



Assessing Language Anxiety in EFL Students with Varying Degrees of Motivation

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Abstract

This study aims to further the understanding of the relationship between two affective learner variables: language anxiety and motivation. The research sample was comprised of university EFL freshmen who were placed into different proficiency levels for required English classes. Results of the data analysis established that anxiety levels were significantly lower when students had a higher degree of motivation. The relation between anxiety and motivation was found to be stronger than that between language proficiency and motivation. Out of the three proficiency levels, the strongest association between anxiety and motivation was seen among advanced-level students. Learner attitude was also found to have a relatively stronger association with anxiety than the other motivational components for students at this proficiency level. The findings suggested that the combination of speaking anxiety and fear of negative evaluation acted as a primary source of language anxiety in the Taiwanese EFL classroom. However, the other anxiety subcomponent, general anxiety about English classes, was found to have the strongest connection with learner motivation.

1 Introduction

Many EFL teachers have found themselves frequently challenged by the awkward silence in the language classroom and the low levels of student motivation. Learning more about the affective factors that may influence the process of language acquisition and lead to ineffectual learning is crucial to prevent an atmosphere that is fraught not only with frustration for teachers, but also with fear and anxiety for students. MacIntyre, Noels, and Clément (1997) suggested that students who experience apprehension in the language classroom are likely to underestimate their academic competence, causing a discrepancy between their self-perceived and actual language proficiency, which might eventually exert a debilitating influence on learner motivation and language acquisition. As noted by Oxford and Shearin (1994), a non-threatening environment is essential for maintaining or improving learner motivation and helping learners decrease their anxiety levels to a minimum. Dörnyei (2001) also posited that creating a classroom atmosphere that is “pleasant and supportive” is an important task for teachers before any further activities become effective in keeping students motivated (p. 40). One of the strategies he proposed to aid in the enhancement of learner motivation is to alleviate language anxiety in the second/foreign language learning context. According to the Affective Filter hypothesis proposed by Krashen

(1987), either motivation or anxiety is an important affective variable that may function as an affective filter and influence comprehensible input in the process of acquiring a language.

Gardner, Day, and MacIntyre (1992) suggested that anxiety and motivation “are opposite ends of the same dimension, there being motivated, confident students and anxious, unmotivated students” (p. 212). Yan and Horwitz (2008) further considered “language learning interest and motivation” as one of the major factors that can have a mutual and direct relation with foreign language anxiety (p. 172). Compared to the abundant amount of studies on the two variables, anxiety and motivation, insufficient empirical research has been undertaken to explore the link between the two. This study, therefore, hopes to fill the gap in the literature by contributing to a fuller understanding of the two factors, as they may have substantial and influential effects on language learning.

2 Review of related literature

2.1 *Language anxiety*

A great number of research studies in the area of language acquisition have indicated an adverse relationship between anxiety and language performance (Awan, Azher, Anwar, & Naz, 2010; Chen & Chang, 2004; Cheng, 2005; Liu, 2012; MacIntyre & Gardner, 1991; MacIntyre, Noels, & Clément, 1997; Saito & Samimy, 1996; Sparks & Ganschow, 2001; Zhao, 2007). Horwitz, Horwitz, and Cope (1986) defined anxiety as “the subjective feeling of tension, apprehension, nervousness, and worry associated with an arousal of the autonomic nervous system” (p. 125). It has been one of the most examined variables in the affective domain of language learning research. According to Horwitz (1995), it would be a “serious oversight” (p. 573) not to consider the affective reactions of learners in the foreign language learning classroom since language learning tends to be more “intrinsically ego-involving” (p. 576) than activities or assignments in other school subjects.

Although anxiety particular to language learning was tested by a 5-item scale (French Class Anxiety) in Gardner’s (1985) study, the measure was integrated into the Attitudes and Motivation Test Battery (AMTB) as one small part of the battery. In addition to anxiety, the instrument was also developed to measure four other attitude/motivation variables. The focus of the study was on the construction of a socio-educational model of second language acquisition rather than on one single construct, language anxiety. It was not until 1986 that Horwitz et al. first devised a reliable and highly recognized 33-item instrument for assessing the level of anxiety specifically related to the foreign language class. Items in this measure describe three components of language anxiety: communication apprehension, text anxiety, and fear of negative evaluation. Fear of negative evaluation denotes worry about making errors and being evaluated negatively in the class. It should be noted that the Foreign Language Classroom Anxiety Scale (FLCAS) tends to have a stronger emphasis on anxiety related to speaking skills (Aida, 1994). As pointed out by Horwitz et al. (1986), language learners tended to be more apprehensive about speaking in a foreign language than about using other language skills such as writing or reading.

