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Factors associated with foreign language anxiety

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ABSTRACT
Foreign language anxiety is a complex phenomenon that has been found to be a predictor of foreign language achievement. This study of 210 university students examined factors that predict[1] foreign language anxiety. A setwise multiple regression analysis revealed that seven variables (i.e., age, academic achievement, prior history of visiting foreign countries, prior high school experience with foreign languages, expected overall average for current language course, perceived scholastic competence, and perceived self-worth) contributed significantly to the prediction of foreign language anxiety. An analysis of variance, which included trend analysis, revealed that freshmen and sophomores reported the lowest levels of foreign language anxiety, and that anxiety levels increased linearly as a function of year of study. The educational implications of these findings for understanding foreign language anxiety and for increasing foreign language learning are discussed, as are suggestions for future research.

Enrollment in a foreign language class increasingly is becoming an essential part of a college student's program of study (Horwitz, Horwitz, & Cope, 1986). As a result, an influx of students with diverse backgrounds, interests, and aspirations have enrolled in foreign language courses in order to fulfill degree requirements. Unfortunately, taking such courses can be an intimidating experience for some students, with many reporting severe difficulties, culminating in underachievement and disaffection. Indeed, some students change their academic majors and/or career goals as a direct result of their experiences in these classes (Horwitz et al., 1986). In fact, Young (1991) observed that many students delay taking a foreign language course for as long as possible, only enrolling in a class just prior to graduation.

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DEFINITIONS

A growing body of research has demonstrated that language anxiety is the specific type of anxiety that is most closely related to the acquisition of a foreign language (Horwitz et al., 1986; MacIntyre & Gardner, 1989, 1991b).[2] Investigators, recognizing the distinction between language anxiety and other forms of anxiety (Gardner, 1985; Horwitz et al., 1986; MacIntyre & Gardner, 1989), have suggested that the anxiety experienced in the course of learning a foreign language is specific and unique (Horwitz et al., 1986; MacIntyre & Gardner, 1989). Evidence to support this contention was proposed by MacIntyre and Gardner (1991a, 1991b), who found that students with high levels of French anxiety tended to experience more anxiety when engaged in activities specifically involving the use of French.

Foreign language anxiety is a complex, multidimensional phenomenon (Young, 1991). It can be defined as "the feeling of tension and apprehension specifically associated with second language contexts, including speaking, listening, and learning" (MacIntyre & Gardner, 1994, p. 284). Much research has found that foreign language anxiety produces negative experiences (Foss & Reitzel, 1988; Lucas, 1984; McCoy, 1979; Powell, 1991; Price, 1991). Although students, in general, appear motivated to learn to develop their ability to communicate in the target language (Lindenau, 1987), many report the debilitating effects of foreign language anxiety at all stages of language learning (MacIntyre & Gardner, 1991b).

Some students with high levels of foreign language anxiety tend to have a mental block, similar to that experienced by students studying mathematics (Tobias, 1980), statistics (Onwuegbuzie, 1994; Onwuegbuzie & Daley, 1996; Onwuegbuzie, DaRos, & Ryan, in press; Onwuegbuzie & Seaman, 1995), or research methodology (Onwuegbuzie, in press). Students in language classes may engage in negative self-talk, ruminating over a poor performance, which affects their ability to process information in foreign language contexts (MacIntyre & Gardner, 1991a). In this respect, foreign language anxiety acts as an affective filter that results in the student being unreceptive to language input (Krashen, 1980). In addition, students with high levels of foreign language anxiety often exhibit avoidance behaviors such as missing class and postponing homework (Horwitz et al., 1986). For many students, a language class can be the most anxiety-provoking course in their program of study (Campbell & Ortiz, 1991; Horwitz et al., 1986; MacIntyre & Gardner, 1991b). Indeed, MacIntyre and Gardner (1989) found that French classes were rated as significantly more anxiety-provoking than mathematics or English classes.

PREVIOUS RESEARCH

Early studies on foreign language anxiety led to inconsistent findings, with some researchers reporting a negative relationship between foreign language anxiety and achievement (Clément, Gardner, & Smythe, 1977, 1980), whereas others reported no relationship or a positive relationship (Backman, 1976; Chastain, 1975; Kleinmann, 1977; Pimsleur, Mosberg, & Morrison, 1962; Scovel, 1978). However, much of the early anxiety research did not adequately define anxiety,

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nor were appropriate instruments used to measure it (Horwitz et al., 1986; MacIntyre, 1999). With the development and establishment of reliable and valid measures of foreign language anxiety in the last decade (Horwitz et al., 1986), researchers consistently have found a moderate negative relationship between language anxiety and various measures of language achievement (Gardner & MacIntyre, 1993; Gardner, Smythe, & Lalonde, 1984; Horwitz et al., 1986; MacIntyre & Gardner, 1991c; Mettler, 1987; Phillips, 1992; Trylong, 1987; Young, 1986). Indeed, the debilitative nature of language anxiety has been found via qualitative (Bailey, 1983; Price, 1991) as well as quantitative (Horwitz et al., 1986; Trylong, 1987) research.

Specifically, a negative relationship has been found between foreign language anxiety and course grades in both high school (Gardner et al., 1984; Gardner, Lalonde, Moorcroft, & Evers, 1987; Gardner, Moorcroft, & MacIntyre, 1987) and college (Trylong, 1987). Moreover, language anxiety appears to be related to performance in oral examinations (Phillips, 1992; Scott, 1986), to the production of vocabulary (Gardner, Moorcroft et al., 1987), and to teachers' ratings of achievement (Trylong, 1987). Following a series of studies in the area of foreign language anxiety, Gardner (1985) concluded that anxiety is one of the best predictors of foreign language achievement.

