A SOCIOLINGUISTIC PERSPECTIVE OF ENGLISH AS SECOND LANGUAGE ANXIETY IN MALAYSIA: FROM PERCEPTION TO INTERVENTION

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Table of Content

List of Tables

List of Figures

List of Acronyms

ASSELF	Anxiety Scale for Spoken Englishes as a Lingua Franca
EFL	English as foreign language
EMI	English-medium institution
ESL	English as second language
FL	Foreign language
FLCAS	Foreign Language Classroom Anxiety Scale
LEXTALE	Lexical Test for Advanced Learners of English
L1	First language
L2	Second language
PCO	Perceived competence of others

Abstract

English is currently the most common language in the world with the highest number of speakers when considered both native and non-native speakers together (Eberhard et al, 2022). It acts as a lingua franca that connects people who speak different first languages (L1). This is especially the case in Malaysia where English is widely spoken as a second language (L2). Hence, challenges in mastering English as L2 such as L2 anxiety has always been a topic of interest to the nation. To provide a better understanding of the L2 anxiety phenomenon in an English as second language (ESL) environment, the research reported in this thesis targeted Malaysian speakers from an ESL environment (which would be termed as *Malaysia ESL speakers* henceforth). This thesis begins by exploring factors associated with L2 anxiety to testing several interventions in alleviating L2 anxiety of moderate to advanced ESL speakers. By employing experimental and qualitative methodologies, the thesis provides valuable insights into the unique anxiety experiences of intermediate-advanced ESL speakers in diverse communication settings, offering a comprehensive understanding that extends beyond traditional questionnaires and interviews. It serves as a useful reference for researchers who are interested to gain more insights about L2 anxiety in a multilingual English as L2 context such as Malaysia.

Thesis Outline

While language anxiety is a common phenomenon in FL/L2 acquisition and usage, I am curious about how unique L2 anxiety is in an L2 environment compared to an FL environment, and how it manifests outside the classroom setting considering a myriad of interacting factors. This thesis addresses these questions by investigating the L2 anxiety of ESL speakers and its interaction with various linguistic and social factors, including language proficiency, perceived competence of self and others, ethnic identity, and perceived speech evaluation. The focus is on intermediate-advanced ESL speakers in Malaysia, a group often overlooked in favour of those with lower proficiency. Throughout the studies, different concepts emerge and are examined to explain the L2 anxiety phenomenon. These include language attitude anxiety (the fear of negative evaluation from the local society; Attanayake, 2019), the relational model of competence (how one's language competence is perceived relative to other speakers; Foss & Reitzel, 1988), raciolinguistic ideology (the perception that White Caucasian speakers are the rightful and superior owners of English; Flores & Rossa, 2015), and reverse linguistic stereotyping (evaluating speech properties based on speaker's group membership; Kang & Rubin, 2009). Additionally, the thesis explores the feasibility of a multiple accent approach to English training, which involves exposing participants to multiple English varieties rather than one standard variety (Levis, 2005), to investigate its effects on L2 anxiety. Overall, the thesis is composed of six chapters with seven independent studies, each involving different groups of participants.

Chapter 1 focuses on a literature review of FL/L2 anxiety, which ranges from the definitions, concepts, theoretical models, research timeline, impacts to factors. The

chapter puts more emphasis in discussing the literature review of FL/L2 anxiety factors in an out-of-class setting, that has great variability due to the dynamic interaction of various linguistic, intrinsic and extrinsic factors.

Chapter 2 investigates the relationships between the linguistic factors (i.e., L2 proficiency, self-perceived L2 competence, frequency of L2 usage) and out-of-class L2 anxiety through two survey studies. The first study targeted Malaysia ESL speakers and the results showed that although participants' self-perceived L2 competence and frequency of L2 usage predicted L2 anxiety level negatively, the language proficiency factor (as measured by a lexical test and past English test achievement) was not statistically significant. It was unclear whether this unique finding only applied to speakers in the ESL environment, therefore another study was conducted by comparing language anxiety experience between English speakers from an ESL environment (e.g., Malaysia) and an English as foreign language (EFL) environment (e.g., China). This time, the second study was limited to Chinese ethnic individuals enrolled at English-medium institutions (EMIs) who speak Mandarin (or any other Chinese dialect) as their L1. The results showed that the Malaysia ESL speakers reported similar language anxiety level as the China EFL speakers, despite the former scoring higher in English proficiency tests and reporting higher self-perceived English competence and higher frequency of English usage. Interestingly, the Malaysia ESL speakers reported higher anxiety levels than the China EFL speakers when communicating with proficient English speakers or individuals with accents from English as L1 countries. More importantly, self-perceived competence stood out as the only significant predictor of language anxiety in both groups.

As people often evaluate their self-perceived competence by referring to other people through social comparison (Foss & Reitzel, 1988; Marsh et al., 2017; Wheeler & Suls, 2005), Chapter 3 investigates whether the perception of others' language competence could be manipulated in a deceptive experiment to alleviate language anxiety. Prior to watching multiple brief videos of speakers (who had an actual IELTS score of Band 7) talking about a general topic in English, participants were divided into three groups with different information provided regarding the speakers' language proficiency (i.e., high IELTS score of Band 8.5, no information, and low IELTS score of Band 5.5). Participants were then asked to rate the perceived language competence of the speakers, their anxiety level if they were to communicate with the speakers, and to explain in an open-ended response why they felt anxious towards the speakers. The results showed that the deception only worked for the low IELTS score group with significantly lower IELTS score rated towards the speakers as compared to the no information group, but the L2 anxiety level was unaffected. Further regression analysis showed that PCO was not a significant predictor of L2 anxiety, and this could be due to the lack of actual interaction element in the experimental design. The involvement of actual interaction is important as that is when the fear of negative evaluation comes in while contrasting one's own perceived language proficiency with that of others. Notably, even though the White Caucasian speakers in the videos were not English L1 speakers, Malaysia ESL participants tended to view them as having greater English proficiency and reported higher level of L2 anxiety towards them as compared to other speaker groups.

Chapter 4 investigates why White Caucasian speakers were perceived to be more anxiety-provoking than other speaker groups in the third chapter. Participants were shown the same stimuli from Chapter 3 in either video or auditory form. They were then asked to evaluate the speakers' accentedness, comprehensibility, intelligibility and familiarity, in addition to rating how anxious they felt if they were to communicate with the speakers. The results showed that Malaysia ESL speakers tended to perceive their spoken English variety as more accented than other English varieties in the audio group, and they perceived all speech to be more accented when visual speaker identity cues were present. Poor perceived speech properties of the speakers, characterised by higher accentedness and lower comprehensibility, predicted higher L2 anxiety of the L2 listeners. The presence of White Caucasian identity through video presentation was also sufficient to elicit higher language anxiety among the participants, consistent with the raciolinguistic ideology which posited that White Caucasian speakers are often perceived as the rightful and more superior owners of English (Flores & Rosa, 2015). There was, however, no clear evidence of reverse linguistic stereotyping (Kang & Rubin, 2009), as seeing visual cues of White Caucasians did not necessarily make the speech less accented, more comprehensible and more intelligible.

