

Understanding EFL Undergraduate Anxiety in Relation to Motivation, Autonomy, and Language Proficiency

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Abstract

This study provides a comprehensive insight into the relationships between foreign language anxiety, learning motivation, autonomy, and language proficiency. The subjects of the study were first-year non-English major undergraduates, who were separated into various levels of English language classes based on their English proficiency. The findings determine that foreign language anxiety is prevalent among the students. Strikingly, more than half of the subjects' responses reflected different degrees of learner anxiety for all the 33 Foreign Language Classroom Anxiety Scale (FLCAS) items. Among the variables investigated in this study, learning motivation, followed by listening proficiency, reading proficiency, and learner autonomy, had the highest correlation with foreign language anxiety; all the correlations were highly significant and negative. Results from the stepwise regression predicting language proficiency indicated that both learner anxiety and autonomy contributed significantly to the prediction of proficiency. Motivation failed to contribute significantly in the regression model when learner autonomy was simultaneously included as a predictor variable. This result can be due to the high degree of correlation between these two learner variables.

1 Introduction

Considerable research attention has been directed at the examination of individual difference variables for successful language learning (Dörnyei, 2005; Gardner, 1985; Gardner, Tremblay, & Masgoret, 1997). According to Gardner and MacIntyre (1993), these variables are characteristics of an individual that may influence his/her reactions to any classroom situation and, consequently, may also affect how well he/she learns a second language. These variables can be broken down into two major categories: cognitive and affective. A wide spectrum of affective variables includes motivation and language attitudes, self-confidence, and language anxiety. Combined with cognitive variables, all of the variables are incorporated into the socio-educational model of second language learning proposed by Gardner (1985) and another more complete model of second language learning proposed by Gardner et al. (1997). Arnold and Brown (1999) indicated that in addition to cognitive variables, affective variables also have to be considered when constructing a solid framework for the language learning process.

For English as a foreign language (EFL) students in Taiwan, for example, learning English has always been a great challenge due to the limited contact with target-language speakers and the lack of opportunities to practice English in their everyday lives. Many students are only exposed to English in the classroom, making it difficult for them to remain motivated to learn English as it is merely a mandatory school subject (Ho, 1998). They may also become anxious in the language classroom due to various reasons, such as worrying about negative evaluations from their instruc-

tors or peers (Chan & Wu, 2004; Jen, 2003). By looking into the interrelationships between foreign language anxiety and other important learner variables in this EFL setting, this study aims to provide a more comprehensive insight into the effects of these factors on language learning. It is hoped that the findings and implications from this study can contribute to increasing awareness of foreign language anxiety among language instructors. With a better understanding of the affective needs of language learners, they can assist their students in coping with anxiety in a more careful, supportive, and effective manner.

2 Review of literature

2.1 *Language anxiety*

Over the past three decades, researchers and educators have increasingly focused on the link between language anxiety and language performance (Onwuegbuzie, Bailey, & Daley, 2000). A growing body of research has shed light on the debilitating effects of language anxiety on a second/foreign language (Aida, 1994; Horwitz, 1986; Krashen, 1987; MacIntyre & Gardner, 1991a, 1991b; Onwuegbuzie, Bailey, & Daley, 1997, 1999; Von Wörde, 2003). MacIntyre and Gardner (1994) defined language anxiety as “the feeling of tension and apprehension specifically associated with second language contexts, including speaking, listening, and learning” (p. 284). For decades, researchers have indicated that language anxiety is a unique form of anxiety experienced in the course of learning a second or foreign language (Horwitz, Horwitz, & Cope, 1986; MacIntyre & Gardner, 1989, 1991a, 1991b). In a study by Horwitz et al. (1986), more than one third (38%) of the respondents selected “strongly agree” or “agree” for the item that stated “I feel more tense and nervous in my language class than in my other classes.”

Some research has examined the concept of anxiety within the framework of attitudes and motivation in language learning (MacIntyre & Gardner, 1989). For example, the well-known Attitudes and Motivation Test Battery (AMTB) developed by Gardner (1985) incorporated the 5-item French Class Anxiety Scale. MacIntyre and Charos (1996) also integrated language anxiety into a second language communication model. On the other hand, most second/foreign language research has treated anxiety as a single construct and an independent variable. One of the most prominent studies to investigate the specific role of anxiety in language learning was conducted by Horwitz, Horwitz, and Cope (1986). In it, they reported three components of anxiety particular to learning of a foreign language: apprehension in communication, anxiety related to testing, and fear due to negative evaluation by classmates and teachers. They then developed a standard instrument, the Foreign Language Classroom Anxiety Scale (FLCAS), to measure the distinct form of anxiety termed foreign language anxiety.