Kitano (2001) utilized a survey containing different scales to measure the class anxiety, fear of negative evaluation, and self-perceived speaking ability of learners studying Japanese as a foreign language. Using multiple correlations and a regression analysis, Kitano ascertained the positive relationship between dispositional fear of negative evaluation and anxiety in the foreign language classroom. Also, she noted a stronger influence of the fear of negative evaluation on the anxiety of advanced-level students than on that of students of other competence levels. As to self-perceived ability in speaking the target language, it turned out to have a significant influence on the anxiety level of male students, but not on that of female students.

Both Liu (2010), and Kao and Craigie (2010) examined learner anxiety among undergraduates in the Taiwanese EFL context and reported an inverse relationship between language anxiety and performance. The participants in Liu’s study were freshmen from various disciplines, ability-grouped into four different levels of classes for required English courses according to their English

proficiency test scores. It should be noted that even though students were learning English with peers of similar ability, certain levels of anxiety were still identified in the language classroom. Nonetheless, ANOVA results showed that the differences in anxiety across varying proficiency levels were non-significant. Liu suggested that the grouping practice may have some impact on lessening learner anxiety. In Kao and Craigie's study, the participants were all English majors, grouped into three different levels for data analysis based on their own academic self-ratings. In contrast to Liu's findings, Kao and Craigie indicated that students' anxiety level significantly varied according to their levels of language achievement. Students who reported lower levels of achievement scored significantly higher on the anxiety scale. The researchers indicated that even students whose English performance was in the top third of the entire group appeared to experience a "mild level" of language anxiety (p. 56).

As much of anxiety research is also concerned with the emotional reactions induced by speaking a foreign language, more recently, many researchers have undertaken investigations into language anxiety in other specific skills of language learning such as listening (Cheng, 2005; Kim, 2000), reading (Saito, Horwitz, & Garza, 1999; Wu, 2011), and writing (Cheng, Horwitz, & Schallert, 1999). The findings consistently revealed that language anxiety can have debilitating consequences over the course of language learning.

2.2 Motivation in language learning

Many language teachers often share with one another their frustrations about how unmotivated their students are. Figuring out how to keep their students motivated or how to deal with demotivation in the classrooms has been a problem for countless language teachers. According to Dörnyei (2001), language teachers often use the term "motivation" when explaining students' success or failure in the learning process. Without sufficient motivation, students may not be able to attend to the teacher's instruction during the lesson, expend effort to finish assignments, regularly check their level of understanding, or ask for help when needed, not to mention sustain energy for the long and oftentimes difficult language learning process. The influence of motivation tends to pervade all aspects of teaching and learning and the question of why people learn or fail to learn second languages effectively has attracted the attention of motivation researchers for decades (McGroarty, 2001).

Motivation research was first inspired by a group of social psychologists in Canada, where French is a second language for many Canadians. The most notable researchers were Robert Gardner and Wallace Lambert, both of whom were widely recognized by researchers in this area as the layers of the foundation for the theory of language learning motivation (Gardner & Lambert, 1959). Results in their first published research study showed that people's orientation to learn a second language was correlated with their attitudes towards French Canadians and their motivation to learn the second language. They further introduced two well-known constructs, integrative orientation and instrumental orientation, to the learning of a non-native language. Integrative orientation relates to the interest in interacting with the target language speakers or integrating into the target language group, while instrumental orientation is the desire to learn the target language in order to gain some practical advantages, such as earning more money or entering a better school.

As mentioned above, to measure the important attitude/motivation variables, Gardner (1985) developed the AMTB. The five attributes in the test battery, which form the socio-educational model of second language acquisition, include integrativeness (3 scales, 24 items), instrumental orientation (1 scale, 4 items), attitude towards the learning situation (2 scales, 20 items), motivation (3 scales, 30 items), and language anxiety (2 scales, 20 items; Gardner, 2001). Items used to evaluate motivation are classified into the following three scales: attitudes towards learning the language, motivation intensity, and desire to learn the language (Gardner, 2001; Gardner, Tremblay, & Masgoret, 1997). Scores on these subscales reflect the degree of satisfaction with the learning task, the amount of effort expended to learn the language, and the extent to which a learner wants to achieve a higher level of language competence (Masgoret & Gardner, 2003; Tremblay & Gardner, 1995).

The integrative/instrumental dichotomy was further expanded by many researchers to complement the social-educational model of second language learning (Dörnyei, 1990, 1994, 2001; Oxford & Shearin, 1994; Schmidt, Boraie, & Kassabgy, 1996; Tremblay & Gardner, 1995). For example, Dörnyei (1990) proposed that in addition to integrative and instrumental orientations, the need for achievement and attributions of past failures are also two important components of motivation in the foreign language learning context.

