

# *The link between Foreign Language Classroom Anxiety, Second Language Tolerance of Ambiguity and Self-rated English proficiency among Chinese learners*

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### Abstract

Previous research has suggested that high levels of Foreign Language Classroom Anxiety (FLCA) have a negative effect on foreign language learning (Horwitz, 2001; Lu & Liu, 2011) while moderate levels of Second Language Tolerance of Ambiguity (SLTA) are believed to boost foreign language learning (Ely, 1995). There is *prima facie* evidence that both dimensions are inversely related as Foreign Language Learning contexts are full of ambiguities which may contribute to anxiety. However, the relationship between FLCA and SLTA has been under-researched. The present study is an attempt to fill this gap by investigating the link between SLTA and FLCA in English of 73 secondary school students in Hong Kong. They filled out an online questionnaire consisting of the Foreign Language Classroom Anxiety Scale (Horwitz, Horwitz, & Cope, 1986) and the Second Language Tolerance of Ambiguity Scale (Ely, 1995). Statistical analyses revealed that FLCA, SLTA and Self-rated English proficiency predict half of the variance in each other; in other words, students who were more tolerant of second language ambiguity were less anxious in their EFL classes and they also felt more proficient.

*Keywords:* Foreign Language Anxiety, Tolerance of Ambiguity, English as a Foreign Language, Foreign Language Classroom Anxiety Scale (FLCAS), Second Language Tolerance of Ambiguity Scale (SLTAS), Self-rated proficiency

Research on Foreign Language Anxiety (FLA) and Foreign Language Classroom Anxiety (FLCA) has been abundant in the last few decades (Ellis, 2008). It has focused mainly on the link between FLA/FLCA and outcome variables in foreign language learning (FLL) (Lu & Liu, 2011). Some research has also investigated the relationship between FLA/FLCA and personality traits (Dewaele, *in press*; Dewaele, Petrides, & Furnham, 2008; MacIntyre & Charos, 1996).

Much less research has considered the effect of Second Language Tolerance of Ambiguity (SLTA) on FLL achievement. Researchers such as Ely (1995) and Ehrman (1998) have pointed out that the FL learner faces ambiguity, having to build up an interlanguage from scratch, with doubts about the exact pronunciation or meaning of words, with temporary hypotheses about the grammar of the FL, all of which can be anxiety-provoking. It seems to us that those who can deal with ambiguity in a FL better might also be less anxious in the FL classroom. We are not aware of any study looking explicitly at a link between SLTA and FLA/FLCA. The existence of an inverse link between tolerance of ambiguity and communicative anxiety has been posited in the Anxiety/Uncertainty Management (AUM) theory (Gudykunst, 2005, p. 298). Gudykunst (2005) argues that interlocutors from different cultural backgrounds who are more tolerant of ambiguity will manage their uncertainty and anxiety better.

The objective of the present study is thus to fill in the gap in SLA research by investigating the link between FLCA and SLTA in the Chinese English Foreign Language (EFL) setting. Firstly, we will define the concepts and the possible relationship between FLCA and SLTA. The design and methodology of the research will be introduced in the following section. The results will be presented next, followed by a detailed discussion and possible pedagogical implications of the findings. We will then draw some conclusions from our findings.

### Foreign Language Classroom Anxiety

Horwitz, Horwitz and Cope (1986) suggested that FLCA is a unique form of anxiety distinct from other general types of anxiety and specific to foreign language learning contexts. The authors describe FLCA as a feeling of worry “associated with an arousal of the autonomic nervous system” (p. 125), which can negatively affect the classroom performance of FL learners. They define FLCA as “a distinct complex of self-perceptions, beliefs, feelings and behaviors related to classroom learning arising from the uniqueness of the language learning process” (p. 128). Horwitz et al. (1986) conceive FLCA as a situation-specific anxiety consisting of three dimensions: (a) communication apprehension, (b) test anxiety, and (c) fear of negative evaluation. Foreign Language Classroom Anxiety is linked to any activity in the FL, but it is typically most acute for speaking (Horwitz et al., 1986). High levels of FLCA seem to have a negative effect on FLL and FL performance

(Horwitz, 2001; Lu & Liu, 2011; MacIntyre, 1999; MacIntyre & Gregersen, 2012b). Students with high levels of FLCA have been found to be more likely to abandon the study of foreign languages (Dewaele & Thirtle, 2009).

MacIntyre (1994, p. 27) defined FLA as “the worry and negative emotional reaction aroused when learning or using a second language.” MacIntyre and Gardner (1989) reported that General Anxiety and Language Anxiety are two orthogonal, that is independent, dimensions of anxiety. They suggested the following genesis of FLA: Assuming a learner encounters difficulties in FLL in the early stage and becomes anxious and uncomfortable about the feeling of incompetence and making mistakes, then, this leads to state anxiety. If the occurrence of the state anxiety is repeated and an association is formed between the anxiety arousal and FLL, then FLA emerges (MacIntyre & Gardner, 1989). Dewaele (in press) has contested the view that FLCA and general anxiety are independent of each other.<sup>1</sup> He has found that FLCA was significantly correlated with a basic personality trait reflecting anxiety (Neuroticism) among FL learners in a Catalan and a British university. Foreign language learners who scored high on FLCA were found to score significantly higher on Neuroticism, with both variables sharing up to 25% of variance.