Speaking in front of other people using a foreign language seems to contribute the most to language classroom anxiety (MacIntyre, 1999; Horwitz et al., 1986; Young, 1991). In a study that investigated students' reactions to speaking, Young (1990) discovered that students consider speaking activities that require “on the spot” and “in front of everyone” performance to be the most anxiety provoking. Communication apprehension, social anxiety, and low self-esteem were considered three vital components of language anxiety. When making a mistake in a language classroom, students often worry that they are negatively evaluated, not only by their instructor, but also by their classmates. Consistent with Young's (1990) notion, Von Wörde (2003) regards speaking activities as one of the anxiety-provoking factors. The other factors that provoke anxiety include: inability to comprehend, pedagogical and instructional practices, instructor's attitudes toward error correction, and the presence of native speakers in the language classroom.

Some studies carried out in the Taiwan EFL setting have also attempted to identify sources of language anxiety among students learning English as a foreign language. Jen (2003) showed that no matter whether instructors used a grammar-translation method or a communicative language teaching method when teaching secondary school students, learner anxiety existed for all of the students. Interviews with 20 of the most anxious students revealed that personality factors, fear of

negative evaluation, and parental pressure were three common sources of foreign language anxiety. Other potential sources included low English proficiency, lack of preparation, pressure from the language instructor, and tests. Chan and Wu (2004) identified five major sources of foreign language anxiety among elementary school children: an anxious personality, fear of negative evaluation, low language proficiency, competitive games, and pressure from parents and self. Several other research studies centered on the other variables associated with language anxiety, such as reading comprehension (Liu, 2010b; Wu, 2011), learning difficulties (Chen & Chang, 2004), emotional intelligence (Chao, 2003), and motivation (Huang, 2005).

In addition to the more general type of language anxiety in a classroom situation, some researchers supported the existence of “language-skill-specific anxiety,” that is, listening anxiety (Cheng, 2005; Kim, 2000; Vogely, 1998; Wang, 2010), reading anxiety (Saito, Horwitz, & Garza, 1999; Wu, 2011), and writing anxiety (Cheng, 2002, 2004). Apart from the negative effects of anxiety when speaking a foreign language, Saito et al., (1999) indicated that reading anxiety also has a negative relationship with student language performance. They found that student anxiety from reading is associated with the perceived difficulty of the target language. In Cheng, Horwitz, and Schallert’s (1999) study, two types of anxiety, general classroom anxiety and more specific writing anxiety, were measured among Taiwanese participants by the FLCAS and the Daly-Miller Writing Apprehension Test (SLWAT). The findings showed that all of the anxiety variables were significantly and negatively related to both grades for English speaking and writing. However, variables related to writing anxiety were more correlated with student writing performance than with their speaking performance. Exploring the sources of writing anxiety among Taiwanese English majors, Cheng (2004) divided the sources into four categories: instructional practices, personal beliefs about writing and learning to write, low self-confidence, and the threats of interpersonal evaluation. Cheng et al. (1999) claimed that a more in-depth investigation of language-skill-specific anxiety may help researchers understand language anxiety problems more precisely, providing the possibility of effective techniques for intervention and a direction for future research.

2.2 Motivation and language learning

The influence of affect-related variables on academics has been examined in numerous research studies, with rigorous efforts being particularly made to define or understand motivation. Interest in language learning motivation has generated a host of research studies in this area for about 50 years. The pioneers of motivation research, two Canadian social psychologists (Gardner & Lambert, 1959), first collaborated in 1959 to find that learners’ attitudes toward the community of a second culture are related to their motivation to learn the language of that culture. Further, they made the distinction between two orientations: integrative and instrumental orientations (Gardner, 1985; Gardner & Lambert, 1959; Gardner & Smythe, 1975). Integrative orientation is characterized by the willingness to communicate with members of the target-language group or the desire to integrate into it. Instrumental orientation is defined by having more pragmatic reasons for language learning, such as the desire to obtain a higher salary or enter a better school.

In addition to the social-educational perspective of motivation theory, alternative motivational formulations have also been developed over the last few decades (Dörnyei, 2001, 2003; Noels, Clément, & Pelletier, 1999; Noels, Pelletier, Clément, & Vallerand, 2000; Pintrich & Schunk, 1996). Oxford and Shearin (1994) separated motivation theories into four broad classes: need theories, instrumentality theories, equity theories, and reinforcement theories. Need theories include hierarchies of need and need-achievement theories. Instrumentality theories include expectancy-value and goal-setting theories. Equity theories are characterized by a learner’s belief of whether the probable outcomes are worth the effort. Reinforcement theories relate to the association of stimulus, response, and reward, and they are often the only ones with which classroom teachers are acquainted. One of the most influential conceptualizations of motivation during the last five decades is the self-determination theory proposed by Deci and Ryan (1985).

According to Ryan and Deci (2000a, 2000b), different types of motivational orientations can be placed on a continuum from the lowest to the highest levels of self-determination, with amotivation and intrinsic motivation lying on opposite ends and four types of extrinsic motivation lying in between, namely, external regulation, introjected regulation, identified regulation, and integrated regulation (Noels, 2001a, 2001b; Noels et al., 1999; Noels et al., 2000; Otis, Grouzet, & Pelletier, 2005). Learners who are intrinsically motivated act for inherent pleasure and satisfaction. In contrast, extrinsically motivated learners only participate in an activity for instrumental reasons, such as gaining a reward or avoiding a punishment.