Chapter 5 investigates the effectiveness of multiple accents exposure training in speech perception (e.g., comprehensibility, intelligibility and familiarity) and language anxiety reduction among the Malaysia ESL speakers. Three studies were conducted in this chapter. In the first study (see Section 5.2), participants were divided into two groups which received either single (i.e., American English) or multiple (i.e., Vietnamese, Turkish, Brazilian Portuguese, Korean and American English) accents

training, before they were tested on their speech perception and asked to report their L2

anxiety. Results showed that the groups did not differ in speech perception and L2

anxiety after the trainings. However, participants from both exposure trainings reported

lower speech perception (e.g., comprehensibility, intelligibility and familiarity) and

higher L2 anxiety rating for one of the post-test stimuli consistently. To examine

whether the negative training effect was due to the use of a more difficult post-test

speaker, Study 1 was replicated in Study 2 with different post-test speakers which

included (a) same speaker as the pre-test stimuli and (b) a potentially easier post-test

speaker with lower accentedness as evaluated by the researchers (see Section 5.3). The

results showed similar pattern as Study 1, suggesting that the negative training effect

observed was not due to the use of more difficult post-test speaker. Interestingly, while

single accent training seemed to exacerbate the feeling of anxiety towards post-test

speakers, participants from the multiple accent training did not vary in their anxiety

level between pre-test and post-test. Study 3 examined whether the negative training

effect observed was due to the use of more difficult post-test sentences, by comparing

the intelligibility score, comprehensibility rating and associated anxiety rating between

pre-test and post-test sentences produced by the same speaker (see Section 5.4). The

comparison was made without participants going through any training. The results

showed that although post-test sentences were harder to recognise than the pre-test

sentences, their perceived difficulty level was similar and did not affect participants'

associated anxiety towards the sentences. Overall, there was no significant difference in

speech perception between single and multiple accent trainings, though there were

mixed findings of whether the trainings were effective in enhancing speech perception.

Regardless, single accent exposure training could exacerbate L2 anxiety feeling while multiple accent exposure training did not.

Synthesising the findings across all chapters, Chapter 6 further discusses several prevalent L2 anxiety phenomenon observed in Malaysia, such as the egocentric nature of L2 anxiety, language attitude anxiety (Attanayake, 2019) and raciolinguistic ideology (Flores & Rosa, 2015). These are the most plausible explanations for the findings presented in each chapter. This chapter also suggests how future L2 anxiety research and interventions could move forward with the findings.

This thesis highlights some renowned L2 anxiety research and how I have tried to go from exploring the factors of L2 anxiety to developing interventions in alleviating L2 anxiety. As L2 anxiety is a dynamic emotion that changes from situation to situation, this thesis highlights the importance of exploring this dynamic emotion in a range of situational and social circumstances. It serves as a useful reference for researchers who are interested in gaining more insights about L2 anxiety in a multilingual context such as Malaysia.

CHAPTER 1: SECOND LANGUAGE (L2) ANXIETY AMONG MALAYSIA

ENGLISH AS SECOND LANGUAGE (ESL) SPEAKERS

1.1 Introduction to FL/L2 Anxiety

"It is astonishing how much enjoyment one can get out of a language that one understands imperfectly." — Basil Lanneau Gildersleeve

It is ironic to begin with such a quote when the present thesis studies *anxiety* emotion that one experiences from the imperfect mastery of a foreign language (FL) or a second language (L2). An FL refers to a target language learnt in an institutional or academic context with limited opportunities to interact with the target language community, whereas learning an L2 implies a greater opportunity to use the language during daily life interactions. FL and L2 are often treated the same with many using the terms "FL" and "L2" interchangeably (see Horwitz, 2010 and Teimouri et al., 2019 for a review of past FL/L2 anxiety research).

Learning an FL/L2 can be fun and enjoyable when it is learnt to make new international friends, understand different cultures, or watch a foreign movie with no subtitle. With the rise of globalisation, people have started to realise the importance of learning an FL/L2 other than their regional language to enable them to be more competitive. For instance, a common language (e.g., English) is given more priority nowadays in many developing countries such as those from the Southeast Asia, as it provides global opportunity for businesses and economic development (Kirkpatrick, 2012; Tupas, 2018). Learning an FL/L2 also helps immigrants to better accommodate to the new local environment (Bernhard, 2023). Knowing an additional FL/L2 definitely helps to boost one's confidence with all the benefits that it can bring, but it also comes

with the pressure to perform well so that one's goal can be reached. When FL/L2 is

acquired later in life, this can result in less proficiency and fluency. The demand to

perform well in their FL/L2 could induce a feeling of stress, nervousness and worry.

This anxious feeling when using an unfamiliar FL or L2 is known as FL/L2 anxiety

(MacIntyre, 1998).

FL/L2 anxiety is unique as FL/L2 speakers assign their cognitive and neural

resources for FL/L2 input differently as compared to their first language (L1). There is

evidence suggesting that both L1 and FL/L2 processing share the same neural devices

(Perani & Abutalebi, 2005), however it is assumed that FL/L2 speakers require more

mental energy to suppress the activation of one language to use the other through

different cognitive activities such as inhibitory control, conflict resolution, and attention

(Reifegerste et al., 2019). The FL/L2 performance can be worse when a debilitative

emotion (e.g., anxiety) is brought into the picture. For instance, Zhang et al.'s (2020)

EEG study found that Chinese-English bilinguals showed larger Contingent Negative

Variation which indicates heavier cognitive load and larger P200 which indicates higher

emotional arousal when speaking an FL/L2 as compared to speaking their L1. Both L1

and L2 speakers can feel anxious about communication in general (Beatty, 1986;

Graham, 2022) due to fear of negative evaluation, public speaking anxiety,

communication apprehension and performance pressure. However, the anxiety levels of

FL/L2 speakers are often amplified by additional challenges unique to using an FL/L2,

such as limited vocabulary, less familiarity with idiomatic expressions, and concerns

about pronunciation and grammar accuracy (Dewaele, 2007; MacIntyre & Gardner,

1991a).