Dewaele, Petrides, and Furnham (2008) have also linked a lower-order personality trait, trait Emotional Intelligence, to communicative anxiety (CA) in the L1, and FLA in the L2, L3 and L4 of adult multilinguals. A significant negative relationship was found between levels of FLA in the different languages of the participants and their scores on trait Emotional Intelligence. The authors speculated that emotionally intelligent individuals are better able to judge the emotional state of their interlocutor, better able to regulate their emotions, more capable of withstanding pressure, and are more self-confident about their ability to communicate effectively. Levels of FLA were also found to be linked to a number of sociobiographical variables: age of onset of learning (with early starters reporting lower levels of FLA); mode of instruction of the FL (participants who had learnt a language solely through classroom instruction suffered more from FLA than those who had also used their language outside the classroom); number of languages known (the more languages known, the lower the FLA across languages, which is a pattern already reported in Dewaele, 2007). FLA was also inversely linked to frequency of use of the FL, socialization in the FL, self-perceived proficiency in the FL (Dewaele, 2010;

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<sup>1</sup> MacIntyre (personal communication) pointed out that the 1989 paper used a varimax rotation to show that the dimension of language anxiety can be separated from general anxiety at the factor level. It is quite possible that the concepts are related when scales are correlated with each other.

Dewaele et al., 2008). Dewaele (2010b) found that knowing more languages, and more specifically, knowing more languages typologically related to a particular FL (French) increased participants' self-perceived communicative competence and lowered their FLA.

FLCA has also been linked to perfectionism. Gregersen and Horwitz (2002) found that anxious learners were more perfectionist: They set themselves higher personal performance standards, procrastinated more, were more fearful of evaluation, and were more concerned about errors.

While there has been abundant research on FLCA in western countries, especially in North America, fewer studies have been carried out in FLL settings in Asia, and China in particular (Horwitz & Yan, 2008, p. 153). The study by Lu and Liu (2011) stands out in this respect. The authors looked at FLCA and strategy use in relation to their interactive effect on 934 Chinese first year undergraduate students' performance in English. The results showed that nearly one-third of the students experienced FLCA. Interestingly, FLCA was negatively correlated with the students' performance in English (ranging from  $r = -.25$  to  $-.32$ , all  $p < .05$ ) (p. 14). A strong negative correlation was found between FLCA and both cognitive strategy use, and metacognitive strategy use (ranging from  $r = -.21$  to  $-.42$ , all  $p < .01$  and ranging from  $r = -.30$  to  $-.43$ , all  $p < .01$  respectively) (p. 14). A regression analysis showed that FLCA was the strongest (negative) predictor of performance in English (Beta =  $-.44$ ,  $t = -5.3$ ) (p. 16).

### Tolerance of Ambiguity

Budner (1962) defined Tolerance of Ambiguity (TA) as the "tendency to perceive ambiguous situations as desirable" (p. 29). Tolerance of Ambiguity, according to Furnham and Ribchester (1995), "refers to the way an individual (or group) perceives and processes information about ambiguous situations when confronted by an array of unfamiliar, complex or incongruent cues . . . The person with low tolerance of ambiguity experiences stress, reacts prematurely, and avoids ambiguous stimuli. At the other extreme of the scale, however, a person with high tolerance of ambiguity perceives ambiguous situations/stimuli as desirable, challenging, and interesting and neither denies nor distorts their complexity of incongruity" (p. 179). Tolerance of Ambiguity is negatively correlated with measures of rigidity, authoritarianism, machiavellianism, and dogmatism (Furnham & Ribchester, 1995).

Bochner (1965), a psychologist who regarded TA as a personality trait, categorized primary and secondary characteristics of TA, in which "being anxious" was considered as one of the characteristics of TA belonging to the secondary category (together with dogmatic, rigid, closed minded, aggressive). In addition,

Smock's (1955) study was also believed to be consistent with the hypothesis that anxiety is a behavioural correlate of TA as a trait, namely that people feel anxious in uncertain and ambiguous situations, and that the level of anxiety aroused depends on their TA.

The relationship between uncertainty and anxiety lies at the heart of William Gudykunst's (2005) anxiety/uncertainty management (AUM) theory. Gudykunst focuses on what makes up effective communication between cultural in-groups and strangers, in other words, "situations where differences between interlocutors spawn doubts and fears" (Griffin, 2011, p. 427). Anxiety and uncertainty need to be managed by being mindful for communication to be effective. In one of his 47 axioms, he posits that: "An increase in our tolerance for ambiguity will produce a decrease in our anxiety. This axiom holds only when our anxiety and uncertainty are between our minimum and maximum thresholds" (Gudykunst, 2005, p. 298). The minimum threshold of anxiety is "the least amount we can feel while still having enough adrenaline running through our veins to prod us to communicate effectively. In like manner, the minimum threshold of uncertainty is the lowest amount of uncertainty we can have and not feel bored or overconfident about our predictions of strangers' behavior" (Griffin, 2011, p. 431).