Dörnyei (2005, p. 85) considers motivation as a dynamic factor, which is likely to fluctuate over time. He developed a process-oriented model to account for the characteristic of motivation by dividing it into three stages: preactional, actional, and postactional stages. First, “choice motivation” has to be generated in order to set goals, form intentions, and further launch actions. Then “executive motivation” has to be maintained and finally, “motivational retrospection” will help learners evaluate what they have achieved and determine what they will pursue in the future.

Previous empirical research on motivation has revealed its connection with other language learning related variables such as academic performance (Brown, Robson, & Rosenkjar, 2001; Gardner & MacIntyre, 1991; Masgoret & Gardner, 2003), use of learning strategies (MacIntyre & Noels, 1996; Okada, Oxford, & Abo, 1996; Oxford & Nyikos, 1989; Schmidt & Watanabe, 2001), and preferences for instructional activities (Schmidt, Boraie, & Kassabgy, 1996; Schmidt & Watanabe, 2001). Findings have consistently suggested that more proficient learners are more motivated to learn and students with a higher level of motivation tend to have a higher frequency of strategy use. Additionally, motivation was found to be a significant predictor of foreign language anxiety (Huang, 2005; Liu, 2010a; Wei, 2007). Liu (2010a) found that Taiwanese university freshmen in the advanced English proficiency level classes had significantly higher motivation than the other groups of students with lower proficiency levels over an entire academic year. Motivation also remained negatively related to foreign language anxiety and served as a significant predictor of learner anxiety. Although motivation has been the subject of a large body of research, when compared with the enormous number of studies on the definition or broadening of the conceptual model of language learning motivation, there is still a need for more empirical research on this variable, particularly in the EFL context.

2.3 *Learner autonomy*

Since the 1980s, there has been growing interest in the promotion of learner autonomy in English learning, particularly during the past one decade (Benson, 2006). Researchers and educators are paying more attention to autonomy possibly in response to a shift from a teacher-centered approach in language education to a more learner-centered or communicative approach (Benson, 2001; Benson & Voller, 1997; Ciekanski, 2007; Little, 2007). Littlewood (1996) defined an autonomous learner as someone “who has an independent capacity to make and carry out the choices which govern his or her actions” (p. 428). More specifically, to act autonomously, the individual should possess both “ability” and “willingness” (Littlewood, 1996, p. 428). Ability refers to the knowledge about the choices and skills for carrying them out, while willingness refers to the motivation and confidence a learner should have in order to take responsibility for his or her own choices during the language learning process. As Little (2007) noted, autonomous learning takes place not just because learners do things on their own but also because they do things for themselves.

Benson (2001) suggested that autonomy may take a variety of forms for different learners, even when they are in the same context. Littlewood (1999) distinguished two forms of autonomy: proactive and reactive autonomy. Proactive autonomy refers to the type of autonomy that learners can take charge of their learning by having the freedom to make all of the decisions concerning all learning aspects. Reactive autonomy can be considered as a “preliminary step,” which enables learners to regulate their own learning once the decisions have been made or the directions have

been set. Researchers such as Nunan (1997), Benson (2006), and Scharle and Szabó (2000) additionally asserted that there are different levels of autonomy. Nunan (1997, p. 195) divided the process of developing learner autonomy into five levels: awareness, involvement, intervention, creation, and transcendence. At the initial level, for instance, learners are “aware of the pedagogical goals and content of the materials they are using.” At the final level, learners can “make links between the content of classroom learning and the world beyond”. Scharle and Szabó (2000) also divided the process of promoting autonomy into different phases: raising awareness, changing attitudes, and transferring roles.

Autonomy is often linked with more effective learning and higher learner motivation (Dickinson, 1995; Little, 2007; Nunan, 1997; Ushioda, 1996). According to the self-determination theory, Ryan and Deci (2000a) contended that three basic psychological needs, relatedness (the feeling of connectedness with others), perceived competence, and a sense of learner autonomy, have to be satisfied in order to facilitate intrinsic motivation. Zhou, Ma, and Deci (2009) even distinguished “autonomous motivation” from “controlled motivation” in their work that emphasized the importance of autonomy in motivation among children in China. Autonomy enables learners to gain a feeling of being self-determined rather than being controlled. The relationship between autonomy and motivation in language acquisition was also supported by Spratt, Humphreys, and Chan (2002), who reported that more motivated language learners tended to become engaged in autonomous learning practices outside of class.

The link between motivation and successful language learning (Csizér & Dörnyei, 2005; Kang, 2000; Nikolov, 2001; Pintrich & De Groot, 1990) and the negative impact of anxiety on language performance (Aida, 1994; Saito et al., 1999; Saito & Samimy, 1996; Von Wörde, 2003) have been reported in a considerable amount of studies. The relation between foreign language anxiety and motivation has also attracted the attention of many researchers and instructors; however, there are still rather few published studies on this topic in the EFL context. Additionally, little has been done to investigate the link between learner anxiety and autonomy. This study intends to fill the gap in relevant literature and also to help foster awareness of classroom learning anxiety by language instructors.