According to Horwitz et al. (1986), language anxiety manifests itself when students avoid conveying complex messages in the foreign language, when they display a lack of confidence or freeze up in role-play activities, and when they forget previously learned vocabulary or grammar in evaluative situations. Anxious students are less likely to volunteer answers or to participate in oral classroom activities (Ely, 1986). MacIntyre and Gardner (1989) found that high-anxious students take more time to learn vocabulary items and experience more difficulty in recalling them. Indeed, although language-anxious students study more than their low-anxious counterparts, their level of achievement often does not reflect that effort (Horwitz et al., 1986; Price, 1991). These students often report that the pace of the class is too rapid and that they feel left behind (MacIntyre & Gardner, 1991a).

Steinberg and Horwitz (1986) found that students who are made to feel more anxious use less interpretation in describing ambiguous scenes than do those experiencing relaxed conditions. That is, high-anxious students make less of an attempt to convey difficult or personal messages in the target language. It appears that anxious students experience basic problems in vocabulary acquisition and retrieval (MacIntyre & Gardner, 1991a). Specifically, the word production of anxious students tends to be smaller than that of their low-anxious counterparts (Gardner, Lalonde et al., 1987), and their speech tends to be less complex or interpretive (Steinberg & Horwitz, 1986). Furthermore, anxiety has been found to have a negative influence on listening comprehension (Gardner, Lalonde et al., 1987).

COMPONENTS OF FOREIGN LANGUAGE ANXIETY

Horwitz et al. (1986) suggested that foreign language anxiety comprises three components: communication apprehension, test anxiety, and fear of negative

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evaluation. Communication apprehension, the anxiety experienced in interpersonal settings, has been found to be related to both learning and recall of vocabulary items (Gardner, Lalonde et al., 1987; MacIntyre & Gardner, 1989). Therefore, students with high levels of communication apprehension appear to be disadvantaged from the outset because basic vocabulary learning and production are impaired. Communication in a foreign language requires a great deal of risk-taking, inasmuch as uncertain and unknown linguistic rules prevail (Horwitz et al., 1986). Indeed, MacIntyre and Gardner (1991a) found that speaking is the most anxiety-provoking of second language activities. In addition, Young (1990), Daly (1991), and Mejías, Applbaum, and Trotter (1991) found that the majority of students are extremely anxious when required to speak in a foreign language in front of their class. The frustration experienced by a student unable to communicate a message can lead to apprehension about future attempts to communicate (Horwitz et al., 1986; McCroskey, 1982; Schlenker & Leary, 1985).

With respect to test anxiety, Daly (1991) found that learners experience more language anxiety in highly evaluative situations. Indeed, the more unfamiliar and ambiguous the test tasks and formats, the higher the prevailing level of language anxiety (Young, 1991). Unfortunately, for high-anxious students, foreign languages, more than any other academic subject, require continual evaluation by the instructor – the only fluent speaker in the class (Horwitz et al., 1986).

With respect to instructor variables, Brandl (1987) asserted that foreign language anxiety is exacerbated when instructors believe that their role is to correct students when they make errors, when they do not promote group work, when they believe that the teacher should be doing most of the talking, or when they believe that their role is not that of a facilitator. Horwitz et al. (1986) and Young (1990) reported that anxiety is induced when instructors correct student errors in a nonsupportive manner. These authors also found that, although students recognized the importance of being corrected, they consistently reported anxiety over responding incorrectly, being incorrect in front of their peers, or looking or sounding inept.

According to Horwitz et al. (1986), perhaps no other field of study poses as much of a threat to self-concept as does language study. Researchers have found that high-anxious foreign language students tend to be less self-confident (Clément, 1987; Clément et al., 1977, 1980). Language anxiety also appears to be related to self-esteem (Krashen, 1980). Bailey (1983) contended that competitiveness can lead to anxiety when language learners compare themselves to others or to an idealized self-image. Furthermore, several researchers have maintained that heavy ego-involvement in language learning tends to increase anxiety levels (Bailey, 1983; Horwitz et al., 1986; Price, 1991; Young, 1990). These findings help to explain why students with high levels of language anxiety tend to be more afraid of negative evaluation than their low-anxious counterparts.

Some research has suggested that erroneous beliefs about language learning can be a source of anxiety (Gynan, 1989). For example, students may believe that the target language should not be attempted unless accuracy is maintained, and that they should not guess an unknown foreign language word (Horwitz, 1984). Gynan (1989) reported that learners believe that pronunciation is the

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most important aspect of language learning. In fact, Horwitz (1988) found that language learners expressed great concern over the accuracy of their statements, attached great importance to speaking with an excellent accent, supported the notion that language learning is primarily translating from English, believed that two years is sufficient in order to become fluent in a foreign language, and believed that some people have a special gift for learning a foreign language. Such unrealistic beliefs apparently increase anxiety levels.

RATIONALE FOR THE CURRENT STUDY

Because anxiety can have a debilitating effect on the acquisition of a foreign language, it is important to be able to identify students with high levels of foreign language anxiety (Horwitz et al., 1986) so that, where possible, activities can be tailored to their affective needs (Young, 1991, 1999). According to MacIntyre and Gardner (1991a), almost all studies of language anxiety have examined it as "a stable personality trait, among experienced language learners" (p. 297). Aida (1994) concluded that the research on foreign language anxiety remains underdeveloped and asserted that "studies examining the relationship between anxiety and learner characteristics will help us increase our understanding of language learning from the learner's perspective and provide a wider range of insights" (p. 165). According to MacIntyre and Gardner (1991a), such research will lead to an understanding of the ways in which the development of language anxiety can be controlled and its effects alleviated. This, in turn, will have instructional implications for the classroom by facilitating the implementation of methods geared toward improving the quality of teaching and learning a foreign language.