The maximum threshold of anxiety is reached when people become paralyzed with fear: "they no longer can concentrate on the message or the messenger, they fall back on negative stereotypes or simply withdraw from the conversation" (Griffin, 2011, p. 431). When people reach the maximum threshold of uncertainty "they lose all confidence that they can predict others' behavior, and communication no longer seems worthwhile" (Griffin, 2011, p. 431). Anxiety/uncertainty management theory postulates that "effective communication is possible only when participants' levels of anxiety and uncertainty fall somewhere between those upper and lower thresholds" (Griffin, 2011, p. 431).

Thompson and Lee (2012) used factor analysis of the Foreign Language Classroom Anxiety Scale (FLCAS) data collected from Korean EFL students to identify a factor they labelled as "fear of ambiguity in English." The authors point out that this factor had been undetected in previous research involving the FLCAS (p. 18). The factor has "11 items indicating a panicked feeling when not everything is understood in English as well as a general dislike and nervousness about English and English courses, explaining 3.33% of the variance" (p. 10).

Dewaele and Li Wei (2013) investigated the link between multilingualism and TA among 2158 mono-, bi- and multilinguals. Monolinguals and bilinguals scored significantly lower on TA compared to participants knowing three or more languages. Participants with high levels of proficiency in various languages scored higher on TA. A stay abroad of more than 3 months was also linked to higher TA although the effect levelled off after one year abroad. The authors

argue that their findings show that a high level of multilingualism makes individuals more at ease in dealing with ambiguity, while acknowledging that the causal pathway could be multidirectional, namely that a higher level of TA can also strengthen an individual's inclination to become multilingual.

Second Language Tolerance of Ambiguity (SLTA) has been described as a characteristic of the "good language learner" because such a learner is "comfortable with uncertainty . . . and willing to try out his guesses" (Rubin, 1975, p. 45). Rubin (2008) argued that learners who are more comfortable with uncertainty have an advantage as "change is an integral part of the language learning process" (p. 11). One could argue, referring to Gudykunst's AUM, that these learners are also better equipped to handle intercultural communication.

Ely (1989) defined SLTA as a cognitive style and a possible antecedent of strategy use. Ehrman and Oxford (1990) also define SLTA as a cognitive style: "Tolerance for ambiguity is another important style dimension; those who can more readily tolerate ambiguity often show better language learning performance than those with less such tolerance" (p. 311). The authors suggest that learners with specific personality profiles may be more or less likely to score high on SLTA. Using the Myers-Briggs Type Inventory, they suggested that sensors, judgers and thinkers have less SLTA than intuitive, perceiving and feeling types respectively (p. 319). The last dimension may be particularly important: "Feeling students may tolerate certain kinds of ambiguity, e.g., about grammatical structure, more than their thinking classmates" (Ehrman, 1993, p. 337). However, Grace (1998) found no differences between personality types in an experiment to establish the effects of ambiguity on vocabulary retention in an L2.

Doughty et al. (2010) suggest that the benefits of SLTA for the FL learner may be linked to the ability to retain incongruous fragments of input in memory: "Tolerance of ambiguity is the ability to keep contradictory or incomplete input in memory. This ability may be important for language learning because input that is meaningless or seems contradictory at an early point in language learning may become important later on in the learning process" (p. 18). MacIntyre (personal communication) pointed out that this raises the question of the engagement of the emotion systems and their interaction with on-going cognition. If we accept M. W. Eysenck's attentional control theory (Derakshan & Eysenck, 2009), which posits that trait anxiety creates a sort of divided attention task, consuming cognitive resources, then engagement of anxiety due to low SLTA seems likely to have negative effects on cognitively demanding tasks requiring efficient cognitive processing such as L2 production. High SLTA might not engage the emotion systems in the same way but can be associated with poorer outcomes because of impoverished (unquestioning, unaware) processing.

Foreign language learning researchers have suggested that moderate levels of SLTA might be preferable to both low and high levels, thus echoing Gudykunst's (2005) observation about the extremes of the uncertainty and anxiety dimensions being detrimental to effective communication. Learners with a moderate level of SLTA are likely to persist comparatively longer in FLL than those with low level of SLTA (Ely, 1989). Ely (1995) pointed out that a learner listening to an L2 perceives ambiguous input because of lack of familiarity with accent, pronunciation, unknown words or grammar. The ideal learner "is neither inhibited by low tolerance of ambiguity nor oblivious to linguistic subtleties. The student who is aware of, but not threatened by, linguistic differentiation, and who treats it as an occasion for introspection, experimentation and, ultimately, learning, is the one for whom tolerance of ambiguity will be a help, not a hindrance" (p. 93). However, too much SLTA may cause negative effects such as unquestioning acceptance and cognitive passivity (Oxford & Ehrman, 1992).