2.4 Research questions

This study aims to contribute to a fuller understanding of foreign language anxiety by providing more comprehensive and complete insights into its interrelationship with other important learner variables. The following are the major research questions:

1. Do EFL university students feel some level of anxiety in learning English?
2. Are there any significant relationships between learner anxiety, motivation, autonomy, and language proficiency among the EFL students?
3. Which of the following can best predict a student’s English proficiency: anxiety, motivation, or learner autonomy?

3 Methodology

3.1 Participants

The participants in this study were 150 EFL freshmen from a university in central Taiwan (see Table 1). They were grouped into three English proficiency level classes according to their performance on the listening and reading sections of the GEPT (General English Proficiency Test) that they took upon entering school. At the time of the study, they were all taking the same required classes offered by the university to students of different ability levels that would train them in the skills of English listening, speaking, reading, and writing. It should be noted that although the participants were homogeneously grouped for English classes, when the data collection procedure was undertaken, they were only at the beginning of their first semester.

	Basic	Intermediate	Advanced	Total
Male	26 (57.8%)	30 (56.6%)	14 (26.9%)	70 (46.7%)
Female	19 (42.2%)	23 (43.4%)	38 (73.1%)	80 (53.3%)
Total	45	53	52	150

Table 1: Number and percentages of subjects of different ability levels

3.2 Instruments

The 33-question FLCAS developed by Horwitz et al. (1986) was translated into Chinese by the researcher and used to measure learner anxiety in this study. In the original scale, there were five response choices for each statement: strongly agree (SA), agree (A), neither agree nor disagree (N), disagree (D), and strongly disagree (SD). To prevent too many neutral responses from subjects, the five-point Likert-type scale was changed into a six-point scale (1 = strongly disagree; 2 = disagree; 3 = slightly disagree; 4 = slightly agree; 5 = agree; 6 = strongly agree). The Chinese version of this instrument is highly reliable, with a coefficient alpha of .96.

The instrument used to measure learner motivation was adapted from Gardner's (1985) AMTB. The AMTB was originally designed to assess various individual difference variables of Canadian students learning French as a second language. Three out of the 19 sub-tests in the AMTB, attitudes toward learning French, motivational intensity, and desire to learn French, were specifically developed to measure motivation. The researcher incorporated these three subscales, modified the items, and further translated them into a 26-item Chinese version for the Taiwan EFL setting (see Appendix I). Ratings of the items were also made on a six-point Likert-type scale, ranging from completely disagree (1) to completely agree (6). Subjects' overall motivation was assessed by adding their total scores on the three subscales. The internal consistency of this motivation scale, using Cronbach's alpha, was .90.

To measure learner autonomy, a 43-item questionnaire based on the instruments developed by Chan, Spratt, and Humphreys (2002) and Üstünlüoğlu (2009) was administered to the subjects. Similar to the AMTB, the scale was revised and translated into Chinese prior to administration. A total of 52 items was included in the original questionnaire developed by Chan et al. (2002) for the Hong Kong setting, while the one revised by Üstünlüoğlu (2009) containing 42 questions was used among Turkish learners. Some items that were not appropriate for the Taiwan context, such as "read English notices around you" (Chan et al., 2002, p. 18), were not selected in this Chinese version (see Appendix II). The instrument contained three sections: a learner's perception of his or her own responsibilities (not at all, a little, some, mainly, completely), frequency of engaging in both extracurricular and in-class activities (never, rarely, sometimes, often, always) and a self-evaluation of his/her decision-making abilities (very poor, poor, okay, good, very good). Thus, ratings for all the items were made on a 5-point Likert scale. The Cronbach's alpha coefficient for the complete scale was .89. The three above-mentioned questionnaires were distributed to students in separate English classes several weeks after the start of their first academic year.

As mentioned previously, the instrument used in this study to measure language proficiency was the intermediate level GEPT test. It is a well-recognized English proficiency test in Taiwan and was used as a placement test for these subjects. The listening test contains 45 items and the reading test has 40 items. A student's English proficiency was measured by adding the listening and reading scores.

3.3 Data analysis

To ascertain whether these EFL students felt some level of anxiety when learning English, percentages of the full sample's responses to each choice of individual FLCAS items were computed. Means for each item were also calculated and examined. To determine whether there were any significant connections among learner anxiety, motivation, autonomy, and language proficiency,

Pearson product-moment correlation coefficients for each pair of the learner variables and the students' English listening and reading proficiencies were calculated. Finally, to determine the best predictor of a student's language achievement among the investigated variables, a stepwise regression procedure was used to analyze the data. The data for reverse-worded questionnaire items were recoded before any of the statistical procedures were performed.