PURPOSE OF THE STUDY

Foreign language educators have stated the importance of exploring systematically the relationship between anxiety and language learning (Scovel, 1991). Although many studies have found a negative relationship between foreign language anxiety and achievement, other questions related to language anxiety remain to be examined (Phillips, 1992). Thus, the purpose of this exploratory study was to investigate the correlates of foreign language anxiety that, to date, have not received attention as well as those that have been identified as predictors of foreign language anxiety. Specifically, in addition to demographic variables (e.g., age, gender), we decided to investigate the extent to which self-perceptions were related to foreign language anxiety. In particular, we included direct measures of self-perception (e.g., perceived intellectual ability, perceived scholastic competence, perceived self-worth, and expected final course average for current language course) as well as measures of constructs that are manifestations of self-perceptions (i.e., social interdependence and study habits). This study also sought to discover whether foreign language anxiety varied at different levels within the foreign language curriculum at the college level. That is, does anxiety diminish as students progress to higher levels?

This study should be of considerable interest to language educators and stu-

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dents because of the potentially negative impact of foreign language anxiety, not only on the various domains of language performance but also on students' attitudes and perceptions of language learning in general (Phillips, 1992).

METHOD

Subjects

The sample comprised 210 students from various disciplines enrolled in French ($n = 61$), Spanish ($n = 125$), German ($n = 19$), and Japanese ($n = 5$) introductory, intermediate, and advanced courses at a mid-southern university. This number of participants represented approximately 40% of the spring 1996 semester student enrollment in foreign language courses at that university. Participation was voluntary. In order to participate, students were required to give their consent by signing an informed consent form. Participants received extra course credit. A Kruskal-Wallis one-way analysis of variance[3] revealed no difference in foreign language anxiety, $\chi^2(3) = 3.06$, $p > .05$, between students enrolled in Spanish courses, French courses, German courses, and Japanese courses.[4] Therefore, the responses of all participants were combined.

The ages of the respondents ranged from 18 to 71 ($M = 22.7$, $SD = 6.5$). Of the 210 participants, 140 (66.7%) were female, and 95.7% spoke English as their native language. With respect to year of study, the participants consisted of freshmen (15.3%), sophomores (20.1%), juniors (30.1%), seniors (31.6%), and graduate students (1.9%). Of the students enrolled in introductory classes, 21.5% were freshmen, 23.9% were sophomores, 31.5% were juniors, and 23.1% were seniors. With respect to the intermediate classes, 5.8% were freshmen, 13.5% were sophomores, 30.8% were juniors, and 50.0% were seniors. Students enrolled in advanced courses comprised 4.8% freshmen, 19.1% sophomores, 28.6% juniors, and 47.6% seniors. These students represented 43 different degree programs from the colleges of Business Administration, Education, Fine Arts and Communication, Health and Applied Sciences, Liberal Arts, and Natural Sciences and Mathematics, with a mean GPA of 2.97 ($SD = 0.70$). The majority of students (59.8%) were required to take the language course as part of their degree program. The overall course load of the participants ranged from 1 to 9 ($M = 5.1$, $SD = 1.2$). In addition, 82.9% of the participants had formally studied a foreign language in high school; 34.3% had done so in college. The majority of students (55.7%) had never left the United States. Of those who had, the number of countries visited ranged from 1 to 9. Approximately one-fourth (25.4%) of the students had immediate family members whose native language was not English. Finally, the grades expected by the participants for their foreign language course ranged from 68 to 100 ($M = 87.1$, $SD = 9.3$).

Instruments

A battery of instruments was used in the study: the Foreign Language Classroom Anxiety Scale, the Self-Perception Profile for College Students, the Social Interdependence Scale, the Academic Locus of Control Scale, the Study Habits In-

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ventory, and the Background Demographic Form. Participants were given the questionnaire packet containing the six instruments during the fourth week of the semester. They were instructed to complete the battery of instruments at home and to return it within two weeks.

The Foreign Language Classroom Anxiety Scale (FLCAS), developed by Horwitz et al. (1986), is a 33-item, Likert-type instrument that assesses the degree to which students feel anxious during language class. Some of the items on this instrument are key-reversed (i.e., negatively worded) such that total scale scores range from 33 to 165, with high scores indicating high levels of foreign language anxiety. Horwitz et al. have conducted numerous validity and reliability studies on the instrument. The scale has been shown to be both reliable and valid, with an alpha coefficient of .93 and an eight-week test–retest coefficient of .83 (Horwitz, 1991; Horwitz et al., 1986). Validity has been established (see Horwitz, 1991) via significant correlations with communication apprehension, as measured by McCroskey's (1970) Personal Report of Communication Apprehension, and with test anxiety, as measured by Sarason's (1978) Test Anxiety Scale. In addition, Aida (1994) reported a Cronbach's alpha coefficient of .94, using a sample of 96 students in a second-year Japanese course.

The Self-Perception Profile for College Students (SPPCS) is a 54-item scale, comprising 13 subscales (Neemann & Harter, 1986). Five of the subscales were not deemed relevant for this study (i.e., perceived athletic competence, romantic relationships, close relationships, parent relationships, and morality). Thus, the following eight subscales were used: (1) perceived creativity; (2) perceived intellectual ability; (3) perceived scholastic competence; (4) perceived job competence; (5) perceived appearance; (6) perceived social acceptance; (7) perceived level of humor; and (8) perceived self-worth. According to the test's authors, the reliability of these subscales, as assessed by coefficient alpha, range from .76 to .92, with the reliabilities of all but one subscale (i.e., job competence) exceeding .80 (Neemann & Harter, 1986). For the present study, the reliabilities of the selected subscales ranged from .74 to .80.