Second Language Tolerance of Ambiguity could also affect FL achievement in a more indirect way. Oxford and Ehrman (1992) argue that learners who have lower SLTA often suffer reduced risk-taking ability, while taking intelligent risks adequately, for example, meaning guessing based on background knowledge, is useful and helpful in FLL (p. 195). Risk-avoiding behaviour may result from anticipated criticism from others or from self-criticism, which may make language practice become restricted (Ehrman & Oxford, 1995, p. 69). Wen and Johnson (1996) established that tolerating ambiguity (risk-taking) was a strategy cluster that had a positive effect on L2 English achievement of Chinese university students. Liu (2012) also found that Chinese students' (N = 934) levels of language class risk-taking were significantly positively correlated with their performance in English. Neuroticism was negatively correlated with performance in English (p. 42).

Surprisingly, the direct relationship between FLA/FLCA and SLTA has not been the object of any empirical research in SLA so far (as far as we could establish). A small number of researchers have suggested that FLCA and SLTA may be inversely related. Oxford (1999) notes that: "Tolerance of ambiguity is the acceptance of confusing situations. Second language learning has a great deal of ambiguity about meanings, referents and pronunciation, and this can often raise language anxiety. Therefore, a degree of ambiguity-tolerance is essential for language learners" (p. 62).

A similar view is presented in Matsuura (2007): "Listeners' tolerance of ambiguity possibly contributed to lowering their anxiety level when listening to unfamiliar speakers and novel speech content. Anxieties as well as ambiguity tolerance seem to play a crucial role in facilitating or impeding the comprehensibility levels of listeners" (p. 295).

Clément and Wen (2003) also mentioned in their study of Chinese ESL learners that higher level of SLTA might lead to less anxiety, but the authors' focus was more on SLTA and the eagerness of engaging in communication (p. 31).

A close look at the FLCAS shows that some items resemble those in the Second Language Tolerance of Ambiguity Scale (SLTAS) (e.g., "It frightens me when I don't understand what the teacher is saying in the foreign language;" and "I get nervous when I don't understand every word the language teacher says"). Horwitz et al. (1986) might thus have assumed that SLTA is a component of FLCA. It is not surprising then that Thompson and Lee (2012) found that fear of ambiguity emerged as a fourth dimension in their factor analysis of FLCA data collected from Korean EFL students.

### Research Questions

The present study will focus on the following two research questions:

1. Is there a relationship between FLCA, SLTA and Self-rated proficiency?
2. Are FLCA and SLTA linked to sociobiographical and educational variables (age, gender, number of languages known, status of English in the school)?

### Method

#### Participants

Seventy-three secondary school students (33 males and 40 females) participated in the study. They were older teenagers and young adults in Forms 4 to 7, aged from 16 to 20 (mean age = 18, SD = 1), enrolled in six different secondary schools in Hong Kong. A minority of students went to a school where English was the medium of instruction ( $n = 20$ ), and the remaining 53 students went to Chinese medium schools. All of them could speak Chinese (Cantonese), and because English is the main and compulsory subject in primary and secondary education, all participants had studied English for more than 9 years by the time they took part in the survey. Thirty-six students could also speak Putonghua (Mandarin Chinese) and many spoke one or two Chinese dialects (including Hakka and Yue). Considering all of the languages a student speaks, we had seven students who reported knowing 2 languages/dialects, 26 reported knowing 3 languages/dialects, 36 reported knowing 4 languages/dialects. An additional 4 students reported knowing 5, 6 and 8 languages/dialects respectively. We created three groups based on language/dialect knowledge, corresponding to 2, 3, and 4+ languages/dialects (with those knowing more than four languages/dialects all integrated to the latter group). No student had ever lived outside Hong Kong.

## Instruments

In the present research, the two main dependent variables FLA and SLTA were measured with the Foreign Language Classroom Anxiety Scale (FLCAS) developed by Horwitz et al. (1986) and the Second Language Tolerance of Ambiguity Scale (SLTAS) developed by Ely (1995). These instruments were preceded by some personal background questions related to gender, age, school, form (year), medium of instruction, knowledge of languages, Self-rated English proficiency, and experience of living abroad.

The responses to the two scales were in a 5-point Likert-scale format, ranging from strongly disagree to strongly agree. In order to make sure all the items were understood, the questionnaire was bilingual with both an English and Chinese version of every item side-by-side.

The FLCAS (Horwitz et al., 1986) was chosen because it is well-established, well-developed, widely used in different countries with learners of various target languages and L1s. The only adaptation we made to the FLCAS was the substitution of the words language and foreign language by the word English.

The SLTAS (Ely, 1995) was selected because it was suitable for the type of participants selected in the present study. No changes were made in the formulation of items.