FL/L2 anxiety could manifest through physical, cognitive and psychological reactions (Hashemi & Abbasi, 2013; Horwitz et al, 1986; Liu & Huang, 2011). Anxious FL/L2 speakers are likely to show physical symptoms like sweating, palpitations, trembling, headaches and pain in any body part. Besides physiological reactions, abnormal verbal behaviours (e.g., unusual speaking pace, softer volume, minimal intelligibility etc.), overt body languages (e.g., rubbing palms, stuttering, fidgeting etc.) and unusual cognitive behaviours (e.g., difficulty in concentration, forgetfulness, freezing and a blank mind) are other common signs of FL/L2 anxiety.

FL/L2 anxiety influences conversational skills such as listening and speaking more than other language skills like reading and writing (Cheng et al, 1999; Horwitz, et al, 1986; Lindenau, 1987). Conversation involves decoding an interlocutor's intended message and producing appropriate yet intelligible responses. It often takes place spontaneously with no time for revision and correction. Therefore, it is considered a cognitively demanding task as speakers need to constantly alternate between receiving input and producing output. Correspondingly, many FL/L2 anxiety scales are dominated by items measuring speaking anxiety (e.g., Cheng et al., 1999; Horwitz et al., 1986, see section 1.2 for further details), reflecting the assumption that speaking is most anxiety-provoking in FL/L2 usage. As a result of the unpleasant experience, anxious FL/L2 speakers can become more unwilling to engage in an FL/L2 conversation, and this type of avoidance behaviour is a challenge to FL/L2 acquisition (Rastegar & Karami, 2015; Pishghadam, 2016).

FL/L2 anxiety impedes FL/L2 conversation by acting as an affective filter. According to the Affective Filter Hypothesis of the Krashen's (1982) Monitor

Model, successful FL/L2 conversation requires two

essential conditions: comprehensible input (which could be structured a bit beyond the

speakers' present language level) and a low affective filter (characterised by high

motivation, high self-confidence and low anxiety) to allow the admittance of input. The

model treats FL/L2 anxiety as a hypothetical screen that determines the amount of input

that can be effectively processed during an FL/L2 conversation. It is commonly

observed that higher anxiety will lead to stricter filter, although there is still insufficient

explanation about how the selectivity of affective filter works (Gass & Selinker 2008;

Larsen-Freeman et al., 1991).

FL/L2 anxiety also restricts the available mental capacity to process an FL/L2

conversation, which is coherent with the processing efficiency theory (Eysenck & Calvo,

1992) or later known as the attentional control theory (Eysenck et al., 2007). According

to Eysenck and his colleagues (1992; 2007), anxiety reduces task-related cognition and

greatly restricts the available capacity of working memory. To compensate for the

reduction in working memory, more effort and resources are needed to process both

task-relevant (e.g., communicating in an FL/L2) and task-irrelevant (e.g., apprehension

over reaction received from others) information. As a result, the overall language

performance declines as anxious speakers are handicapped due to the limited cognitive

and neural resources (Eysenck & Calvo, 1992; Eysenck et al., 2007). The influence of

FL/L2 anxiety depends on the memory stages when it is introduced. For instance, in the

encoding phase, language anxiety can act as an affective filter that blocks out the

receiving or processing of useful information (Sellers, 2000); in the processing stage,

working memory that holds words and grammar rules can be affected, resulting in the

disruption of processing speed and accuracy (MacIntyre, 2017); in the retrieval phase, the quality of language output can be affected and leads to "ineffective retrieval of vocabulary, inappropriate use of grammar rules, or an inability to respond at all" (MacIntyre & Gardner, 1994, p. 3).

The research on FL/L2 anxiety started early in the 80s and has gone through three distinct stages of transformation, namely the confounding phase, the specialized phase and the dynamic phase (MacIntyre, 2017). The bulk of the inconsistent findings during the confounding phase is likely to be due to the definitions of FL/L2 anxiety. Early FL/L2 anxiety researchers had difficulty agreeing on one single definition for the phenomenon due to the lack of homogeneity in the conceptualization and measurement of language anxiety (Scovel, 1978). The subsequent specialized phase considered the FL/L2 anxiety as an independent situation-specific anxiety involving the use of an unfamiliar FL/L2 in a classroom learning setting (Horwitz, 2010). Until recently, FL/L2 anxiety research entered the dynamic phase whereby continuous interactions between FL/L2 anxiety and other situational, linguistic and psychological factors are studied. The new dynamic phase places FL/L2 anxiety in a complex system due to the volatile nature of FL/L2 anxiety experience, making it crucial to specify the context of investigation and to take into account numerous confounding factors when assessing FL/L2 anxiety for meaningful interpretations. These stages of development prove the substantial growth of FL/L2 anxiety research. As the stages of FL/L2 anxiety progress, researchers have been able to identify the specific type of FL/L2 anxiety for their investigation and this could explain the earlier conflicting findings. For example, when FL/L2 anxiety was studied as a situation-specific anxiety that occurs within a classroom setting in the

specialized phase, many studies agreed that the FL/L2 anxiety effects were more likely

debilitative rather than facilitative (MacIntyre, 2017).

Although language anxiety is usually defined as a situation-specific anxiety in

respect to using an FL/L2 in a classroom setting (Horwitz et al., 1986; Horwitz, 2010,

2017; MacIntyre, 2017), language anxiety experience in an out-of-class context

represents the real-life FL/L2 anxiety better and provides greater ecological validity

(Jiang & Dewaele, 2020; Wilang & Singhasiri, 2017). It is hard to restrict

conceptualisation of FL/L2 anxiety as a classroom-specific experience anymore because

FL/L2 use is common beyond the classroom setting. Globalization has made English the

medium of instruction or communication in many countries across the globe, and many

are expected to be able to communicate effectively using English that may or may not

be their L1s. Given the limited English usage or exposure (i.e., mostly for academic

purpose in schools) for most non-English speaking countries, many students have

inadequate vocabulary knowledge and experience difficulty comprehending long and

complicated English sentences (Ahmad Mazli, 2007; Nambiar, 2007; Shaari, 2008). As

a result, many FL/L2 speakers reported feeling anxious when they must communicate in

English during their university study (Aziz, 2007; Musa et al., 2012) and in a work

setting (Aichhorn & Puck, 2017; Perrodin et al., 2022). The first chapter therefore put

more emphasis in investigating the factors of out-of-class FL/L2 anxiety that has great

variability due to the dynamic interaction of various linguistic, internal and external

factors.