Another theoretical model that has had widespread influence on motivation research is based on the self-determination theory proposed by Deci and Ryan (1985). The two major terms associated with the self-determination theory are intrinsic motivation and extrinsic motivation (Noels, 2001a, 2001b; Noels, Clément, & Pelletier, 1999; Noels, Pelletier, Clément, & Vallerand, 2000; Otis, Grouzet, & Pelletier, 2005). Rather than dividing motivation into different components, Ryan and Deci (2000a, 2000b) placed different types of motivational orientations on a continuum of self-determination, with “amotivation” and intrinsic motivation lying on the opposite ends of the scale and four more types of extrinsic motivations spaced in between: external regulation, introjected regulation, identified regulation, and integrated regulation (Ryan & Deci, 2000a). Dörnyei (1994) suggested that the well-known instrumental motivation in second language literature may belong to identified regulation or integrated regulation, depending on how important the language learner values the goal he or she intends to achieve. Extrinsic motivation generally refers to carrying out an activity for instrumental reasons, such as avoiding a punishment or attaining a reward. These motivations are likely to vary depending on the degree of autonomy. Ryan and Deci (2000b) defined amotivation as “the state of lacking an intention to act” and it results from “not valuing an activity, not feeling competent to do it, or not believing it will yield a desired outcome” (p. 61). In contrast, intrinsic motivation is the most highly self-determined type of motivation. Learners are intrinsically motivated when they act for the inherent pleasure and satisfaction derived from participation. As noted by Carreira (2012), intrinsic motivation is positively associated with learners’ psychological needs, including autonomy, competence, and relatedness.

Csizér & Dörnyei (2005) conducted a large-scale study to evaluate the internal structure of motivation by examining the interrelationships among seven motivational components: integrativeness, instrumentality, attitude towards the target language speakers/community, cultural interest, vitality of target language community, perceived influence of significant others, and linguistic self-confidence. The results revealed that integrativeness, the original concept proposed by Gardner (1985), is the most influential factor in the theoretical framework, with attitude towards the target language speakers/community and instrumentality as its two antecedents. A new definition for motivation was thus “the desire to achieve one’s ideal language self by reducing the discrepancy between one’s actual and ideal selves” (p. 30).

Much research effort in this area has also been made to explore the relation between motivation and language learning related variables such as academic performance (Gardner & MacIntyre, 1991; Liu, 2010; Masgoret & Gardner, 2003; Schmidt et al., 1996) and the use of learning strategies (MacIntyre & Noels, 1996; Okada, Oxford, & Abo, 1996; Oxford & Nyikos, 1989; Schmidt & Watanabe, 2001). Positive connections between motivation and these variables have been consistently found in existing studies. For example, according to Pintrich and Schunk (1996), there is a reciprocal relation between motivation and learning performance. Motivation can play a key role in influencing students’ learning outcomes, while the students’ learning outcomes may affect their subsequent motivation. Oxford and Shearin (1994) indicated that motivation can determine how often students use language learning strategies, and subsequently how much and how well they learn a target language. Similarly, Chang and Liu (2013) found a relatively strong relationship between motivation and strategy use (0.75), indicating that motivation is a powerful factor affecting learners’ strategy use.

2.3 *Language anxiety and motivation*

Brown, Robson, and Rosenkjar (2001) claimed that they were the first to examine the relationships between five psychological and language learning variables at the same time: personality, motivation, anxiety, learning strategies, and English language proficiency. Among the Japanese university students, they found that the EFL participants were rather interested in learning English but appeared to be “relatively anxious” (p. 390). The findings of the study suggested that high proficiency students tended to be more integratively motivated (and therefore less instrumentally motivated) and experienced lower anxiety. Liu (2012) also examined motivation and anxiety of EFL undergraduates, along with other learner variables: autonomy and language proficiency. The results indicated the variables can have a significant impact on each other. Among the studied variables, motivation was identified as having the strongest correlation with language anxiety (-0.52), while anxiety was shown to be one of the best predictors of language proficiency.

In an investigation on the relationships between anxiety, motivation, and attitude of undergraduate students, Jain and Sidhu (2013) found an insignificant correlation between anxiety and motivation among both high and average competency students for whom English was learned as a second language. However, a significant correlation between anxiety and motivation was identified among the group of students with lower English competence (-0.58). Overall, a significant and negative relationship between anxiety and motivation was established in the research findings (-0.62). As concluded by Liu (2012), teachers cannot enhance learner autonomy and language competence without first paying attention to their students’ levels of motivation and anxiety.