## Data Collection Procedures

The teachers of six schools helped identify and invite suitable learners who met the age requirement (16 or above), and then briefly introduced and passed them the link and the closing date of the online survey. Seventy-three students from the six schools filled out the questionnaire and the instruments. Scores on both scales were normally distributed (one-sample Kolmogorov-Smirnov tests were nonsignificant).

Cronbach alpha analyses showed that both scales had very high internal consistence (FLCAS = .95, SLTAS = .89) (Dörnyei, 2007). The FLCA scores varied between 41 and 158 (M = 99.7, SD = 24.3). The SLTA scores varied between 13 and 49 (M = 30.7, SD = 8.7).

## Results

Pearson correlation analyses revealed that FLCA and SLTA are significantly and negatively correlated ( $r(72) = -.711, p < .0001$ ) with high levels of FLCA corresponding to lower levels of SLTA, that is, the more tolerant of ambiguity the respondents were, the less anxious they reported being in their English classes (see Figure 1).

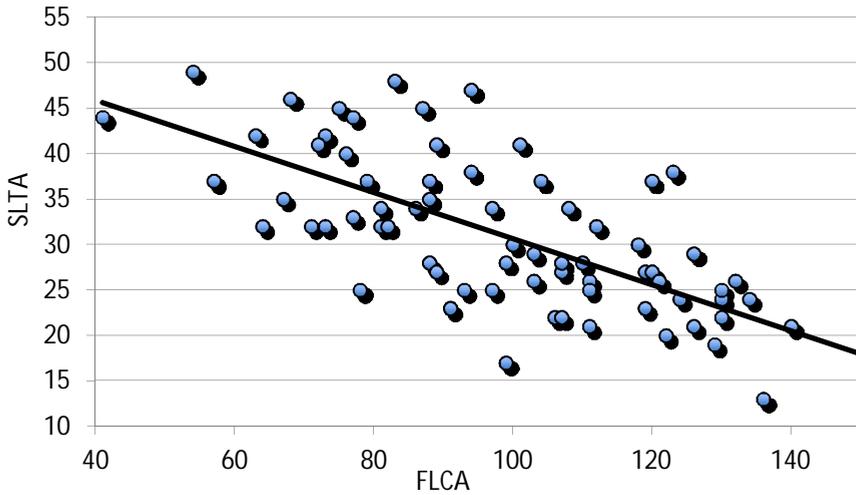


Figure 1 The correlation between FLCA and SLTA

A significant correlation was found between Self-rated proficiency and both FLCA ( $r(72) = -.684, p < .0001$ ) and SLTA ( $r(72) = .684, p < .0001$ ) (see Figures 2 and 3).