1.2 Factors of FL/L2 Anxiety

Early FL/L2 anxiety research was examined in classroom settings. Therefore, the factors identified were more related to the specific academic context (Ross & Rivers, 2018; Woodrow, 2006). FL/L2 classroom settings involves many situational factors (e.g., class interactional pattern, interlocutor participation, task type and topic) which influence FL/L2 anxiety (Cao, 2011). A classroom setting could be extra anxiety-provoking because it constantly simulates a testing condition whereby FL/L2 learners expose their FL/L2 competence to the scrutiny of peers and teachers. Due to the expectation on the use of correct grammar and phonetically accurate pronunciation (Hashemi, 2011), FL/L2 learners might feel more anxious to perform well in a classroom setting as compared to an out-of-class setting (Dewaele & MacIntyre, 2014; Lee & Lee, 2020; Peng, 2015).

With the introduction of Foreign Language Classroom Anxiety Scale (FLCAS), Horwitz et al. (1986) identified three main factors of FL/L2 anxiety in a classroom setting: communication apprehension, test anxiety and fear of negative evaluation. Communication apprehension indicates one's discomfort when interacting with other people. It can be manifested when a speaker must speak with others (oral communication anxiety), in public (stage fright), as well as when he/she must listen to a message (receiver anxiety). Test anxiety is another performance anxiety which stems from the fear of failure in a test. Lastly, fear of negative evaluation is the apprehension about other's negative evaluations towards oneself. Although slight differences in naming the constructs of FL/L2 anxiety exist across different studies (see Al-Shboul et al, 2013 for further examples), the names do not stray far from these three constructs as

posed by the FLCAS. These three factors of FL anxiety had been widely researched and supported by past literature (for review see Luo, 2013), making Horwitz et al.'s (1986) paper one of the most frequently cited FL/L2 anxiety research.

Nevertheless, Yu (2021) pointed out three significant loopholes of the factor model proposed by FLCAS in measuring FL/L2 anxiety. These gaps suggested that although FLCAS is a well-supported tool in measuring FL/L2 anxiety, it is insufficient to capture the dynamic nature of FL/L2 anxiety in an out-of-class setting. First, test anxiety is not exclusive to FL/L2 anxiety only unlike its other two counterparts (i.e., communication apprehension and fear of negative evaluation; Yu, 2021, p. 1248), and can be a problem of general anxiety. Second, there was an over emphasis on teacher-centered (e.g., how to create a comfortable learning environment) instead of student-centered perspective in countering FL/L2 anxiety, although FL/L2 anxiety should be a self-focused concern caused by lack of confidence and fear of negative evaluation of the students themselves. Lastly, the significance of anxiety while using an FL/L2 as the lingua franca is underestimated in the model as it affects not just the interaction with the L1 speakers but also with the FL/L2 interlocutors. Interactions between two FL/L2 speakers can be difficult due to the lack of a common language code and linguistic flaws on both sides (Mauranen, 2006), leading to higher anxiety.

Recent research has provided plenty of evidence that measuring classroom FL/L2 anxiety does not represent the real-life FL/L2 anxiety, and it is the latter that serves the ecological validity (Jiang & Dewaele, 2020; Wilang & Singhasiri, 2017). FL/L2 learners can become familiar with their peers, teachers and the classroom environment over time. When that is achieved, availability of some acquired

information (e.g., perceived FL/L2 competence and social status of people in the class)

could in turn reduce feelings of uncertainty, improve predictability and reduce FL/L2

anxiety (Shirvan & Talebzadeh, 2017). On the other hand, FL/L2 speakers may

encounter more uncertainties using an FL/L2 outside of a classroom, subject to different

unknown environmental and interlocutor-related factors. These simultaneous factors

interact and affect FL/L2 speakers' language performance at the same time, causing

further complications. Therefore, it is crucial to fully understand the relationship of

simultaneous factors of FL/L2 anxiety in play for an out-of-class setting. These factors

of FL/L2 anxiety can be grouped into linguistic, intrinsic, and extrinsic categories, and

would be discussed in the following sections (see Table 1 for a summary).

Table 1

Linguistic, intrinsic and extrinsic factors of FL/L2 anxiety.

Linguistic	- FL/L2 proficiency and achievement (see meta-analysis by Teimouri et al., 2019) - Self-perceived FL/L2 competence (see meta-analysis by Teimouri et al., 2019) - Frequency of FL/L2 usage (Dewaele, 2013) - Linguistic profiles (Dewaele & Al-Saraj, 2015) - Number of languages known (Phongsa et al., 2018) - Age of FL/L2 acquisition (Dewaele et al., 2008) - Order of FL/L2 acquisition (Dewaele, 2013) - Typological distance between L1 and FL/L2 (Dewaele, 2010)

Intrinsic	• FL/L2 identity (Huang, 2014)
	• Belief towards FL/L2 acquisition (Aslan & Thompson, 2021)
	• Motivation towards FL/L2 acquisition (Anjomshoa & Sadighi, 2015; Ng & Ng, 2015)
	• Attitude towards FL/L2 acquisition (e.g., Hussain et al., 2011)
	• Individual differences in personality (e.g., perfectionism, extraversion, neuroticism etc.; Dewaele & Al-Saraj, 2015)

Extrinsic	• Interlocutor-related factors (Shirvan & Talebzadeh, 2017)
	   ○ Familiarity with other interlocutors
	   ○ Social status of interlocutors
	   ○ Number of interlocutors

	• Exposure Experience (e.g., experience abroad; Sampasivam & Clément, 2014)
	• FL/L2 use context (e.g., Pappamihiel, 2002)

1.2.1 Linguistic Factors

Linguistic factors refer to any language-related factor that causes FL/L2 anxiety. These can include FL/L2 proficiency, self-perceived FL/L2 competence, frequency of FL/L2 usage, and FL/L2 profiles (e.g., number of languages known, age of FL/L2 acquisition, order of FL/L2 acquisition and typological distance between L1 and FL/L2).

A review of the literature revealed that FL/L2 speakers with lower FL/L2 proficiency were significantly more anxious and less confident than those with higher FL/L2 proficiency (Botes et al., 2020a; Jin et al., 2015; Liu, 2012, 2016; MacIntyre et al., 1997). Their limited vocabulary knowledge and difficulty in expressing thoughts

freely in the target language might contribute to the anxiety experience (Nurmansyah & Nurmayasari, 2018). On a relevant note, some researchers believe that those who are less capable at acquiring an FL/L2 (i.e., poor language aptitude) should have higher FL/L2 anxiety as a side product (Ganschow et al., 1994; Sparks & Ganschow, 1991; Sparks et al., 1997). This is because FL/L2 learners who experience difficulties in phonology, syntax and semantics of their L1s tend to find FL/L2 acquisition challenging and more anxiety-provoking as well (Ganschow et al., 1994; Sparks & Ganschow, 1991; Sparks et al., 1997). On the other hand, advanced FL/L2 learners could also be a high-risk group to language anxiety (Ewald, 2007; Kitano, 2001). Compared to the beginner and intermediate speakers, advanced speakers are usually more experienced in noticing their own speaking errors, therefore developing stronger fear of negative evaluation and greater pressure to perform well (Kitano, 2001). The extent to which language proficiency affects FL/L2 anxiety largely relies on the goals and purpose of FL/L2 usage (Marcos-Llinás & Garau, 2009). For instance, if the goal is to interact and work with English L1 speakers in a professional working environment, the need to have high level of English proficiency would be presumed. If the speakers think they do not meet the expectations, it could then induce high language anxiety.