2.4 *Research questions*

Language anxiety and motivation are normally on the opposite ends of a motivational continuum, and there has been abundant research into these two variables; nevertheless, there is still a need for more empirical studies. As Yan and Horwitz (2008) noted, there is a need for a better understanding of the association between anxiety and motivation in learning a language. The present study aimed to make more explicit the relationship between these two variables by addressing the following research questions:

1. To what extent are anxiety, motivation, and language proficiency related to each other?
2. How strongly are motivation and anxiety linked to each other in different ability levels?
3. Are there significant anxiety differences among learners with varying motivation levels?
4. Is language anxiety a significant predictor of learning motivation?

3 Method

3.1 *Participants*

The participants of the study consisted of 150 freshmen, enrolled at a university in central Taiwan (see Table 1). They were placed into homogeneous groups based on their language proficiency scores for required English courses. Two classes of students from each of the three ability levels, namely, elementary, intermediate, and advanced, were recruited to participate in this study.

Table 1. Number and percentage of participants in each ability level

	Elementary	Intermediate	Advanced	Total
Total	45	53	52	150
Percentage	30.0	35.3	34.7	100

3.2 *Data collection procedures*

After explaining the purpose of the research to the language instructors and obtaining their permission, students were administered the surveys during class at the start of their first academic year in university. At that time, they were guaranteed that the information would be kept confidential and that the results would not have any effect on their school grades. If students did not feel like revealing any information, they could simply return the surveys without responding to any of the questions.

3.3 *Instrument*

The instrument used to evaluate student perceptions of language anxiety in the English class was a Chinese version of the instrument devised by Horwitz et al. (1986), The Foreign Language Classroom Anxiety Scale (FLCAS). It was adapted by Liu (2012) for use in the Taiwanese EFL setting. Each of the 33 items was rated on a six-point Likert scale, which ranged from 1 (strongly disagree) to 6 (strongly agree), and the learner anxiety score was obtained by adding the 33 items' scores. The instrument demonstrated its reliability with an alpha coefficient of 0.95.

Before any statistical procedure was undertaken to address the research questions, a principal component analysis with a varimax rotation was performed on the 33 anxiety items' scores to examine the underlying dimensions of language anxiety, generating a three-component solution that accounts for 50% of the total variance. The loadings of the factors are presented in Appendix A. The first anxiety component was composed of 18 items and accounted for 23.92% of the total variance; it seemed to be best labeled as Speaking Anxiety and Fear of Negative Evaluation. The second component, comprising of 6 items, accounted for 13.31% of the variance and seemed to reflect learner self-confidence in speaking the foreign language; therefore, it was labeled Self-Confidence in Speaking English. The third factor received appreciable loadings from 9 items, accounting for 12.92% of the total variance. Due to the commonality of the items, the component was named General Anxiety about English Classes. It should be noted that Aida (1994) also identified "Speaking Anxiety and Fear of Negative Evaluation" as the first FLCAS factor (p. 159), and Cheng et al. (1999) named "General English Classroom Performance Anxiety" as one of the FLCAS factors (p. 426).

The instrument used to measure motivation was adapted from the AMTB developed by Gardner (1985) and modified and translated into Chinese for use in Taiwan by Liu (2012). It was composed of 26 items divided into three subscales: attitudes towards learning English (9 items), motivational intensity (8 items), and desire to learn English (9 items). All of the subscales were scored on a 6-point Likert scale ranging from strongly disagree (1) to strongly agree (6). The overall motivation was obtained by adding the three subscale scores. As previously mentioned, R. C. Gardner, the pioneer of motivation research, developed the AMTB, a test battery widely recognized, since it was designed to assess attitude/motivation variables deemed important by many educators (Gardner, Masgoret, Tennant, & Mihic, 2004). In addition, the test has been extensively used in a considerable number of research studies (Brown et al., 2001; Chang & Liu, 2013; Jain & Sidhu, 2013; MacIntyre, MacMaster, & Baker, 2001). The internal-consistency reliability index for the Chinese version of the complete scale was 0.90.

Participants in the study were also administered the intermediate level General English Proficiency Test (GEPT) test, a placement test used to assign students into different proficiency levels as they entered the school. It is a well-recognized measure for evaluating English proficiency in Taiwan. The 45-item listening test consists of three sections: picture description, question or statement response, and short conversation. The reading test consists of 40 items in three parts: vocabulary and structure, cloze, and reading comprehension. The total proficiency score of each student was obtained by adding his or her GEPT listening and reading scores.