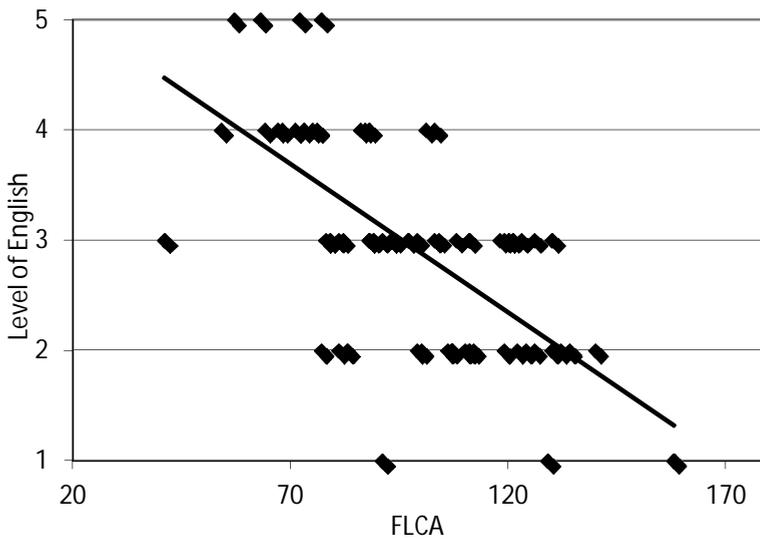


Figure 2 The correlation between Self-rated proficiency and FLCA

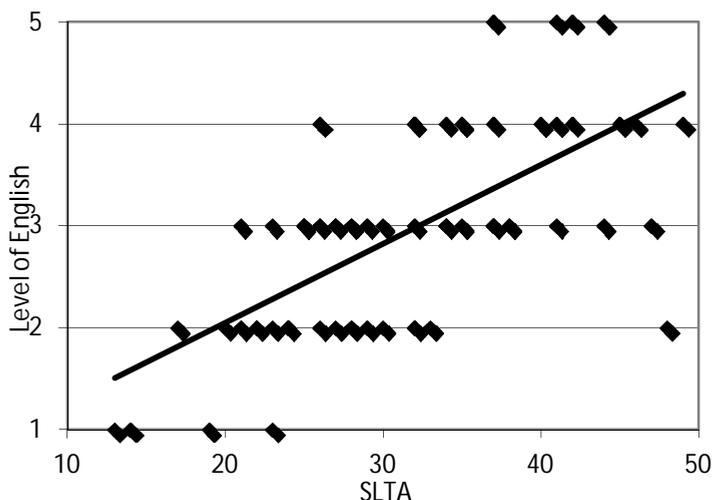


Figure 3 The correlation between Self-rated proficiency and SLTA

A Pearson correlation analysis showed that age is unrelated to either FLCA ( $r(72) = .19, p = ns$ ) or SLTA ( $r(72) = -.15, p = ns$ ). An independent  $t$  test showed that there are no gender differences for FLCA scores ( $t(72) = -.45, p = ns$ ) nor for SLTA scores ( $t(72) = .21, p = ns$ ).

A one-way ANOVA revealed that language/dialect knowledge is unrelated to either SLTA ( $F = .16, df = 2, p = ns$ ) or FLCA ( $F = .006, df = 2, p = ns$ ). A  $t$  test showed unsurprisingly that the 20 students who went to a school where English was the medium of instruction scored significantly lower on FLCA ( $M = 78.9, SD = 15.2; t(72) = 5.25, p < .0001$ ) and higher on SLTA ( $t(72) = -3.82, p < .0001$ ) compared to the 53 students in Chinese medium schools (FLCA  $M = 107.5, SD = 22.5$  and SLTA  $M = 36.5, SD = 7.3$  respectively).

Multiple stepwise linear regressions were performed individually for FLCA, SLTA and Self-rated proficiency in order to determine the unique amount of variance explained by the variables. The in/dependent variables included were Self-rated proficiency (which also reflects the difference in English use linked to the school's medium of instruction) and FLCA or/and SLTA. Because we use the three variables alternatively as independent and then as dependent variables, we expect the statistical results to be very similar.

Foreign Language Classroom Anxiety (FLCA). Model 1 with SLTA as predictor is significant ( $F(1, 71) = 72.4, p < .0001$ ). The adjusted  $R^2$  shows that the SLTA explains 50% of variance in FLCA ( $\beta = -.711, t = -8.5, p < .0001$ ).

Model 2, with Self-rated proficiency added as a predictor variable, is also significant ( $F(2, 70) = 48.0, p < .0001$ ) and explains a further 6.6% of variance

(adjusted  $R^2 = 56.6$ ). SLTA makes the largest unique contribution to explaining FLCA in model 2 ( $\beta = -.457$ ,  $t = -4.3$ ,  $p < .0001$ ), followed by Self-rated proficiency ( $\beta = -.371$ ,  $t = -3.5$ ,  $p < .001$ ).

Second Language Tolerance of Ambiguity (SLTA). Model 1 with FLCA as predictor is significant ( $F(1, 71) = 72.4$ ,  $p < .0001$ ), explaining 50% of variance in SLTA ( $\beta = -.711$ ,  $t = -8.5$ ,  $p < .0001$ ),

Model 2, with Self-rated proficiency added as a predictor variable, is also significant ( $F(2, 70) = 48.0$ ,  $p < .0001$ ), explaining an extra 6.7% of variance (adjusted  $R^2 = 56.7$ ). FLCA makes the largest unique contribution to explaining SLTA in model 2 ( $\beta = -.456$ ,  $t = -4.3$ ,  $p < .0001$ ), followed by Self-rated proficiency ( $\beta = .372$ ,  $t = 3.5$ ,  $p < .001$ ).

Self-rated proficiency. Model 1 with SLTA as predictor is significant ( $F(1, 71) = 62.3$ ,  $p < .0001$ ), explaining 47% of variance in Self-rated proficiency (adjusted  $R^2$ ). SLTA is a significant predictor ( $\beta = .684$ ,  $t = 7.9$ ,  $p < .0001$ ).

Model 2, with FLCA added as a predictor variable, is also significant ( $F(2, 70) = 42.2$ ,  $p < .0001$ ), explaining an extra 7.9% of variance (adjusted  $R^2 = 53.3$ ). The contribution of SLTA and FLCA is almost identical in model 2, with SLTA ( $\beta = .400$ ,  $t = 3.5$ ,  $p < .001$ ), and FLCA ( $\beta = -.399$ ,  $t = 3.5$ ,  $p < .001$ ) respectively.

The results in the regression models show that FLCA and SLTA are the best predictors of each other explaining half the variance, with Self-rated proficiency explaining a further 7% of variance. Moreover, SLTA and FLCA explain over half the variance in Self-rated proficiency.