4 Results and discussion

The total percentages of student responses to each answer choice ranging from 1 (strongly disagree) to 6 (strongly agree) on the Chinese version of the FLCAS are reported in Table 2. The findings revealed that a strikingly high proportion of subjects showed varying degrees of anxiety about learning a foreign language. For example, about 23% of the subjects selected "slightly agree" and 63% of the students selected either "agree" or "strongly agree" for the statement regarding whether they feel nervous about being asked questions by teachers in classes (item 33). When asked about whether they worry about failing their English course (item 10) and whether they feel embarrassed about volunteering to answer questions in English classes (item 13), more than 90%, an extremely high percentages of the students reported different levels of agreement, ranging from slightly agree to strongly agree. Item 10 received the strongest level of agreement from about half of the 150 subjects, with 49.3% of the subjects selecting "strongly agree." The findings also revealed that two thirds of the participants expressed agreement with item 26, "I feel more tense in my English class than in my other classes," the item that has been considered as the "single best discriminator of anxiety" by Horwitz et al. (1986, p. 130).

The findings displayed in Table 2 corroborated those reported in many studies that students experienced certain levels of anxiety in the foreign language classroom (Aida, 1994; Horwitz et al., 1986; Williams & Andrade, 2008). Nonetheless, it should be noted that as Horwitz et al. (1986) suggested, foreign language anxiety was experienced by many language learners, while only about a third of the participants in their study agreed or strongly agreed with 19 of the FLCAS statements indicative of learner anxiety. In the current study, over 80% of the respondents gave responses reflecting learner anxiety for more than one third of the 33 FLCAS items. Among the 33 items, only five of them received less than 60% of the responses indicating anxiety. However, the percentages of student responses reflective of learner anxiety for these items were still above 50%. The findings clearly revealed the prevalence of foreign language anxiety among university students in Taiwan.

The means of the 33 individual FLCAS items and the overall mean are also shown in Table 2. As the rating for each statement in the questionnaire was made on a six-point scale, an item scoring above 3 would signify the prevalence of a certain level of foreign language anxiety. The results show that the average score for all of the 33 items was above 3.50. Twenty two of the items were above 4, which indicated a noticeable presence of learner anxiety among the respondents. The overall mean of the anxiety item scores for the full sample was 4.23. As was apparent in Table 2, the five FLCAS items that had the highest scores were items 10 (mean = 5.12), 9 (mean = 4.79), and 33 (mean = 4.69), followed by items 23 (mean=4.68) and 7 (mean=4.66). According to Cheng et al. (1999), both items 10 and 33 indicate learner anxiety about inadequate academic performance in language classes, while items 9, 23 and 7 reflect a learner's low self-confidence when speaking English. It is noteworthy that even though the students were grouped with others who possessed similar linguistic ability, more than 85% felt that their classmates had better English performance than they did.

Item	Strongly disagree	Disagree	Slightly disagree	Slightly agree	Agree	Strongly agree	Mean
1.	0.0	2.7	8.7	30.7	37.3	20.7	4.65
2.*	10.7	20.0	36.0	20.0	11.3	2.0	3.93
3.	0.0	3.3	9.3	38.0	28.7	20.7	4.54
4.	1.3	4.7	14.0	36.0	28.0	16.0	4.33
5.*	14.0	16.7	37.3	20.7	8.0	3.3	3.98
6.	0.7	12.0	25.3	42.7	11.3	8.0	3.76
7.	2.0	2.0	8.7	26.7	36.0	24.7	4.66
8.*	10.7	14.0	32.7	27.3	12.7	2.7	3.75
9.	1.3	2.7	6.7	24.0	36.0	29.3	4.79
10.	4.0	4.0	17.3	24.7	0.7	49.3	5.12
11.	1.3	2.0	10.0	29.3	32.7	24.7	4.64
12.	0.0	6.0	19.3	34.7	28.0	12.0	4.21
13.	1.3	2.0	6.0	37.3	34.0	19.3	4.59
14.*	7.3	18.7	38.0	20.7	12.0	3.3	3.79
15.	0.7	12.0	23.3	32.7	22.0	9.3	3.91
16.	3.3	9.3	12.0	32.7	29.3	13.3	4.16
17.	2.7	12.7	27.3	28.7	14.7	14.0	3.82
18.*	14.0	20.0	37.3	22.7	4.0	2.0	4.11
19.	2.0	16.0	30.0	25.3	18.0	8.7	3.67
20.	2.7	5.3	6.7	26.0	32.7	26.7	4.61
21.	4.7	10.7	28.0	27.3	21.3	8.0	3.74
22.*	14.7	21.3	41.3	13.3	6.0	3.3	4.15
23.	0.7	4.0	10.0	21.3	40.0	24.0	4.68
24.	2.7	7.3	15.3	29.3	28.7	16.7	4.24
25.	1.3	5.3	17.3	34.0	24.0	18.0	4.28
26.	1.3	10.7	22.0	21.3	28.7	16.0	4.13
27.	0.7	6.7	18.7	32.0	25.3	16.7	4.25
28.*	13.3	24.7	44.0	12.7	4.7	0.7	4.27
29.	0.7	4.0	18.7	33.3	28.7	14.7	4.29
30.	1.3	8.0	16.0	26.0	28.0	20.7	4.33
31.	1.3	12.0	26.0	29.3	21.3	10.0	3.87
32.*	7.3	11.3	34.0	31.3	12.7	3.3	3.59
33.	0.7	4.0	9.3	23.3	37.3	25.3	4.69
Overall Anxiety:							4.23

* reverse-worded items

Table 2: Total percentages and means of student responses to individual items about learner anxiety

Table 3 presents the means and standard deviations of subjects' scores on all of the variables investigated in the study. As shown by the descriptive statistics, students appeared to score higher on learning motivation and autonomy if they had higher language proficiency; additionally, they tended to have lower anxiety when learning a foreign language.