　　Higher self-perceived competence has also been shown to be associated with lower level of FL/L2 anxiety (Garcia de Blakeley, 2017; Onwuegbuzie et al, 1999; Tóth, 2007). Anxiety arises when speakers believe they have not achieved their ideal FL/L2 self (i.e., the target of language proficiency one wishes to possess) or ought-to FL/L2 self (i.e., the target of language proficiency from society's expectation, Dörnyei, 2009). Speakers with low self-perceived competence may be constantly worried about the

difficulty to express their thoughts clearly in an L2 and showing their vulnerable sides,

which in turn triggers L2 anxiety (Mercer, 2011). Anxious speakers also tend to form a

"self-derogation" bias, in which they undervalue their perceived language competence

despite performing well in the objective language tests (Gardner, et al, 1987; Kraemer &

Zisenwine, 1989; MacIntyre et al., 1997). Both FL/L2 anxiety and self-perceived

competence are subjective experience of the speakers, suggesting that language anxiety

is more related to identity-based rather than competence-based constructs (Jiang &

Dewaele, 2020; Stroud & Wee, 2006). Consequently, many researchers have argued that

self-perceived competence is a better predictor of FL/L2 anxiety than the actual

language proficiency (Clément et al, 1980; MacIntyre, 1992; Teimouri et al., 2019).

Another prominent linguistic variable of FL/L2 anxiety is the frequency of

FL/L2 usage (Clément et al., 2003; Dewaele, 2010; Dewaele et al., 2008; Levine, 2003).

Practicing FL/L2 frequently should increase familiarity with various FL/L2 use

scenarios and resolve some of these anxiety feelings caused by the unknown. According

to Clément et al.'s (2003) model of language communication, frequent and pleasant

contact with a language improves language confidence and lowers FL/L2 anxiety level.

In a classroom setting, the more frequently one uses an FL/L2, the less anxious one feels

when using the FL/L2 because practice could help to boost grammatical accuracy and

self-confidence (Dewaele, 2010; Levine, 2003). Speakers who report frequent usage of

language outside of the classroom also report lower FL/L2 anxiety level inside

classroom as they became more comfortable with using the target FL/L2 (Dewaele &

MacIntyre, 2019; Jiang & Dewaele, 2020). However, there are not many studies that

have looked directly into the impact of frequency of language usage outside of

classroom on out-of-class language anxiety. Regardless of whether an FL/L2 is used inside or outside of a classroom, the general trend of the research finding seems to suggest that the more frequent one uses an FL/L2, the lower the associated FL/L2 anxiety (Boun, 2017; Dewaele et al., 2008).

Speakers' linguistic profiles, such as number of languages known, age of FL/L2 acquisition, order of FL/L2 acquisition and typological distance between L1 and FL/L2, can also contribute to their FL/L2 anxiety experience. Speakers' previous L1 knowledge that is proximate to the target FL/L2 language could help FL/L2 speakers to pick up similar FL/L2 vocabularies, phonology and grammar faster. This allows FL/L2 speakers to develop better strategies for new words/grammar learning, which in turn imposes greater sense of confidence and alleviates FL/L2 anxiety (Kemp, 2001, 2007). Apart from L1 background, FL/L2 speakers who have more opportunities to be exposed to the target FL/L2 at a younger age feel less anxious when using the target FL/L2 too. The benefits of these linguistic profiles in alleviating FL/L2 anxiety are largely supported by research conducted by Dewaele and his colleagues. They found that lower FL/L2 anxiety is associated with (a) knowing more languages (Dewaele & MacIntyre, 2014; Phongsa et al., 2018); (b) lower age of FL/L2 acquisition (Dewaele et al., 2008); (c) earlier order of acquisition of the target FL/L2 in life (Dewaele, 2013); (d) smaller typological distance[1] between L1 and the target FL/L2 (i.e., sharing same linguistic family between L1 and the target FL/L2: Dewaele, 2010).

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[1] Typological distance refers to the linguistic structural differences between one language and the other.

1.2.2 Intrinsic Factors

Intrinsic factors of FL/L2 anxiety refer to various covert attributes of language users that are associated to the feelings of anxiety when using the FL/L2. Intrinsic factors identified in past research range from FL/L2 identity, belief, motivation, attitude to individual differences in personality.

Some FL/L2 speakers may worry about losing their self-identities (which is often perceived to be deeply rooted in the L1), because they feel and act differently when using an FL/L2 (Hashemi, 2011, Huang, 2014). For example, Cervatiuc (2009) noticed that some participants might go to the extent of changing their personalities (i.e., being more extrovert in communicating with the target language community) while developing their new FL/L2 identities. The construction process of FL/L2 identity could be anxiety-provoking because it is challenging, especially when the target language culture feels foreign (Krashen, 1985; Spitalli, 2000; Tanveer, 2007). It is a long discovery process for the FL/L2 users to construct a cohesive FL/L2 identity that can accommodate all the possible anxiety-provoking FL/L2 use situations.

In addition, FL/L2 anxiety is often sparked when one holds unrealistic beliefs towards learning or using an FL/L2. According to Horwitz (1983), these unrealistic beliefs include (a) accuracy and native-like accent are indicators of successful language learning, (b) an FL/L2 could be mastered rapidly, (c) memorization and translation are key strategies to master an FL/L2 and (d) language aptitude is an innate gift for some individuals. These misconceptions are common among FL/L2 users and were found to contribute to their FL/L2 anxiety (Aslan & Thompson, 2021; Cheng, 2001; Gopang et al., 2016; Tandang & Arif, 2019).

The attitude (feeling) and motivation (desire) toward using an FL/L2 could also affect FL/L2 anxiety. Attitude reflects the impression one has towards using an FL/L2 such as the perceived linguistic difficulty, learning difficulty and the degree of importance to learn the FL/L2 (Richards et al., 1985). Intuitively, the more positive attitude one has towards the FL/L2 or the learning of FL/L2, the lower the anxiety (Hussain et al., 2011; Jain & Sidhu, 2013; Young, 1991). More often than not, attitude determines the persistence in pursuing FL/L2 success (Gardner & Lambert, 1972).