## Discussion

The statistical analyses of the present study confirmed the hypothesis that a strong link exists between Self-perceived proficiency, FLCA and SLTA though causality remains elusive due to the inherent limitations of the statistical analyses. Yet, these results confirm findings in related studies in the field of intercultural communication studies (Gudykunst's axiom 13 positing that tolerance for ambiguity is inversely related to anxiety) and personality psychology, for example, Bochner (1965), and Smock (1955), which regard TA as a trait, and anxiety as one of the TA's behavioural characteristics or correlates. Anxiety was perceived as a behavioural characteristic of people in uncertain and ambiguous situations (Bochner, 1965), particularly those who are less tolerant of ambiguity. In other words, people feel anxious when there is ambiguity, and the level of anxiety is related to the individual's level of TA. Since FLL learners have to deal with ambiguity in the input, uncertainty about exact meaning, and difficulty in recognising unfamiliar phonemes or idioms, they

tend to feel more anxious when using the FL compared to their L1. Learners with lower levels of SLTA tend to be more anxious when using a FL. Thompson and Lee's (2012) fourth factor, labelled Fear of ambiguity in English, in their factor analysis of FLCAS data from Korean EFL learners, is a clear indication of the proximity between FLCA and SLTA. It could thus be argued that SLTA predicts FLCA. However, FLCA, being commonly considered to be a situation-specific anxiety, may be less likely to affect a comparatively more permanent trait such as SLTA, even though it is imaginable that when people are anxious they probably prefer certainty and their SLTA may be temporarily lowered. However, as discussed previously, different researchers have different views on the exact nature of SLTA (e.g., trait, strategy, and cognitive style), and it is also possible that SLTA could be similar to FLCA so that there are two kinds (or more) of SLTA: trait and situational. It is possible, for instance, that SLTA refers to TA especially in EFL classrooms; therefore, even people who generally have high TA could be less tolerant in a FLL context or the other way round. Then, from this perspective, SLTA not only could be more likely to be affected, for example by FLCA, but could also be manipulated. Teachers could help students boost their SLTA, which could lead to a reduction of FLCA, a boost in proficiency and more overall enjoyment of the FLL class. Finally, it is equally probable that FLCA and SLTA are linked to personality traits higher up in the hierarchy, such as Neuroticism and Openness.

The proficiency ratings were equally linked to both SLTA and FLCA; in other words, participants who were more tolerant of ambiguity in English and less anxious in using the language reported higher levels of English proficiency. It is also difficult to pinpoint the direction of the causality in the link between Self-rated proficiency and both FLCA and SLTA in English. Schrauf (in press) considered the relationship between bilingual proficiency and both psychological and social factors. He argued that the causal pathway is multidirectional, where proficiency is both a cause and an effect. Indeed, our study showed that a higher level of SLTA and a lower level of FLCA were linked to higher levels of Self-perceived proficiency. These specific personality traits might thus strengthen students' confidence, curiosity and interest in English resulting in higher levels of proficiency. Similarly, it could be argued that the students who had become more proficient in English, especially those in an English-medium school, had become less anxious and more tolerant of ambiguity as a result.

The finding of a significant relationship between Self-rated proficiency and both FLCA and SLTA reflects findings previously reported in the literature (Chapelle & Roberts, 1986; Kim, 2000; Liu, 2006; MacIntyre, Clément, & Noels, 1997).

The absence of an effect of gender and age can only be noted, as no indication exists in the literature that an effect was to be expected on FLCA nor SLTA. The fact that those knowing more languages/dialects did not score lower on FLCA and

higher on SLTA is somewhat surprising, considering that such a relationship was found in much larger and more heterogeneous samples of adult multilinguals (Dewaele et al., 2008, Dewaele & Li Wei, 2013). This might be due to local effects, namely how the respondents perceived the concept of "knowing a language" and their self-conception of their ability. In Hong Kong many people start to learn English and Putonghua when they are three or earlier in the kindergarten or playgroup, yet many participants claimed not to know these two languages. The decision to claim knowledge of a language may or may not be related to proficiency. Sia and Dewaele (2006) found that participants who self-rated as being more proficient in their L2 were more likely to consider themselves bilingual. The decision to claim to be bilingual was also linked to currently living or having recently lived in the L2 community, and not currently studying the L2. As all our Hong Kong participants were still studying, many may have decided that claiming English as one of their languages was premature.

It is also possible that the effects of knowing more languages only appear once the learners become adult authentic L2 users having to function in a completely new environment. In other words, our Hong Kong participants lived in a relatively homogeneous cultural context, had not yet lived outside Hong Kong and had therefore not yet encountered the swim or sink situations that immigrants or adult L2 users find themselves in, where social survival depends completely on the use of an L2. It is this shock that has lasting psychological effects. Dewaele and Li Wei (2013) found that a bilingual upbringing was not linked to higher TA scores, but that having lived abroad had a strong positive effect on TA. Finally, it is not entirely clear to what extent various Chinese dialects can be equalled with different Chinese languages, as there is a certain amount of intercomprehension between dialects. This independent variable is therefore slightly problematic.