3.4 Data analysis

For the purpose of understanding the underlying structure of the student responses on the anxiety scale, a factor analysis was first performed on the 33 FLCAS item scores. To investigate the first research question based on the data from the full sample, Pearson product-moment correlations between the three major variables, i.e., motivation, anxiety, and proficiency, were calculated. To determine whether language anxiety and motivation remain significantly related across the varying proficiency levels, Pearson correlations between anxiety and motivation were obtained separately for the students in each ability level. A multivariate analysis of variance (MANOVA) was then performed on the overall motivation scores to ascertain whether there are significant differences in language anxiety among students with different degrees of motivation. Finally, to address the research question regarding the predictive power of language anxiety on motivation, stepwise multiple regression analysis was undertaken. In addition to anxiety, the independent variables of the analysis included actual language proficiency. It should also be noted that some negatively-worded items in the anxiety scale had to be reversely scored before conducting any statistical analyses.

4. Results and discussion

For the purpose of statistical analyses, participants in the study were classified as having one of three levels of motivation (see Table 2). Students with overall motivation scores that fell below the lowest quartile of the entire sample's score distribution were assigned to the low-motivation group. Those with scores above the 75th percentile were classified into the high-anxiety group. Thus, out of the 150 participants, 38 were classified as having low-level motivation (mean = 76.26), 74 as having medium-level motivation (mean = 102.87), and 38 as having high-level motivation (mean = 122.93).

Table 2. Descriptive statistics of subjects with different motivational levels

Motivational level	Number	Percentage	Range of scores	Mean
Low-motivation	38	25.3	54–91	76.26
Mid-motivation	74	49.3	92–114	102.87
High-motivation	38	25.3	115–148	122.93

The means and standard deviations of language proficiency and anxiety scores separated into three motivation levels are displayed in Table 3. The findings indicated that when students had higher levels of motivation, as well as higher scores on all three motivational subcomponents, their language proficiency in either listening or reading was higher. In contrast, the higher the learner motivation, the lower the levels of anxiety for all three components, including speaking anxiety, the fear of negative evaluation, self-confidence in speaking English, and general anxiety about English classes.

Table 3. Means and standard deviations of motivation, proficiency and anxiety scores among students at varying motivational levels

Variable	Low-motivation		Mid-motivation		High-motivation	
	Mean	SD	Mean	SD	Mean	SD
Motivation						
Attitude	29.63	5.84	38.45	4.10	45.89	3.24
Intensity	24.05	3.34	31.12	4.71	36.13	6.20
Desire	22.58	6.23	33.30	4.07	39.90	3.73
Overall1	76.26	11.42	102.87	7.01	122.93	8.26
Proficiency						
Listening	35.47	12.08	53.72	23.14	59.82	21.91
Reading	30.32	9.93	51.57	22.89	58.66	23.59
Total	65.98	16.27	105.28	43.57	118.21	43.22
Anxiety						
Speaking	85.40	12.24	77.81	11.89	72.89	15.30
Confidence	26.08	4.66	23.96	4.27	20.68	5.02
General	43.33	6.71	37.36	5.51	31.43	6.18
Overall2	154.82	20.08	139.13	18.49	125.00	23.96

Note. Listening = Listening Proficiency; Reading = Reading Proficiency; Total = Total Proficiency; Attitude = Attitude towards Learning English; Intensity = Motivational Intensity; Desire = Desire to Learn the Language; Overall1 = Overall Motivation; Speaking = Speaking Anxiety and Fear of Negative Evaluation; Confidence = Self-Confidence in English Ability; General = General Anxiety about English Class; Overall2 = Overall Anxiety

4.1 Correlation-based analysis

In order to gain a fuller understanding of the relationships between motivation, language proficiency, and overall anxiety and its subcomponents, Pearson correlations between the variables were calculated and the findings are reported in Table 4. Results of the analysis demonstrated highly significant relationships among all variables. Learner motivation had a slightly stronger association with language proficiency (0.477) than anxiety did (-0.400). The degree of association between anxiety and language performance in the present study was very similar to that (-0.38) obtained by Aida (1994). The negative relationship between anxiety and language performance also confirmed the findings of Awan et al. (2010), Chan and Wu's (2004), and Wang's (2010) studies conducted in the EFL context.