Learner Variable	Basic		Intermediate		Advanced		Full sample	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Anxiety	149.66	21.61	143.06	20.48	127.15	20.97	139.52	22.88
Motivation	90.68	19.38	98.89	18.47	112.67	11.15	101.21	18.81
Autonomy	115.96	14.81	121.61	22.27	137.10	14.20	125.29	19.67
Listening	27.87	8.22	45.13	10.30	75.96	12.61	50.64	22.42
Reading	26.13	6.85	39.00	9.58	76.04	10.95	47.98	23.12
Total	54.16	12.08	83.94	9.63	152.00	17.75	98.60	43.03

Note. Listening = listening proficiency; Reading = reading proficiency; Total = overall proficiency

Table 3: Means and standard deviations of learner anxiety, motivation, autonomy, and English proficiency by different levels of English proficiency

Further analysis of the correlation coefficients between the above-mentioned variables revealed that learner anxiety had a highly significant and negative relationship to all of the other variables, including motivation, listening proficiency, reading proficiency, and learner autonomy in a decreasing order (see Table 4). The coefficients ranged from $-.313$ for anxiety and autonomy to $-.515$ for anxiety and motivation. There was a moderate correlation between learner anxiety and overall language proficiency ($-.400$).

The strongest link in the correlation matrix was between learner motivation and autonomy (.706), which reached the range of high-level association. A moderate level of correlation existed between motivation and language proficiency when measured by either English listening or reading proficiency tests (.429 and .476, respectively). The correlation between language learner autonomy and performance was only slightly lower than that between motivation and language performance (.457 and .477, respectively). It is interesting to note that anxiety had a slightly higher negative relationship with listening proficiency ($-.381$) than it did with reading proficiency ($-.377$), whereas both motivation and autonomy had a higher positive correlation with reading proficiency (.476 and .475, respectively) than with listening proficiency (.429 and .387, respectively).

	Anxiety	Motivation	Autonomy	Listening	Reading	Overall
Anxiety	—					
Motivation	$-.515^{**}$	—				
Autonomy	$-.313^{**}$	.706**	—			
Listening	$-.381^{**}$	.429**	.387**	—		
Reading	$-.377^{**}$	.476**	.475**	.789**	—	
Overall	$-.400^{**}$	.477**	.457**	.944**	.947**	—

** $p < .01$

Table 4: Correlations between anxiety, motivation, autonomy, and English proficiency for the full sample

Although researchers tend to agree that language anxiety is deleterious to language learning, some previous studies carried out in the EFL context have had conflicting results. Wu (2011) did not find any significant differences in EFL reading comprehension performance among students at different anxiety levels. Results in Zhao's (2007) research showed that both communication apprehension and fear of negative evaluation were not significantly related to foreign language performance. Among the components of language anxiety, only test anxiety was negatively correlated with language performance. Wei (2007) did not detect a significant negative correlation between anxiety and overall motivation even though integratively motivated learners were found to be significantly more anxious in the foreign language classroom.

The results of this investigation were in accordance with many studies undertaken in the EFL context that language anxiety was negatively associated with motivation (Huang, 2005; Liu, 2010a) and language performance (Awan, Azher, Anwar, & Naz, 2010; Cheng et al., 1999; Liu,

2010b; Wang, 2010; Wei, 2007). As supported by Gardner, Day, and MacIntyre (1992), while motivation facilitates language acquisition, anxiety may have debilitating effects during the process of language learning. If anxiety and motivation are regarded as two affective variables on the “opposite ends of the same dimension,” there will be “motivated, confident students and anxious, unmotivated students” at each end (Gardner et al., 1992, p. 212).

To provide more insight into the relations of foreign language anxiety, motivation, and autonomy to a learner’s language performance, a multiple regression analysis using the stepwise method was further conducted to analyze the data (see Table 5). As motivation had the highest correlation with overall language proficiency (.477), it was first entered into the regression model, explaining about 23% of the variance in language proficiency all by itself. However, when both anxiety and autonomy were also entered into the model as predictor variables, the amount of variance explained by motivation in step 3 became insignificant ($t = 1.61$, $p = .110$). Thus, motivation was excluded in the final step of the regression analysis. This result can be due to the high level of correlation between learner autonomy and motivation (.706). In the presence of learner autonomy, motivation had little contribution to the prediction of student language performance. Nearly 30% of the variance in language proficiency was explained by the final regression model ($F = 28.85$, $p < .001$), with both autonomy (Beta = .368, $p < .001$) and anxiety (Beta = -.285, $p < .001$) making a significant contribution to the prediction of language proficiency. Learner autonomy seemed to be the best predictor of foreign language performance among these study variables, followed by language anxiety. These findings not only acknowledged the strong interrelationship between autonomy and motivation (Dickinson, 1995; Scharle & Szabó, 2000), but also supported prior studies in that language anxiety can be one of the best predictors of foreign language performance (Onwuegbuzie et al., 2000; Saito & Samimy, 1996).