The effect of school's medium of instruction on FLCA and SLTA is interesting. More frequent use of a FL has been linked with lower levels of FLA/FLCA (Dewaele, 2007; Dewaele et al., 2008) and it is therefore not surprising that the Chinese learners in schools where English was used outside the FL class felt less anxious using the language. Indeed, Housen et al. (2011) found that learners studying a target language widely used outside the language classroom (a typical L2 context) outperform learners in contexts where the target language is less prominent (a typical FL context). However, the higher values of SLTA in the English medium school suggests that more regular contact with a FL, and possibly with slightly different cultural practices, makes students more tolerant of second language ambiguity. The students in the English medium schools had to function in another language, in other words; they were more than passive recipients of the language within the walls of the FL class. It would be interesting to see whether the same pattern occurs with different FLs in different L1 settings.

## Implications

Teachers need to identify anxious learners (Gregersen, 2007; MacIntyre and Gregersen, 2012a). This is not too hard as FLCA is readily observable without using any instrument. There are obvious symptoms, namely anxious behaviour and signs (e.g., general avoidance, stuttering or stammering, silence) that can be recognised by teachers in their classrooms, though some of them might be culture-specific, requiring teachers to use their own sense and judgement (Oxford, 1999, p. 66). Teachers can lower FLCA by establishing a positive emotional atmosphere in the classroom (Arnold & Fonseca, 2007; MacIntyre & Gregersen, 2012b). When learners realise that they do not risk being the object of ridicule for making errors, that the teacher may have suffered similar fears, and that the teacher will appreciate them trying something new in the FL, their levels of FLCA will drop. Dewaele (2011) argued that “language teachers could use their own emotions and feelings, their own multilingual subjectivity by presenting the target language not just as a tool for communication, but as an opportunity for learners to expand their symbolic selves, get emotionally and cognitively involved in the foreign language process and develop tertiary socialisation” (p. 37). MacIntyre and Gregersen (2012a) point out that positive emotion is the key to FLL as it “facilitates the building of resources . . . tends to broaden a person’s perspective, opening the individual to absorb the language” (p. 193).

Whereas it is relatively simple to create a low-anxiety classroom environment, it is probably harder to create a low-uncertainty FL class. As researchers have pointed out, everything in a new FL is potentially ambiguous, which can also contribute to the sense of challenge to learners. Teachers can help reduce uncertainty in their classrooms by setting out clear rules about their expectations, and that their primary role is that of a helper rather than that of a judge. Judicious use of L1 in monolingual EFL contexts can have positive effects for L2 development (Kramsch, 2009; Nizregorodcew, 1997). Thus, teachers should not feel guilty to code-switch to L1 sometimes, indeed, they should abandon the traditional monolingual perspective and embrace a multilingual perspective (Kramsch, 2009, p. 188).

Teachers can also try to boost students’ SLTA by deliberately talking about it, stressing the importance of flexibility, of the inevitable process of trial and error in FLL, along with introducing strategies to deal with ambiguity.

We are aware of the limitations in the study. Firstly, this was a small-scale survey in a very specific context. It would be interesting to see whether the relationship between FLCA and SLTA exists for other populations and other FLs. Secondly, we used self-rated proficiency scores rather than measures of actual proficiency. We have argued before that self-perceived proficiency is an acceptable measure when the aim is to establish relationships with other variables and when participants have

nothing to gain from exaggerating their level of proficiency, which was the case in the present anonymous survey (Dewaele et al., 2008). Finally, our research design was purely quantitative, which was a deliberate choice because we see this study as a first step to establish possible relationship between the variables. Further research adopting a qualitative perspective could shed more light on the actual experience of learners in dealing with ambiguous input and their FLCA.

### Conclusion

The present study had a main objective: investigating the relationship between FLCA, SLTA and Self-rated proficiency. Our findings are congruent with Gudykunst's AUM, and, more specifically, with the axiom that more tolerance of ambiguity is linked to less anxiety. We did find that FLCA and SLTA are inversely related and share over half of their variance. Hong Kong EFL learners who were more tolerant of ambiguity were significantly less anxious during their English classes. Moreover, the Self-perceived level of proficiency was significantly predicted by SLTA and FLCA. Whereas sociobiographical factors such as age, gender and number of languages/dialects known had no effect on the FLCA and SLTA, the use of English as medium of instruction and the resulting Self-perceived level of proficiency was found to have a strong effect on both FLCA and SLTA, that is, it lowered FLCA and boosted SLTA.

We explained that our statistical techniques do not allow us to decide on the causality, but that it could be argued both ways, namely that FLCA affects SLTA or vice versa and that Self-rated proficiency is simultaneously affected by FLCA and SLTA and affecting it (Schrauf, in press).

We have argued that these findings have pedagogical implications: Language teachers should do what they can to lower FLCA and boost SLTA by creating the right atmosphere in their classes, and also by tackling what seems to be an important source of anxiety, namely dealing with ambiguity. If learners can be made more comfortable in dealing with ambiguous FL input, they will probably become more self-confident, more flexible, less anxious, and this will boost their proficiency in English.

### Acknowledgments

We would like to thank our colleagues and the reviewers for their excellent suggestions.

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