The Social Interdependence Scale (SIS), developed by Johnson and Norem-Hebeisen (1979), is a 22-item, 5-point Likert-type instrument measuring individuals' cooperative, competitive, and individualistic perceptions. Scores on the cooperative (7 items) and individualistic (7 items) scales range from 7 to 35, whereas scores on the competitive scale (8 items) range from 7 to 40. The higher the score on each scale, the more cooperative, the more competitive, or the more individualistic the respondents consider themselves to be. Scores on these scales are relatively independent, which means that a respondent could conceivably receive a high score on all three scales. The reliability of the SIS scale, as measured by coefficient alpha, has been found by its authors to be .94 for the cooperative scale, .85 for the competitive scale, and .73 for the individualistic scale (Jones, Slate, & Marini, 1995).

The Academic Locus of Control Scale for College Students (ALC), developed by Trice (1985), has 28 true–false items related to personal control over academic outcomes. Scores range from 1 (strongly internal locus) to 28 (strongly external locus). Coefficient alpha reliability has been found to range from .68 (Agnew, Slate, Jones, & Agnew, 1993) to .70 (Trice, 1985).

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The Study Habits Inventory (SHI), developed by Jones and Slate (1992), consists of 63 true–false items designed to assess the typical study behaviors of college students. A total of 30 items describe effective study behaviors, and 33 items depict ineffective study behaviors. The latter items are key-reversed such that total scale scores range from 0 to 63, with high scores indicating good study skills. The SHI has been found by its authors to be reliable, as measured by a mean alpha coefficient of .85 and a two-week test–retest coefficient of .82. Validity of the SHI has been established through significant correlations with college students' grades (Jones & Slate, 1992). The Background Demographic Form (BDF), developed specifically for this study, extracted relevant demographic information such as age, sex, ethnicity, degree program, year of study, native language, and countries visited.

Data analysis

Pearson product–moment correlations were used to determine correlations between foreign language anxiety and the selected independent variables. In addition, multiple regression analysis was used to determine the best predictors of foreign language anxiety. The technique of least squares was used to estimate the regression coefficients in all the models that were fitted. Specifically, a setwise regression was utilized in order to select an optimal set of variables in terms of maximum proportion of variance explained. All possible models involving some or all of the selected variables were examined (Tabachnick & Fidell, 1989). In setwise regression, separate regressions are computed for all independent variables singly, all possible pairs of independent variables, all possible trios of independent variables, and so on until the best subset of independent variables is identified according to some criterion. For this study, the criterion used was the maximum proportion of variance explained (R^2). Using this criterion, setwise regression, which finds the R^2 value for all possible combinations of the independent variables, will lead to an identification of the model with the largest R^2 for each of the number of variables considered. Setwise regression is different than stepwise regression, in which the order of entry of variables is based solely on statistical criteria. Thus, stepwise regression is not guaranteed to find the model with the largest R^2 (Hocking, 1976). The 26 independent variables included in the correlation and setwise regression analysis were: gender, age, academic achievement (i.e., grade point average), semester course load (i.e., number of credit hours), prior history of visiting foreign countries (i.e., number visited), prior high school experience with foreign languages (i.e., number of courses), prior college experience with foreign languages (i.e., number of courses), status of current foreign language course (i.e., required vs. elective), foreign language proficiency of immediate family members (i.e., yes or no), expected final course average for current language course (i.e., 0 to 100), self-perception (i.e., perceived creativity, perceived intellectual ability, perceived scholastic competence, perceived job competence, perceived appearance, perceived social acceptance, perceived level of humor, and perceived self-worth), social interdependence (i.e., cooperative interdependence, competitive interdependence, individualistic interdependence, and value placed on coopera-

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Table 1. *Pearson product–moment correlations of foreign language anxiety with selected variables*

Variable	*r*
Gender	.11
Age	.20**
Academic achievement	.02
Semester course load	.04
Visiting foreign countries	–.19**
High school foreign languages	–.21**
College foreign languages	.10
Status of foreign language course	.06
Foreign language proficiency of family	–.10
Expected final foreign language course average	–.45***
Perceived creativity	–.14*
Perceived intellectual ability	–.36***
Perceived scholastic competence	–.39***
Perceived job competence	–.26***
Perceived appearance	–.25***
Perceived social acceptance	–.21**
Perceived level of humor	–.21**
Perceived self-worth	–.26***
Cooperativeness	–.14*
Value placed on cooperative learning	–.08
Competitiveness	–.02
Value placed on competitive learning	–.19**
Individualism	.13*
Value placed on individualistic learning	.03
Academic locus of control	.06
Study habits	.11

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

tive learning, competitive learning, and individualistic learning), academic locus of control (i.e., internal vs. external), and study habits.

Finally, a series of univariate analyses of variance was performed in order to determine whether there were significant differences in foreign language anxiety for different years of study as well as for the different levels of language instruction (i.e., beginning vs. intermediate vs. advanced). Where appropriate, follow-up trend analyses were conducted in order to assess the existence of a linear or quadratic trend.

RESULTS

Table 1 presents the correlations between each of the selected independent variables and foreign language anxiety. It can be seen that foreign language anxiety correlated significantly with the following variables: age, prior history of visiting foreign countries, prior high school experience with foreign languages, ex-

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Table 2. *Selected multiple regression model for predicting foreign language anxiety*

Variable	Regression coefficient	Standard error	*t* value	Standardized regression coefficient	Semi-partial squared coefficients
Intercept	6.15	0.47	13.11***	–	–
Age	0.01	0.01	1.60	0.10	0.04
Academic achievement	0.22	0.07	2.98**	0.18	0.01
Visiting foreign countries	–0.08	0.02	–3.11**	–0.17	0.05
Expected final foreign language course average	–0.03	0.01	–6.60***	–0.38	0.18
Perceived self-worth	–0.10	0.07	–1.39	–0.09	0.05
Perceived scholastic competence	–0.35	0.08	–4.23***	–0.30	0.05
High school foreign languages	–0.28	0.11	–2.47**	–0.15	0.02

Note: Model $R^2 = .400$, $F(7, 202) = 19.23$; adjusted $R^2 = .379$.
*$p < .05$; **$p < .01$; ***$p < .001$.

pected overall average for current language course, perceived creativity, perceived intellectual ability, perceived scholastic competence, perceived job competence, perceived appearance, perceived social acceptance, perceived level of humor, perceived self-worth, cooperativeness, value placed on competitive learning, and individualism. Expected overall average for current language course had by far the largest correlation with foreign language anxiety. Indeed, by itself, this variable explained 20.3% (i.e., $-.45^2 = 20.3\%$) of the variance. The second largest correlate of foreign language anxiety was perceived scholastic competence, which accounted for 15.2% of the variance. This was followed by perceived intellectual ability, which explained 12.96%. All other significant correlates explained between 1.7% (individualism) and 6.8% (perceived self-worth and perceived job competence).