Table 4. Pearson correlations between anxiety and motivation of the full sample

Variable	Proficiency	Motivation	Speaking	Confidence	General	Overall
Proficiency	—					
Motivation	0.477**	—				
Speaking	-0.312**	-0.347**	—			
Confidence	-0.318**	-0.448**	0.577**	—		
General	-0.457**	-0.663**	0.697**	0.613**	—	
Overall	-0.400**	-0.515**	0.942**	0.755**	0.867**	—

Note. Overall = Overall anxiety

** $p < 0.01$

It is noteworthy that the correlation between anxiety and motivation (-0.515) was stronger than that between proficiency and motivation; however, the two correlations were in different directions, one negative and the other positive. The strength of association between anxiety and motivation appeared to be congruent with the result reported by Gardner et al. (1992). Furthermore, among the anxiety subcomponents, general anxiety about English classes was found to have the strongest

negative relation to learner motivation, followed by self-confidence in speaking the foreign language. Speaking anxiety and fear of negative evaluation had the weakest correlation with motivation, although it was still highly significant.

In order to ascertain the relation between motivation and anxiety across proficiency levels, the Pearson bivariate correlations between the studied variables were also examined and are presented in Table 5. Inconsistent with Jain and Sidhu's (2013) findings that only the correlation between motivation and anxiety among higher-achieving students was significant, the results showed that at all three levels, overall motivation was significantly correlated with anxiety. It has the highest correlation coefficient for advanced-level students (-0.508), followed by that for elementary-level students (-0.489). As mentioned above, among the three anxiety components, general anxiety about English classes was found to have the strongest link to learner motivation (-0.607 and -0.591 for elementary- and advanced-level students, respectively), followed by self-confidence in speaking English (e.g. -0.376 and -0.547 for elementary- and advanced-level students, respectively). It was also the only component that had significant correlations with motivation subcomponents among intermediate-level students.

It should be noted that for students at the elementary proficiency level, overall language anxiety had a higher correlation with motivational intensity (-0.459), which indicated effort expended for language learning, rather than with student attitude towards or desire for learning a language (-0.382 and -0.378, respectively). For students in the advanced proficiency level, language anxiety was found to have the strongest relation to learner attitude (-0.462), followed by the desire to learn the foreign language (-0.411) and motivational intensity (-0.383).

Table 5. Pearson correlations between anxiety and motivation across different proficiency levels

Variable	Attitude	Intensity	Desire	Overall1
Elementary				
Speaking	-0.256	-0.401**	-0.231	-0.357*
Confidence	-0.230	-0.407**	-0.298*	-0.376*
General	-0.569**	-0.395**	-0.554**	-0.607*
Overall2	-0.382**	-0.459**	-0.378*	-0.489*
Intermediate				
Speaking	-0.004	-0.054	-0.069	-0.051
Confidence	-0.085	-0.232	-0.263	-0.232
General	-0.542**	-0.375**	-0.473**	-0.550**
Overall2	-0.209	-0.213	-0.263	-0.272*
Advanced				
Speaking	-0.311*	-0.250	-0.309*	-0.353*
Confidence	-0.516**	-0.422**	-0.416**	-0.547**
General	-0.544**	-0.475**	-0.448**	-0.591**
Overall2	-0.462**	-0.383**	-0.411**	-0.508**

* $p < 0.05$, ** $p < 0.01$

4.2 Multivariate analysis of variance

To determine whether there are significant differences in language anxiety among students with varying motivation levels, MANOVA was performed on the data and the results of which are shown in Table 6. The findings indicated that the differences in anxiety for the overall scale and subcomponents scores are highly significant. The Scheffe follow-up test was further conducted to examine the differences among the three motivation levels. The results showed that in regard to overall anxiety scores, perceptions of anxiety among low-motivation level (mean = 154.82), mid-motivation level (mean = 139.13), and high-motivation level students (mean = 125) were significantly different from each other. A consistent result was found for one of the subcomponents, general anxiety about English classes. Differences in speaking anxiety and fear of

negative evaluation were found to be insignificant for students with mid- and high-motivation levels (77.81 and 72.89, respectively), although students with low-motivation were found to experience significantly higher anxiety than those in the other two groups (mean = 85.40). With regard to items indicating learner self-confidence in speaking English, high-motivation students had significantly lower anxiety scores (mean = 20.68) than the other groups; the differences in self-confidence for mid- and low-motivation students, however, were not significantly dissimilar (mean = 23.96 and 26.08, respectively).

Table 6. MANOVA test results of language anxiety of students with different motivation levels

Source	Dependent variable	SS	Df	MS	F	Sig.
Motivation	Speaking	3044.82	2	1522.41	9.13	0.000**
	Confidence	565.48	2	282.74	13.44	0.000**
	General	2694.53	2	1347.26	37.42	0.000**
	Overall2	16920.61	2	8460.31	20.36	0.000**

** $p < 0.1$

4.3 Multiple regression analysis

To understand the role of language anxiety in predicting motivation, stepwise regression analysis was further conducted. In addition to anxiety, English proficiency was also used as one of the independent variables in the statistical analysis (see Table 7). As anxiety had a higher correlation with motivation than language proficiency, it was first entered into the regression model. The model with only this predictor was found to be highly significant ($F = 53.43, p < 0.001$) and accounted for a total of 27% of the variance in motivation. In the next step, English proficiency was added into the model, accounting for a total of 35% of the variance in learning motivation. This two-predictor regression model was also highly significant ($F = 40.10, p < 0.001$).