The relationship between motivation and FL/L2 anxiety however is not that straightforward. Motivation determines the orientation of FL/L2 user's goal in FL/L2 acquisition (Gardner & Lambert, 1972). There are two types of motivation: instrumental and integrative motivation. FL/L2 users who are instrumentally motivated learn the FL/L2 for functional reasons like getting a job or to graduate etc, which is the case for most FL/L2 learners in the classroom setting (e.g., Hong & Ganapathy, 2017). More instrumentally motivated FL/L2 users could experience higher anxiety as the desire to communicate well could lead to greater concern about how their efforts in learning the FL/L2 would be perceived by others (Horwitz, 1996; Kitano, 2001). On the other hand, FL/L2 users who have high integrative motivation are interested to learn not just the language, but also the associated culture for better communication with the local community. Integratively motivated FL/L2 users were found to have higher language achievement and to experience less language anxiety than instrumentally motivated FL/L2 users (Clément et al., 1994; Gardner et al., 1992; Kirova et al., 2012; Liu & Huang, 2011). Findings of these studies emphasize the importance of cultivating integrative motivation among the FL/L2 speakers for better language achievement and

outcomes, as well as to improve their motivation to practice the target FL/L2 beyond the classroom setting (Hernandez, 2008; Samad et al., 2012).

Furthermore, there are individual differences in personality that can affect one's FL/L2 anxiety. As successful FL/L2 acquisition is a process of making mistakes, those who are open to challenges are more likely to attain higher FL/L2 proficiency and experience less anxiety. Individuals who are emotionally stable and more extraverted are also less susceptible to FL/L2 anxiety because they are more ready to communicate in an unfamiliar FL/L2 (Dewaele, 2002; Dewaele, 2013; Dewaele & Al-Saraj, 2015). In contrast, FL/L2 speakers who are perfectionist and neurotic may be more susceptible to experience FL/L2 anxiety because they (a) can be overly critical when evaluating their own FL/L2 performance, (b) possess an unrealistic expectation of attaining native-like competence and (c) are more affected by negative instead of positive emotions (Dewaele, 2017; Gregersen & Horwitz, 2002; Price, 1991). Despite the strong relationships between general trait anxiety and FL/L2 anxiety, they should not be confused because general trait anxiety is a relatively stable personality trait that accompanies the FL/L2 user in most situations, whereas FL/L2 anxiety only applies in situation-specific context when using an FL/L2 (MacIntyre & Gardner, 1989, 1991).

1.2.3 Extrinsic Factors

Extrinsic factors of FL/L2 anxiety refer to various interlocutor- and environment-related factors that may induce feelings of anxiety when using an FL/L2. Some of the factors identified in past research include interlocutor-related factors, language exposure experience and FL/L2 use context.

As the type and quantity of interlocutors one encounters during an FL/L2 conversation vary from conversation to conversation, this renders the interlocutor-related factors to be unpredictable and anxiety-provoking at the same time. This is especially the case when the interlocutor is unfamiliar to the individual (Cao & Philp, 2006; Dewaele, 2007). Interestingly, familiar people can still induce FL/L2 anxiety if they are perceived to be of higher social status (Dewaele et al, 2008; Hashemi, 2011; Peirce, 1995), such as a teacher to a student (Shirvan & Talebzadeh, 2017). Furthermore, certain races (e.g., white Caucasians) are deemed to have more prestigious status than the others when it comes to English usage because of the general impression that White Caucasian speakers are the rightful owners and users of the English language (Flores & Rosa, 2015). Many FL/L2 speakers feel inferior about their foreign accents when speaking EFL/ESL (Baran-Łucarz, 2011; Park et al., 2017), as they believe that the Received Pronunciation and American English are the "standard" or "desired" English varieties (Hashim, 2020; Ismail et al., 2007; Ling, 2020). As a result, FL/L2 speakers may feel anxious and concerned with the imaginary judgment imposed on their foreign accents. This also explains why communication to a larger group (e.g., giving an oral presentation) is usually more anxiety-provoking than a smaller group (e.g., dyad discussion; Baran-Łucarz, 2014; Cao & Philp, 2006), because speaking FL/L2 in front of more people provides more opportunities for criticism and scrutiny from others (Hilleson, 1996; Phillips, 1992).

To deal with the unpredictable interlocutors that one might encounter during an FL/L2 conversation, one's exposure experience to different FL/L2 use, regardless of whether it is active or passive, plays an important role. It allows FL/L2 speakers to

practice and learn better ways to deal with different FL/L2 use situations, which can be

helpful in reducing their FL/L2 anxiety. Previous pleasant and successful contact

experience with the target FL/L2 could reduce FL/L2 anxiety and encourage FL/L2

speakers to further engage in FL/L2 usage (Samimy & Rardin, 1994; Young, 1991).

Looking back at past literature, the influence of previous FL/L2 exposure experience on

FL/L2 anxiety had been commonly researched in relation to the speakers' experience

abroad. A long period of experience abroad had been shown to associate negatively with

FL/L2 anxiety, as speakers have more opportunities to practise and be familiar with the

target FL/L2 (Lee, 2018; Matsuda & Gobel, 2004; Thompson & Lee, 2014). This allows

FL/L2 speakers to be more involved with the target FL/L2 culture (Noels et al., 1996).

The experience abroad also broadens the speakers' horizon about the different varieties

of the target FL/L2 (e.g., existence of world Englishes; Matsuura, 2007). This helps the

FL/L2 users to predict how the same word is pronounced with slight variations (e.g.,

"can't" is pronounced as /kɑːnt/in UK but /kænt/ in US), or how the same word can

mean differently (e.g., "football" means soccer in UK but rugby in US) at multiple

places.

        The context or environment where one uses the FL/L2 introduces various

contextual variables (e.g., conversation topics, interactional pattern, cultural norm, etc.)

that could also affect one's FL/L2 anxiety (Cao, 2011; Kim, 2010). These contextual

variables are unpredictable and unfamiliar which could influence the flow of efficient

communication. Consequently, FL/L2 speakers feel anxious about communicating in an

FL/L2 because they are worried that they could not understand or express the message

effectively (Javid, 2014; Malik et al., 2021). A stressful and non-supportive environment

that scrutinises one's FL/L2 competence could further exacerbate the FL/L2 anxiety

(Horwitz, 2010; Steinberg & Horwitz, 1986). FL/L2 users tend to imagine or expect

some judgmental attitude from the local community towards their spoken FL/L2

varieties, especially when their English varieties are perceived to be inferior or less

"standard" colloquial varieties (Attanayake, 2019, 2020). This fear of negative

evaluation seems to be a prevalent factor of FL/L2 anxiety and is detrimental to

effective FL/L2 communication (e.g., Attanayake, 2019, 2020; Pappamihiel, 2002; Tóth,

2007). Speakers' anxiety levels for the target FL/L2 could vary in different contexts,

depending on the importance and status of the target FL/L2 in their immediate

surroundings.