Step	Variable	Regression coefficient	Standard error	Beta	<i>t</i>	<i>p</i>
1	Motivation	.1092	.165	.477	6.611	.000 **
2	Motivation	.845	.189	.369	4.464	.000 **
	Anxiety	-.394	.156	-.210	-2.534	.012 *
3	Motivation	.402	.250	.176	1.610	.110
	Anxiety	-.428	.153	-.228	-2.796	.006 **
	Autonomy	-.572	.215	-.262	2.657	.009 **
4	Anxiety	-.535	.138	-.285	-3.869	.000 **
	Autonomy	.804	.161	.368	4.995	.000 **

1 $R^2 = .228$; Adjusted $R^2 = .223$; $F(1,148) = 43.704$; $p = .000$

2 $R^2 = .260$; Adjusted $R^2 = .250$; $F(2,147) = 25.864$; $p = .000$

3 $R^2 = .294$; Adjusted $R^2 = .280$; $F(3,146) = 20.307$; $p = .000$

4 $R^2 = .282$; Adjusted $R^2 = .272$; $F(2,147) = 28.852$; $p = .000$

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

Table 5: Results of stepwise regression for predicting language proficiency

5 Conclusion and implications

This study aims to contribute to a more comprehensive understanding of foreign language anxiety by exploring its relations to motivation, autonomy, listening proficiency, and reading proficiency. The research findings strongly indicated that foreign language anxiety was prevalent among EFL students in Taiwan. Strikingly, over 80% of the subjects responded to more than one third of the items in a manner reflective of anxiety. Learners who experienced higher levels of anxiety in the language classroom tended to have lower motivation and became less autonomous in language learning. The debilitating impact of anxiety on language learning was also demonstrated by its significant association with foreign language performance. Among the studied variables, autonomy and foreign language anxiety were found to be the best predictors of language proficiency as suggested by the regression analysis results.

Some important implications can be derived from the results. First, a lack of a learning-friendly environment is very likely to induce anxiety in language learners. Although the participants had learned English for at least eight years, they were still prone to noticeable level of language anxiety, particularly regarding low confidence when speaking English and in their classroom performance. It should be acknowledged that learners in Taiwan usually do not have many opportunities to practice their English skills outside class. Most students spend most of their time learning in an examination-oriented classroom, particularly during junior high and high school years. In accordance with a number of research findings (Aida, 1994; MacIntyre & Gardner, 1991b; Onwuegbuzie et al., 1999; Von Wörde, 2003), anxiety is likely to have more debilitating than facilitating effects on language success. There is clearly a need to alleviate anxiety in learners by providing a more learner-friendly environment for them to practice the target language not just in the classroom but also in their daily lives.

Second, the variables investigated in this study are interrelated and their influences on language learners are interdependent. Although the correlational analysis on the data does not allow causal conclusions about the relations among the variables, the findings still revealed that learner anxiety, motivation, autonomy, and language performance may strongly affect each other; all these variables are inevitably linked with each other, directly or indirectly. For instance, the strong association identified between autonomy and motivation in this research suggested that students who take on autonomous learning should experience a higher level of motivation (Guay & Vallerand, 1997). Nonetheless, one cannot possibly deny that autonomy also functions as an essential factor for the enhancement of motivation (Ryan & Deci, 2000a). A sense of learner responsibility and independence has to be developed before intrinsic motivation can be attained (Scharle & Szabó, 2000). It should be noted that anxious learners may be less motivated to engage in autonomous learning activities either in or out of the classroom and less likely to expend effort learning the language, eventually becoming less proficient language learners. It would be reasonably impossible for teachers to enhance their students' learning autonomy or language proficiency without first paying attention to those with low motivation or high anxiety.

Third, specific language skills such as listening and reading may have different degrees of association with the studied learner variables. As indicated by the results, both motivation and autonomy were more strongly related to reading proficiency than to listening proficiency. The findings seem reasonable since most language instructors in Taiwan have spent more time and exerted more efforts into enhancing student reading comprehension skills rather than their listening comprehension. When the EFL participants have fewer opportunities to participate in listening activities both in and out of class, listening tasks might become more anxiety provoking and learners might become decreasingly motivated to practice their listening skills. As Cheng et al. (1999) noted, different language-skill-specific tasks may cause different levels of anxiety in language learners, it is imperative for language teachers to take different measures to help students alleviate anxiety according to their skill-specific competence and confidence (Cheng, 2005).