Table 7. Results of the multiple regression model for predicting motivation in learning a foreign language

Variable	Regression Coefficient	Standard error	Beta	<i>t</i>	<i>p</i>
(Constant)	131.52	10.05		13.09	0.000**
Anxiety	-0.32	0.06	-0.39	-5.33	0.000**
Proficiency	0.14	0.03	0.32	4.46	0.000**

Model: $R^2 = 0.594$; Adjusted $R^2 = 0.353$; $F(2, 147) = 40.10, p = 0.000$; ** $p < 0.01$

The predictive power of language anxiety has also been examined in several studies, but with different variables, such as classroom participation (Ely, 1986) and language performance (Cheng et al., 1999; Liu, 2012; Saito & Samimy, 1996; Sánchez-Herrero & Sánchez, 1992). Regardless of the dependent variable in the regression model, all of the findings confirmed the claim that language anxiety should be of great concern in the language classroom as it does indeed play a significant role during the language acquisition process.

5 Conclusions and implications

This study aimed to shed more light on the link between language anxiety and learning motivation. A significant correlation between the two variables was consistently found among students with different proficiency levels. Furthermore, higher levels of motivation were consistently associated with lower levels of anxiety. Consistent with the theory of some researchers (Gardner et al., 1992; Gardner & MacIntyre, 1993; Masgoret, Bernaus, & Gardner, 2001; Schmidt et al., 1996; Yan & Horwitz, 2008), the two variables were revealed to have a

substantial impact on foreign language learning, although their correlations went in opposite directions. Some important implications derived from these findings should be acknowledged.

Firstly, speaking anxiety and fear of negative evaluation seemed to be indistinguishable from each other, and the combination of these two acted as a primary source of language anxiety in the Taiwanese EFL classroom. Fear of negative evaluation has also been identified as a strong source of language anxiety in the studies by Aydin (2008) and Kitano (2001). Horwitz et al. (1986) defined foreign language anxiety as the sum of communication apprehension, fear of negative evaluation, and test anxiety. The current findings revealed that the first two components proposed by Horwitz et al. (1986) were not independent from each other; in fact, there appeared to be a bond or interplay between the two. In the Taiwanese EFL setting, learners may only have a chance to speak a foreign language in language classes. The majority of students are at risk of feeling anxious about having to speak English in front of their peers or teachers (Liu, 2012). It is very likely that students feel apprehensive over others' evaluations because they have difficulty expressing their thoughts fluently in a foreign language. In other words, they may feel anxious about speaking a foreign language due to worry about others' negative judgments or thoughts about their unsatisfactory language competence. Consistent with Aida's (1994) research, the present study did not support test anxiety as a separate subcomponent of foreign language anxiety.

Secondly, although speaking anxiety and fear of negative evaluation were found to be the major source of variation in language anxiety among the EFL learners, the other anxiety subcomponent, general anxiety about English classes, was revealed to have the strongest association with learner motivation, followed by self-confidence in speaking the foreign language. It has to be noted that the impact of language anxiety on learner motivation can be even greater than that of language proficiency on motivation. Researchers, including Horwitz et al. (1986), MacIntyre and Gardner (1991), and Young (1992), have claimed that students tend to feel higher levels of anxiety in foreign language classes than in classes of other subjects. As Young (1991) noted, a variety of sources, such as teacher-learner interactions, classroom procedures, or language tests can all induce anxiety in the classroom. Teacher characteristics may also result in anxiety about language classes (Yan & Horwitz, 2008). To prevent the debilitating effects of learner anxiety and to maintain motivation, in addition to enhancing language proficiency and building a more positive attitude among the learners, it is imperative that language instructors make greater efforts to create a more supportive and friendly classroom environment.

Thirdly, with regard to the three components that constituted overall motivation score (Gardner 1985), learner attitude towards learning a language appeared to influence anxiety more strongly for higher achieving students, while motivational intensity, i.e. the effort expended on language learning, influenced anxiety more strongly for students with an elementary-level proficiency. Students in the high proficiency group usually have a more positive attitude towards learning a language and feel more comfortable with their language competence, leading them to become more motivated learners in class (Masgoret et al., 2001). Thus, it is not surprising to expect these students to feel less anxious about language learning. On the other hand, Wen (1997) indicated that learners are more likely to exert effort if they have appropriate expectations of their desired academic performance. One reason elementary-level students had a lower degree of motivational intensity might be due to their low self-perceived competence and expectations of their language performance. It can certainly form a vicious circle when low motivation, unsatisfactory academic outcome, and high anxiety are tied together during the language acquisition process.