1.3 Research Rationale

As of today, the number of EFL/ESL speakers outnumbers the number of

English L1 speakers by at least three times (Eberhard et al, 2022). The number of

speakers at stake justifies the need to understand the factors of FL/L2 anxiety. Much

research had been carried out for such purpose, but most has not systematically

discriminated between EFL and ESL environments (see Horwitz, 2010 and Teimouri et

al., 2019 for a review of past FL/L2 anxiety research). There are inevitable and

systematic differences in the amount and quality of English use experienced in each

context. The different linguistic experience would shape speakers' confidence in using

the target FL/L2. Consecutively, the language anxiety experience associated to their

speakers might arguably be different too.

The classification of English-speaking contexts used to be very heuristic through

the colonisation history or commonly known as Kachru's (1992) three concentric

circles. The colonisation history of a nation affects whether English is designated as an

FL or L2 there (Mufwene, 2001), for example, whether the country was colonised as an

exploitation colony (i.e., Singapore, Malaysia, China, Vietnam, etc.) or a settlement

colony (i.e., United States, Canada, Australia, etc.) in the past. These countries can be

further categorized into three concentric circles with substantial differences in how the

English language is acquired in the countries, based on types of spread, patterns of

acquisition, and functional allocation (Kachru, 1992). These include: (a) the Inner Circle

countries which are treated as "norm-providing" countries to the English varieties used.

Speakers from these regions (e.g., United Kingdom, America, Australia, etc.) use

English as their L1 in daily life and commonly have very high competency in the

language. (b) The Outer Circle countries which are treated as the "norm-developing"

countries of the English varieties used. Since the colonisation era, speakers from these

regions (e.g., Bangladesh, Malaysia, Philippines, etc.) have been practising using

English in different official and administrative settings. Many speakers acquire the

language as an L2 with proficiency levels ranging from basic to advanced. (c) The

Expanding Circle countries which are treated as the "norm-dependent" countries of the

English varieties used. Speakers from these regions (e.g., China, Egypt, Korea, etc.)

acquire the language as an FL for functional reasons like economic, touristic and

educational reasons rather than for immediate communicative needs. Their proficiency

can vary vastly from non-proficient to fluent. Although there are debates about the

oversimplification and ambiguity of the three concentric circles model (Al-Multairi,

2020), the model could be helpful to form some degree of expectation on how English is

usually acquired or practiced in some countries, depending on how they are categorized according to their colonization history.

However, the classification of English-speaking contexts should not be that simple as various factors are involved in determining whether a language is acquired as an FL or an L2 in the immediate living environment. The wide variety of factors include, but are not limited to, the frequency and quality of language contact (MacIntyre & Gregerson, 2012), the language's status in the country (McKay & Rubdy, 2009), and speakers' learning motivation (Li, 2014). Contingent on how frequent speakers encounter English in their living environment, the usage experience varies between an EFL and ESL environment (MacIntyre & Gregerson, 2012). Compared to an EFL environment, an ESL environment provides more authentic occasions for English usage that promotes pragmatic and communicative competence (Wyner & Cohen, 2015). Sometimes, an FL/L2 could have the same or even more important status as the individual's mother tongue in the society (Dörnyei,1990; Stern et al, 1983), subjected to the country's education policy of whether to make the target L2 an official language of the country or a compulsory FL to be learnt in schools (McKay & Rubdy, 2009). Li (2014) observed that speakers are more integratively motivated to spend more effort studying and utilising English in an ESL environment than in an EFL environment based on the practicality of obtaining and using English in their immediate surroundings. Apart from having more opportunities to increase their language competence, ESL speakers also develop a more vivid image of themselves as proficient L2 users, which can be an essential part of their self-identities.

Even though language use experience and motivation of speakers could differ substantially between an EFL and ESL environment, no study to my knowledge has attempted to distinguish FL and L2 anxiety. There are several reasons for this. First, it is hard to make absolute distinctions between FL and L2 and they were often referred to interchangeably in past FL/L2 anxiety research (see Horwitz, 2010 and Teimouri et al., 2019 for review). Recent research trend also moves away from categorizing speakers into dichotomous groups (e.g., native and non-native speakers; also see Hornsby, 2015) and favours continuous measurement as shown in bilingualism (Marian & Hayakawa, 2021), language dominance (Solís-Barroso & Stefanich, 2019) and language competence (Yu & Dong, 2022). Second, it is hard to distinguish between an EFL or ESL environment solely based on the language's status in each country. For instance, the English status across Malaysia, Singapore and Indonesia can be very different, even though they are neighbouring countries with the same national language (i.e., Malay; Chu & Le, 2020). The English-speaking environment differs greatly even within countries (e.g., rural versus urban areas, see Michieka, 2009). Sometimes, individual motivation and language use experience determine the language's status more meaningfully than what status the language has in the country.

Nevertheless, an ESL environment is expected to provide more practice opportunities through natural conversation interactions. As such, speakers from an ESL environment generally have high motivation and a positive attitude towards learning and using the target language (Ming et al., 2011). Relating to these assumptions, the magnitude of language anxiety experienced by ESL speakers should arguably be smaller, with the language anxiety experience being qualitatively different. If such

differences can be demonstrated, the language anxiety experience of both FL and L2

speakers should be treated differently.

      To offer a better understanding of the L2 anxiety phenomenon in an ESL

environment, the research reported in this thesis primarily targeted Malaysian speakers

from an ESL environment (which would be termed as *Malaysia ESL speakers*

henceforth). Malaysia is a country known for its rich cultural diversity, within which its

citizens speak a variety of L1s (e.g., Malay, Mandarin, Tamil, etc.). After the country's

independence in 1957, the Malay language was gradually introduced as the official

national language. English, however, remains as the second most frequently used

language in Malaysia, both academically and among the urbanized population

(Campbell, 2018; Thirusanku & Yunus, 2014). English is a compulsory subject in all

primary and secondary schools, following the education policy stated in the Razak

Report 1956 (Gaudart, 1987; Tan, 2013). The Malaysia ESL speakers have a

considerably strong ESL speaker identity instilled by the country's education system

and widespread exposure in urban, academic, work and international communication

settings. Beyond classrooms, English is actively used as a lingua franca among

Malaysians who speak different L1s and is frequently encountered in daily life for

different purposes (e.g., media content, sign boards, product labels etc.). This is

especially true for Malaysians who live in the urbanized areas such as the Klang Valley

region, where translanguaging and code-switching involving English are used as means

to establish solidarity and rapport with other speakers (Morais, 2000; Pillai & Ong,

2018). According to the Education First English Proficiency Index report (EFEPI,

2023), 113 non-English-speaking countries were ranked based on the English

proficiency of self-selected citizens, which could be grouped into very high (e.g.,

Netherlands #1), high (e.g., Poland #13), moderate (e.g., Honduras #31), low (e.g.,

Pakistan #64) and very low (e.g., Palestine #92) levels. Malaysia ESL speakers

generally have a high proficiency level in English and was ranked 25 among the 113

countries.