The Shapiro-Wilk test (Shapiro & Wilk, 1965; Shapiro, Wilk, & Chen, 1968) did not indicate that the distribution of research anxiety scores was nonnormal ($W = .98$, $p > .05$), thereby justifying the use of multiple regression. In addition, an evaluation of assumptions of linearity and homogeneity revealed no threat to the validity of the multiple regression analysis.

Table 2 presents the unstandardized regression coefficients and intercept, the standard error of the unstandardized coefficients, the standardized regression coefficients, the semi-partial correlations, and the squared multiple correlation coefficient (R^2) of the chosen model.[5] The setwise multiple regression analysis revealed that the following variables contributed significantly, $F(7, 202) = 19.23$, $p < .0001$, to the prediction of foreign language anxiety: age, academic achievement, prior history of visiting foreign countries, prior high school experience with foreign languages, expected overall average for current language

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course, perceived scholastic competence, and perceived self-worth (Table 2). These 7 variables combined to explain 40% of the variation in foreign language anxiety. The remaining 19 variables added less than 7% to the variance accounted for and thus were not included in the final model. An examination of the tolerance statistics, the variance inflation factors, the eigenvalues, and the condition numbers of the selected regression model suggested that no multicollinearity was present. In addition, an inspection of the standardized residuals generated from the model suggested that the assumptions of normality, linearity, and homoscedasticity were met. From the semi-partial squared coefficients (Table 2), it can be seen that a student's expectation of her or his achievement in a foreign language course was the best predictor of foreign language anxiety, explaining 18% of the variance. Number of countries visited, perceived scholastic competence, and perceived self-worth were the next best predictors, each explaining 5% of the variance, followed by age, which explained 4%. The remaining factors – number of high school foreign language courses taken and academic achievement – each accounted for between 2% and 1% of the total variance.

The regression model suggests that students with the highest levels of foreign language anxiety tended to have at least one of these characteristics: older, high academic achievers, had never visited a foreign country, had not taken any high school foreign language courses, had low expectations of their overall average for their current language course, had a negative perception of their scholastic competence, or had a negative perception of their self-worth.

A univariate analysis of variance (ANOVA), using year of study as the independent variable, revealed a significant main effect, $F(3, 199) = 4.19$, $p < .01$. In addition, a follow-up trend analysis revealed the presence of a linear trend, $F(1, 199) = 6.94$, $p < .01$, but no quadratic trend, $F(1, 199) = 2.97$, $p > .05$. That is, with the exception of sophomores, foreign language anxiety appeared to increase linearly as a function of year of study, with freshmen ($M = 2.83$, $SD = 0.58$) and sophomores ($M = 2.79$, $SD = 0.67$) reporting the lowest levels of foreign language anxiety, followed by juniors ($M = 2.89$, $SD = 0.72$) and seniors ($M = 3.19$, $SD = 0.68$). Finally, a post-hoc Scheffé analysis of the means revealed that seniors reported significantly higher levels of foreign language anxiety ($p < .05$) than did sophomore students. No other significant differences were found between years of study.

Finally, a univariate analysis of variance, using level of language instruction as the independent variable, revealed no significant main effect, $F(2, 207) = 2.74$, $p > .05$. That is, no difference was found in levels of foreign language anxiety between students enrolled in beginning ($M = 2.94$, $SD = 0.70$), intermediate ($M = 3.10$, $SD = 0.70$), and advanced classes ($M = 2.66$, $SD = 0.59$).

DISCUSSION

A number of researchers have suggested that foreign language anxiety is a debilitating phenomenon that must be overcome by students in order for them to take full advantage of foreign language instruction (Horwitz et al., 1986). Thus, the major purpose of this exploratory study was to determine the demographic and

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self-perception factors that are predictors of foreign language anxiety. Seven variables, accounting for 40% of the total variance, were found to be significant predictors of foreign language anxiety. The major finding of this study was that three aspects of self-perception were found to be predictors of foreign language anxiety. These factors were students' expectation of their overall achievement in foreign language courses, perceived self-worth, and perceived scholastic competence.

The negative relationship found between foreign language anxiety and these three aspects of self-perception could be interpreted in four ways: (1) high levels of foreign language anxiety cause students to lower their course expectations, perceived self-worth, and perceived scholastic competence; (2) negative course expectations, perceived self-worth, and perceived scholastic competence elevate their levels of foreign language anxiety; (3) a recursive relationship occurs in which high/low levels of foreign language anxiety/self-perceptions cause students to decrease/increase their levels of anxiety/self-perceptions, which, in turn, increase/decease levels of anxiety/self-perceptions, and so forth until levels of foreign language anxiety are maximized and course expectations, perceived self-worth, and perceived scholastic competence are minimized in these at-risk students; and (4) one or more other variables that are associated with both foreign language anxiety and self-perceptions (e.g., academic achievement) moderate the anxiety/self-perceptions relationship. Although it is likely that foreign language aptitude and/or previous achievement account for a great deal of the learner's expectations (i.e., they are based in part on factual self-assessment), it is equally likely that anxiety leads to the learner forming erroneous or excessively negative expectations, which, in turn, reduce motivation, effort, and consequently achievement. In fact, MacIntyre, Noels, and Clément (1997) reported finding just such a bias. This implied phenomenon of underachievement suggests that future researchers might wish to explore the relationship found in the present study.

