potential barriers to student participation that could be addressed through educational efforts. Results of the present study again showed relatively low levels of knowledge. Students revealed only slight to some knowledge about international involvement activities. It was interesting to note that of the four levels that were assessed, students were more knowledgeable of opportunities outside of the university followed by university-level opportunities, then college and departmental

opportunities. More needs to be done to increase general awareness about opportunities that exist for students – particularly at the college and departmental level. Increased exposure is a necessary first step to make significant headway towards internationalizing the college of agriculture and life sciences.

On the other hand, students were in agreement on the importance of the international competence attributes. On the whole, they rated each of the attributes above average. When compared with their possession of these attributes, overall they felt that they were average in possession of these skills. Examination of individual attributes show differences between importance and possession particularly for the areas of: “Knowledge of global agricultural export markets and marketing systems;” “Knowledge of the economic issues between the U.S. and other countries;” “Knowledge of the humanitarian issues between the U.S. and other countries;” and “Knowledge of the political

issues between the U.S. and other countries.”

With respect to the prediction model, these results indicated that the most significant predictors of intent to participate in international activities were respondents’ perception of the importance of attributes related to international competence and the perceived barriers index. The importance of attributes index was a positive predictor, while the perceived barriers index was a negative predictor. Essentially, the greater the degree to which respondents perceived the importance of attributes representing competency outcomes of international involvement, the more likely they were to say they intended to participate in international programs and activities while in college. Conversely, the less they perceived potential barriers to their participation to exist, the more likely they were to express their intent. This finding starts to shed some light on avenues potentially designed to increase students’ willingness to become engaged in internationalization efforts. Based on these results, possible strategies might include pilot study work focusing on educating our students about specific attributes that may result from international experiences, as well as publicizing and promoting those “student success stories” where this effect is illustrated.

Another potential avenue may be to work on mitigating specific potential barriers that students may perceive. A key implication of this study is based on the fact that land grant institutions and the students who attend them may differ from private liberal arts schools in terms of the climate for internationalization—students from land grant institutions tend to be transfer students, on campus for only two years, and in academic programs with few foreign language requirements. Many of our students come from small towns and rural areas where opportunities for international acculturation experiences are very limited, a fact that may need to be considered by

institutions when planning international program experiences. Based on the findings of this study, concern about financial costs and time were the barriers that appeared most salient to students, issues that could be addressed through scholarships, more focus on less costly short term experiences and low cost campus-based activities such as classes, guest speakers and international festivals which may serve to acculturate students to be more receptive and motivated to engage in an international experience later on.

Although the results of this study cannot be generalized, the results do suggest that students’ intent is influenced by perceptual variables. Further research needs to be done in order to ascertain whether these are variables that may be subject to change via education and communication efforts. These findings also support the need for more long-term data collection designed to assess changes in perceptions over time. Indeed, the ultimate goal of this new effort is to develop a multiyear data set that can be used for longitudinal studies in order to ascertain the effect of our educational programming efforts over time. This approach focuses on the fact that preparing our students to be “globally-ready” graduates is a long-term endeavor, the fruits of which might best be evaluated on the basis of a long-term trend study. The present study is a part of that effort to provide much needed insight into how to affect change in terms of positioning our students to be true international citizens.

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