To conclude, the relationship between anxiety and motivation is bidirectional (Gardner, & MacIntyre, 1993; Yan & Horwitz, 2008). As suggested by Onwuegbuzie, Bailey, and Daley (1999), "any reduction in foreign language anxiety has the potential to increase students' motivation to learn another language" (p. 233). To help students attenuate anxiety and learn more effectively, it is essential that language instructors constantly promote more favorable attitudes towards learning among higher-achieving students and attempt to enhance motivational intensity of lower-achieving students. Helping low-achieving students attribute unsuccessful language performance to lack of effort rather than to a learning ability deficiency can also be one useful motivational strategy. It is imperative that in a non-native language classroom, teachers should

play a very supportive role in helping students cope with language anxiety (Kao & Craigie, 2010; Liu, 2012). For example, they can try to avoid anxiety-inducing classroom activities (Kao and Craigie, 2010) and can give students more positive feedback and ask them to practice self-talk or participate in some kind of support group (Young, 1999). Also, they can encourage students to set more realistic and attainable goals (Dörnyei & Csizér, 1998).

One suggestion for future research should be mentioned. Various types of factors, for example, behavioral, cognitive, psycholinguistic, physical, and sociolinguistic factors, can all associate with language anxiety (Marcos-Lliñas & Garau, 2009). According to Onwuegbuzie et al. (1999), a combination of variables may contribute significantly to the prediction of language anxiety: academic performance, age, prior experience with foreign languages, expected final language course average, perceived academic competence, and perceived self-worth. Nevertheless, a large portion of the variance in foreign language anxiety is still not explained. Therefore, more research concerning the factors that may provoke learner anxiety is still needed in the future.

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Appendix:

Factor Loadings for Three-Component Solution for the Anxiety Items

Item no.	Description	Components		
		I	II	III
Factor I: Speech anxiety and fear of negative evaluation				
3.	I feel uneasy when I know that I'm going to be called on in my English class.	0.75		
33	I get nervous when my English teacher asks me questions that I am not able to prepare in advance.	0.74		
15	I get upset when I don't understand the teacher's corrections	0.73		
1	I never feel very confident when I am speaking English in class.	0.69		
27	I feel nervous and uneasy when I have to speak English in my English class.	0.68		
24.	I feel very embarrassed when I have to speak English in front of my classmates.	0.68		
4.	It frightens me when I don't understand what the teacher is saying in English.	0.67		
16	Even if I am well prepared for my English class, I still feel uneasy about it.	0.65		
31	I worry that other students will laugh at me when I speak English.	0.64		
9.	I feel panicked when I have to speak without preparation in my English class.	0.64		
23.	I always feel that other students speak English better than I do.	0.63		
19.	I worry that my English teacher will correct every mistake I make.	0.55		
29.	I get nervous when I don't understand every word my English teacher says.	0.55		
20.	I can feel my heart pounding when I am going to be called on in my English class.	0.50		
13.	In my English class, I feel embarrassed about volunteering to answer questions.	0.50		
11.	I understand why some people get so upset over English class.	0.49		
2.	I don't worry about making mistakes in my English class.	-0.44		
7.	I always think that my classmates are better at English than I am.	0.33		
Factor II: Self-confidence in speaking English				
8.	I usually feel at ease during tests in my English class.		-0.70	
32.	I would probably feel comfortable being around native English speakers.		-0.66	
22.	I don't feel pressure to be well prepared for my English class.		-0.62	
18.	When I speak English in class, I feel confident.		-0.62	
28.	I feel confident and relaxed when I am going to my English class.		-0.58	
14.	I would not be nervous speaking English with native English speakers.		-0.55	
Factor III: General anxiety about English classes				
17.	I often feel like not going to my English class.			0.73
30.	I get overwhelmed by the number of rules I have to learn to speak English.			0.64
6.	During my English class, I find myself thinking about things that have nothing to do with the course.			0.62
5.	I wouldn't bother me at all to take more English classes.			-0.62
21.	The more I study English, the more confused I get.			0.60
25	My English class moves so quickly that I worry about being left behind.			0.50
26.	I feel more tense in my English class than in my other classes.			0.50
12.	In my English class, I forget things I know when I get nervous.			0.48
10.	I worry that I will fail my English course.			0.45