Nevertheless, the fact that three aspects of self-perception were significantly related to foreign language anxiety, and, in particular, that students' expectations of their overall achievement in foreign language courses was the biggest predictor of foreign language anxiety, seems to support the finding of Gynan (1989) and Horwitz (1984, 1988) that beliefs about language learning can be a source of anxiety. This finding also lends support to a study by Ganschow and Sparks (1991), who found that students' perceptions of the ease of learning a foreign language are the foremost identifiers of their propensity to experience foreign language learning problems. In addition, Ganschow et al. (1994) found that the majority of students with high levels of foreign language anxiety found their language course difficult, whereas the majority of their low-anxious counterparts found their language course easy. According to Horwitz (1990), students enroll in foreign language classes with preconceived beliefs about how to learn a language, coupled with expectations as to their ability to accomplish this task. Apparently these beliefs and expectations can affect students' foreign language achievement. The present authors are in the process of investigating this relationship. Indeed, according to MacIntyre and Gardner (1991c), foreign language anxiety stems from "negative expectations that lead to worry and emotionality"

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(p. 110). Furthermore, it is possible that negative beliefs and expectations possessed by some students enrolled in foreign language classes have been acquired because their written and oral native language skills have prevented them from attaining as high a level of academic achievement as their counterparts who have a greater command of their native language (Ganschow et al., 1994). In addition, the affective filter (Krashen, 1980) may prevail among many foreign language students whose low expectations make them unreceptive to language input, thereby impeding the learning process.

Consistent with earlier findings (Bailey, 1983; Horwitz et al., 1986; Krashen, 1980; Price, 1991; Young, 1990), there appears to be a relationship between perceived self-worth and foreign language anxiety. In fact, Pyszczynski and Solomon (1986) postulated that students with high self-esteem may be able to increase their ability to cope with anxiety-producing situations. In addition, Greenberg et al. (1992) proposed a terror management theory, which posits that "people are motivated to maintain a positive self-image because self-esteem protects them from anxiety" (p. 913). Apparently, as severe anxiety is associated with an unrealistic and disproportional perception of ego threat (Spielberger, 1972) and as the learning of a foreign language is a threat to students' self-esteem because it deprives the learners of their normal mode of communication, individuals who have high levels of self-esteem are less likely to be anxious than are those with low self-esteem (Horwitz et al., 1986). The role of self-esteem in determining foreign language anxiety is underscored further by this study's finding that students with high levels of perceived intellectual ability and perceived scholastic competence had lower levels of foreign language anxiety than did their peers. Thus, both self-esteem and self-concept play a role in determining levels of foreign language anxiety – a finding with major implications for counseling.

With respect to the significant demographic variables, the finding that older students reported higher levels of foreign language anxiety is consistent with the positive relationship found between age and test anxiety (Crook, 1979; Hunt, 1989; Yesavage, Lapp, & Sheikh, 1989). The age/language anxiety relationship may have arisen because the ability to acquire mastery of the finer points of language, such as phonology and morphology, as well as the capacity to speak a second language without an accent severely deteriorate with age (Lieberman, 1984; Newport, 1986). According to some theorists, speed is a consequence, as opposed to a cause, of age-related declines in cognitive performance. Research has indicated that older individuals may perform more poorly than young adults on a variety of cognitive tasks in which a quick response is needed—as is often the case when learning a foreign language—in part because of situational and motivational variables that are extraneous to ability. One such possible variable is cautiousness; that is, the foreign language anxiety of older adults might be largely the result of their reluctance to pronounce, to translate, or to write words in the target language about which they are uncertain. Indeed, research suggests a positive relationship between cautiousness and age past adulthood (Schaie & Gribbin, 1975). Additionally, experimental studies have indicated that older adults tend to make more errors of omission than commission (Okun, 1976; Okun, Siegler, & George, 1978). A related finding is that older adults tend to

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place greater emphasis on accuracy than do young adults (Salthouse & Somberg, 1982). Thus, it is possible that a greater proportion of older students may hold the erroneous beliefs that pronunciation is the most important aspect of language learning (Gynan, 1989), that the target language should not be attempted unless accuracy is maintained, and that they should not guess an unknown foreign language word (Horwitz, 1984, 1988).

Moreover, some researchers contend that, with increased age, individuals become less practiced in speeded activities and, consequently, work slowly because they are less familiar with tasks performed under time constraints (e.g, Salthouse, 1984). Thus, it is likely that older adults experience their highest level of foreign language anxiety when they are performing tasks in which time is a factor, such as when they are required to respond to questions in the target language in class in front of their peers. Future research should investigate this potential link.

An extremely interesting finding was that the variable of visiting foreign countries was a predictor of foreign language anxiety. This is consistent with the finding of Aida (1994): namely, students who have visited Japan tend to have lower levels of foreign language anxiety associated with the study of Japanese than those who have not been to Japan. It is also consistent with a study by Desrochers and Gardner (1981), who found that Anglophone grade 8 students who went on a four-day trip to a French-speaking community experienced a reduction in their levels of foreign language anxiety associated with the study of French. Thus, it appears that exposure to different cultures, particularly those where people speak the target language, helps to reduce their levels of foreign language anxiety, perhaps by making more positive their perception of the importance of learning the language. Future research should investigate this relationship further.