In sum, any language teacher should concur with Horwitz et al.'s (1986) notion that a teacher "must acknowledge the existence of foreign language anxiety" (p. 131). Factors such as a learner's prior academic performance, personal beliefs about language learning, worry over speaking a foreign language in front of classmates, and fear of making a mistake can all provoke anxiety in language learners (MacIntyre, 1999; Onwuegbuzie et al., 1999; Young, 1991). Before students can become more autonomous and independent language learners, it is essential that teachers continue to exert efforts to help students (1) regulate and manage anxiety more effectively and (2) develop genuine interest and motivation in learning English. Meanwhile, more research should be dedicated to the understanding of anxiety-provoking factors, as well as to anxiety reducing techniques in more specified learning contexts.

Certain limitations of the study need to be pointed out. First, the sample participating in this study was a convenient sample. Second, measurement of student language proficiency in this study was confined to listening and reading proficiencies owing to the fact that the scoring of student performance on these proficiency tests is more objective. No effort was made to measure student writing and speaking proficiencies due to the concern that the grading of learner performance for

these language skills can be more subjective and time-consuming. A final limitation is that the study was not able to identify the causal links between the investigated variables. Greater effort is needed in future research to explore in more depth the interdependence of these variables, particularly the link between motivation and autonomy. Additionally, the data in the study are based on student responses to self-report surveys. It would be interesting in future research to analyze more qualitative data, e.g. data collected from interviews with the subjects, in order to gain further insight into the roles of these learner variables in foreign language learning.

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Appendices

Appendix I: Back-translated version of the questionnaire measuring motivation

Attitudes toward learning English

1. Learning English is very important.
2. I think that learning English is dull.
3. English is an important part of the school program.
4. I plan to learn English as well as possible.
5. I really enjoy learning English.
6. I think that learning English is a waste of time.
7. I would rather spend my time on subjects other than English.
8. I hate English.
9. When I leave school, I will continue studying English because I am interested in it.

Motivational intensity

10. I often think about what I have learned in my English class.
11. If English were not taught in school, I would not bother learning English at all.
12. When I have a problem understanding something we are learning in English class, I immediately ask the teacher for help.
13. When it comes to English homework, I always put effort into it and make sure I understand everything.
14. Considering how I study English, I can honestly say that I really try to learn English.
15. After I get my English assignments or exam papers back, I just throw them aside.
16. When the teacher in English class asks questions, I volunteer answers as much as possible.
17. When I hear an English song, I listen carefully and try to understand all of the words.

Desire to learn English

18. During English class, I prefer to have only English spoken.
19. If I had the opportunity to speak English outside of the classroom, I would practice speaking it most of the time, using Mandarin only if really necessary.
20. Compared to my other courses, I like English least of all.
21. If it were up to me whether or not to take English, I would definitely not take it.
22. I find studying English very interesting.
23. I try as often as I can to watch English TV programs.
24. If I have the opportunity to see an English play, I would definitely go.
25. If there were native English-speaking families in my neighborhood, I would like to speak English with them as much as possible.

26. If I had the opportunity, I would try as often as I could to read English newspapers and magazines.

Appendix II: Back-translated version of the questionnaire measuring autonomy

Responsibilities

When I am taking English classes at university, it is my responsibility:

(1 = not at all; 2 = a little; 3 = some; 4 = mainly; 5 = completely)

1. to ensure I make progress during English lessons.
2. to ensure I make progress outside English class .
3. to stimulate my interest in learning English.
4. to identify my weaknesses in English.
5. to make myself work harder.
6. to decide the objectives of my English course .
7. to decide what I should learn next in my English lessons
8. to choose what activities to use to learn English in my English lessons.
9. to decide how long to spend on each activity.
10. to choose what materials to use to learn English in my English lessons.
11. to evaluate my learning.
12. to decide what I learn outside class.

Activities

During the past one year, I have _____ outside class.

(1 = often; 2 = sometimes; 3 = rarely; 4 = never)

13. done grammar exercises
14. done assignments which are not compulsory
15. noted down new words and their meanings
16. read newspapers in English
17. read books or magazines in English
18. watched English TV programs
19. sent e-mails in English
20. listened to English radio programs
21. listened to English songs
22. talked to foreigners in English
23. practiced speaking English with friends
24. attended the self-study center or library
25. watched English movies
26. written a diary in English
27. used the Internet in English
28. gone to see your teacher about your English schoolwork

During the past one year, I have _____ inside class.

29. asked the teacher questions when I did not understand
30. taken notes while listening to the teacher
31. made suggestions related to the course to the teacher
32. taken opportunities to speak in English
33. discussed learning programs with classmates

Abilities

If I have the opportunity, I am good at _____.

(1 = very poor; 2 = poor; 3 = OK; 4 = good; 5 = very good)

34. choosing learning activities in class
35. choosing learning activities outside class
36. choosing learning objectives in class
37. choosing learning objectives outside class
38. choosing learning materials in class
39. choosing learning materials outside class
40. deciding what I should learn next in my English lessons
41. deciding how long to spend on each learning activities

42. identifying my weaknesses in English
43. evaluating my learning