The finding that students who had not taken any high school foreign language had higher levels of foreign language anxiety than their more language-experienced counterparts suggests the importance of encouraging students to study a foreign language at the secondary school level. This finding, coupled with the age/anxiety relationship, indicates that foreign languages should be introduced as early as possible, perhaps even at the primary school level. There has, in fact, been an increase in the number of primary schools introducing foreign languages (Rosenbusch, 1995). Indeed, Black (1993) found that primary school children who pursue a foreign language tend to show more creativity, divergent thinking, and higher order thinking skills and to score higher on standardized achievement tests than those who do not.

The positive relationship found between academic achievement and foreign language anxiety, although seemingly surprising, corroborates the finding of Karabenick and Knapp (1988) that the rate of help-seeking maximizes in the B– to C+ grade range. Thus, it is possible that students with high academic achievement perceive asking for help as a failure (Karabenick & Knapp, 1988) and thus refrain from doing so, which increases their levels of anxiety. It also is possible that, for these students, taking a foreign language course threatens to reduce their grade point average, which induces anxiety. In addition, the fact that students with the highest levels of academic achievement also tend to have

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the highest level of foreign language anxiety suggests that facilitating anxiety may also be a factor in the acquisition of a foreign language. Indeed, Scovel (1991) asserted that facilitating anxiety and debilitating anxiety work in unison. Accordingly, facilitating anxiety motivates some learners to fight the new learning task, preparing some students emotionally for approach behaviors, whereas debilitating anxiety motivates some students to flee from the new learning task, inducing them emotionally to adopt avoidance behaviors. Thus, further research should investigate the extent to which high-achieving/high anxiety students experience facilitating anxiety.

Four key findings from a series of Scheffé post-hoc analyses might help to explain why seniors had the highest level of foreign language anxiety. First, as expected, seniors ($M = 24.7$, $SD = 6.4$) were significantly older than freshmen ($M = 19.2$, $SD = 2.3$), sophomores ($M = 20.2$, $SD = 2.2$), and juniors ($M = 22.4$, $SD = 4.9$). Also, juniors were significantly older than freshmen. Second, a significantly smaller proportion of seniors (71%) had studied one or more foreign languages than had freshmen (97%) and sophomores (95%).[6] Third, seniors ($M = 83.2$, $SD = 12.6$) had significantly lower expectations with regard to their final course average than did freshmen ($M = 90.3$, $SD = 5.7$), sophomores ($M = 89.2$, $SD = 7.4$), and juniors ($M = 88.4$, $SD = 5.9$). Fourth, a higher proportion of seniors (45%) already had taken at least one college-level foreign language course than had freshmen (22%) and sophomores (21%). The latter two results, combined, suggest that many seniors had formed negative attitudes in their previous foreign language courses in high school or college, and that these attitudes resulted in their higher anxiety levels and lower expectations or even in their delay in taking a foreign language until late in their academic careers. In any case, these four findings suggest that the age of the students, prior high school experience, and expected final course average each interacted with students' year of study in determining the level of students' foreign language anxiety. More research is needed to assess these possible relationships.

With respect to course level, a significant difference was found in grade point average between advanced students ($M = 3.4$, $SD = 0.6$) and each of the other levels – namely, the beginning ($M = 3.0$, $SD = 0.6$) and intermediate ($M = 3.0$, $SD = 0.5$) students. This suggests again that advanced students may have had the highest levels of foreign language anxiety because they were the highest achievers and thus were the most determined to protect their grade point average.

A somewhat disturbing finding was the fact that a disproportionate number of juniors and seniors in the sample (54.6%) were enrolled in introductory language classes. Overall enrollments including nonparticipants in the study revealed that 49.6% of the introductory foreign language students in the spring 1996 semester were juniors and seniors. The study percentage was thus typical for the total student enrollment and for introductory classes in foreign languages at the university where the study was undertaken. Indeed, at this university, over nine semesters, the proportion of juniors and seniors enrolled in introductory language classes ranged from 36.8% to 51.4%, with a mean of 46.1%. This finding, coupled with the finding from the present study that seniors enrolled in introductory language classes ($M = 3.3$, $SD = 0.6$) were significantly more anx-

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ious than were juniors ($M = 2.8$, $SD = 0.7$), sophomores ($M = 2.8$, $SD = 0.7$), and freshmen ($M = 2.8$, $SD = 0.6$), suggests that the seniors are academic procrastinators. This may be due in part to students perceiving language study as a low priority and/or their receiving inadequate academic advising; however, the excessive upperclass enrollment also supports earlier findings that procrastination is often associated with high levels of anxiety (Beswick, Rothblum, & Mann, 1988; Rothblum, Solomon, & Murakimi, 1986; Solomon & Rothblum, 1984).

The 40% of total variance in foreign language anxiety accounted for by the 7 variables contained in the selected model is relatively higher than the proportion of variance typically explained in the anxiety literature. For example, Gliner (1987) found that the inclusion of 14 demographic and achievement variables accounted for only about 21% of the variance in mathematics anxiety. As such, the results of the present study are encouraging. Nevertheless, since 60% of the variance in foreign language anxiety was not explained by the variables selected for the final model, there is clearly a need to conduct future research into other correlates of foreign language anxiety.

RECOMMENDATIONS

The results of this study suggest that certain students are at risk of having debilitative levels of foreign language anxiety. Therefore, it is important that foreign language instructors not only recognize the possibility that some students experience high levels of anxiety, but also are able to identify these at-risk students. Instructors can begin to explore instructional strategies that reduce foreign language anxiety and enable students to exploit fully the resources available to them. Based on the findings of this study and subsequent logical analyses, the following suggestions are made.[7]

First and foremost, foreign language instructors should acknowledge these feelings as legitimate and then attempt to lessen students' feelings of inadequacy, confusion, and failure by providing positive experiences to counteract the anxiety. The finding that high-anxious students tend to have the lowest expectations of their ability to learn a foreign language suggests that instructors should continually strive to reduce their affective filter. As advocated by Horwitz (1988), instructors could confront students' erroneous beliefs by providing them with complete and accurate information regarding the course goals and objectives as well as "reasonable commitments for successful language learning" (p. 286). Indeed, it may be advantageous for instructors to delineate this information on a regular basis. Furthermore, they can build students' confidence and self-esteem in their foreign language ability via encouragement, reassurance, positive reinforcement, and empathy. In this respect, instructors should be especially sensitive when they are correcting student errors made in the target language and should remind students that it is through making errors that one acquires language proficiency. Instilling realistic expectations regarding errors and the speed with which fluency in the target language can be attained will alleviate a great deal of student anxiety. Also, instructors should openly discuss

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foreign language anxiety with students and encourage them to seek help when needed. Instructors should remember to avoid assuming that students who have high levels of achievement in other courses are not experiencing difficulties learning a foreign language.

Since seniors enrolled in introductory classes tend to have the highest levels of foreign language anxiety, instructors and advisors should encourage students to enroll in these courses as soon as possible in their academic careers. Furthermore, because it appears that older adults have higher levels of foreign language anxiety, instructors could consider administering examinations and quizzes with less stringent time constraints. In any case, certain types of language test items can increase anxiety levels (Madsen, Brown, & Jones, 1991), and all examinations should be constructed carefully. All tests should be checked for content validity by other language faculty before they are administered. Instructors should consider giving pretest exposure to similar test items, where possible, as this has been found to reduce levels of anxiety (Onwuegbuzie et al., in press; Young, 1991). Since oral and listening comprehension sections of exams are often likely to be especially anxiety-provoking for some students, instructors should consider testing these skills in isolation. Testing written material separately also provides students with examinations of more manageable length.

Interventions that primarily focus on anxiety management and reduction might be considered. This could be accomplished through a number of cognitive and behavioral techniques, such as mental and emotive imagery, relaxation therapy, systematic desensitization, cognitive and covert modeling, thought stopping, cognitive restructuring, meditation, biofeedback, and neurolinguistic programming (Gilliland & James, 1983). Students also should be given information about how to direct their attention away from self-centered worries when they are reading, listening, writing, or speaking a foreign language. Instructors could consider encouraging students to engage in journal writing, in their native language, in which they document their thoughts, feelings, and experiences related to the learning of a foreign language; since journal writing has been found to be both a low anxiety-producing learning strategy (MacIntyre & Noels, 1996) and an effective way of reducing anxiety levels (Foss & Reitzel, 1988; Onwuegbuzie et al., in press). Finally, instructors should consider attending professional workshops and conferences whenever possible in an attempt to keep abreast with the most current research and practices in the field of language teaching.

This list of recommendations is by no means exhaustive. Indeed, every instructor can offer additional suggestions for reducing levels of foreign language anxiety. This study provides instructors with strategies they could utilize in order to alleviate the potentially pervasive and detrimental effect of foreign language anxiety. There is little doubt that anxiety is a major obstacle in learning to speak a foreign language. The difficulties experienced by high-anxious students can, in some cases, lead to the false impression on the part of instructors that these students are lacking in ability when they are, in fact, underachieving. Thus, in order to improve foreign language teaching at all levels, it is imperative that instructors minimize the effect of foreign language anxiety on students' experiences in these courses. Any reduction in foreign language anxiety has the potential to increase students' motivation to learn another language.

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The authors contributed equally to this article.

NOTES

1. The authors wish to clarify from the outset that, due to the correlational nature of this study, readers should be careful not to infer that factors that predict or correlate with foreign language anxiety can be assumed to exist in a one-way causal relationship. If a variable is a predictor of foreign language anxiety, it does not imply that this variable causes foreign language anxiety. That is, correlations do not imply causation.
2. See also Young's (1994) and MacIntyre's (1999) excellent reviews of language anxiety research.
3. The Kruskal–Wallis test is the most powerful nonparametric test for examining three or more independent groups. It has 95% of the power of the F statistics (i.e., ANOVA) to detect existing differences between groups. This technique tests the null hypothesis that all samples are from the same population. In this study, the Kruskal–Wallis test was used to compare the language groups, instead of the parametric analysis of variance test, because the number of Japanese students ($n = 5$) was small, and thus a normal distribution could not be assumed for their anxiety scores. For a discussion of the use and interpretation of partial t tests in multiple regression, the reader is referred to Hollander and Wolfe (1973).
4. See Bailey, Onwuegbuzie, and Daley (1998) for a discussion of this finding.
5. The partial t test provides information regarding the importance of a single predictor in a model regarding all other predictors. In a variable screening procedure, such as setwise regression, one can encounter difficulties with decision making by utilizing only information from partial t tests. In particular, if a variable is statistically significant in the presence of other predictor variables, this does not imply that it would be a very important contributor in a model containing these variables. On the other hand, a nonsignificant predictor could be rendered important in a particular subset of variables. Thus, the interrelationships and multiple associations among the predictor variables render it very difficult to draw conclusions regarding the choice of best model by sole use of partial t tests. Thus, in this study, age and perceived self-worth were included in the final model, despite having nonsignificant partial t values, because they explained 4% and 5% of the total variance in foreign language anxiety, respectively; at the same time, these variables had significant zero-order correlations with foreign language anxiety (see Table 1). For a discussion of the use and interpretation of partial t tests in multiple regression, the reader is referred to Myers (1986).
6. This fact can be explained in part by recent changes in foreign language requirements for college-bound students in the state who, at the time of the study, were required (beginning in the fall of 1997) to have had two years of high school foreign language for unconditional admission to state universities. Although this requirement was subsequently dropped, at the time of this study, seniors and juniors were ex-

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pected to have had less exposure to foreign language than the younger students, as the new requirements were still four to five years away from being implemented when they attended high school.

7. For further recommendations, see Horwitz and Young (1991) and Young (1999).

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