One notable aspect of English use in Malaysia is its diglossic nature, divided into

Standard English for official, educational, and formal contexts, and Colloquial

Malaysian English (or Manglish) for everyday conversations. This diglossia can

significantly impact language anxiety, as ESL speakers may feel comfortable using the

colloquial variety but experience heightened anxiety when required to use the standard

variety in formal or evaluative settings. Colloquial Malaysian English differs in many

ways in its syntactic, grammatical, lexical and phonological features when compared to

the Standard English varieties (Hashim, 2020; Ismail et al., 2007; Ling, 2020).

Malaysia's neighbouring country, Singapore, which shares a similar language landscape,

went as far as launching a Speak Good English Movement campaign in the early 2000s

to promote Standard English and counter Colloquial Localized English (Babcock,

2023a; Ling, 2020). Although not as proactively, for many years Malaysia has been

pursuing the same objective. This could potentially lead to a generally negative societal

attitude towards the Malaysian English variety and its speakers. This type of language

anxiety is termed "Language Attitude Anxiety" (Attanayake, 2019), and has been

observed through field observations, interviews and surveys in many post-colonial

societies (Attanayake, 2020). According to Attanayake (2019), English speakers situated

in this kind of environment tend to imagine the presence of "watchdogs" that govern

their English competence and always on the lookout for their mistakes. Low English

proficiency speakers become worried about other's perception of their language

mistakes, whereas the high English proficiency speakers become over-conscious of their

English accents to be evaluated as deviates from the "standard" English varieties.

Understanding the concept of language attitude anxiety would be helpful in explaining

the L2 anxiety phenomenon observed throughout the thesis.

　　　　The main objective of this entire thesis is to make clear the influence of and

ways to alleviate the variables that have previously been shown to have a substantial

impact on language anxiety. In chapter two, I compared the linguistic differences

between an ESL and EFL environment and investigate how the linguistic factors such as

language proficiency, self-perceived language competence and frequency of language

usage predict L2 anxiety through questionnaire surveys. In chapters 3 and 4, I

investigated how different sociolinguistic elements, for instance the perceived

competence of other interlocutors (in Chapter 3), speaker identity and perceived speech

evaluation (in Chapter 4), influence the L2 anxiety of speakers from an ESL

environment. Based on the findings, I then investigated the feasibility of a high

variability multiple accent training which simulates an ESL environment to explore its

effectiveness in alleviating L2 anxiety in Chapter 5.

　　　　By investigating L2 anxiety from a sociolinguistic stance, this thesis offers

additional insights into the dynamic nature of L2 anxiety, particularly in an ESL

environment such as Malaysia. Most past studies that investigated English challenges

faced by Malaysia ESL speakers only focused on those with low or limited English

literacy achievement (see Musa et al., 2012). The current thesis however addressed the

research gap and examined L2 anxiety among intermediate to advanced English

Malaysia ESL speakers. This should provide a holistic overview of the L2 anxiety

experienced by speakers from different proficiency level in an ESL environment.

Educators and policy makers can then make well-informed and contextualised decisions

about language education policy based on what works best in an ESL environment. The

current thesis' effort links with the United Nation's (n.d.) Sustainable Development

Goals to promote prosperity for the people now and the future generations. Hopefully,

the research conducted in this thesis could be helpful in guiding L2 speakers to confront

their anxiety of learning or using an L2 (Sustainable Development Goal 4 - promoting

quality education) and advocating the importance of World Englishes so that everyone

appreciates different English varieties (Sustainable Development Goal 10 - reducing

inequality).

CHAPTER 2: L2 ANXIETY AND ITS DYNAMIC LINGUISTIC FACTORS: A COMPARISON STUDY TO FL ANXIETY

Malaysia provides a unique ESL environment with different English-speaking exposure and experience as compared to an English L1 or an EFL environment (see Section 1.3). To explore these differences, the current chapter compared FL and L2 anxiety in an out-of-class context, mainly through the lens of dynamic linguistic factors (i.e., language proficiency, self-perceived competence and frequency of language usage). This is because these dynamic factors are more flexible and susceptible for change over time as compared to the static factors which are either stable (e.g., L1 and personality) or constantly changing (e.g., communicative situations) that people have minimal control over (Kralova & Petrova, 2017).

This chapter contained two independent studies conducted with different groups of participants sampled. The first study examined L2 anxiety phenomenon in Malaysia and how the three dynamic linguistic factors of language anxiety (i.e., L2 proficiency, self-perceived L2 competence and frequency of L2 usage) predicted L2 anxiety among Malaysia ESL speakers. The second study looked at language anxiety between Malaysia ESL speakers and China EFL speakers in relation to the same three dynamic linguistic factors, to see if these two language learning environments have different effects on the language anxiety phenomena observed. Note that this was the only study conducted with non-Malaysians in the current thesis.

2.1 Study 1: L2 anxiety of Malaysia ESL speakers

Most of the existing language anxiety research revolved around ESL speakers who are immigrants or international speakers in a predominantly English-speaking

environment (e.g., Pappamihiel, 2002; Woodrow, 2006). The pressure and anxiety these

ESL speakers face usually comes from communicating with the local English L1

speakers. It is therefore unclear to what extent these findings can be applied to ESL

speakers in countries where English is used as an L2 (rather than an L1), for instance

Malaysia. The L2 anxiety that Malaysia ESL speakers experience, in this case, could be

qualitatively different as there are more concerns related to using English as a lingua

franca between speakers of different L1s.

To provide a comprehensive understanding of the L2 anxiety experience for this

group of speakers from an ESL environment, the current study aimed to investigate how

Malaysia ESL speakers react to different anxiety-provoking ESL use scenarios through

a survey design. Many previous studies adopted FLCAS (Horwitz et al., 1986) or its

adapted versions to investigate the L2 anxiety of Malaysia ESL speakers, and the

findings showed that the speakers typically experienced a medium level of L2 anxiety

(Chin et al, 2016; Heng et al, 2012; Lim & Budin, 2014; Miskam & Saidalvi, 2019;

Wong, 2009). Although these studies provided a good preliminary idea about the L2

anxiety level of Malaysia ESL speakers, FLCAS involves measurements (e.g., test

anxiety) that are incompatible with the kind of L2 anxiety experienced in daily

communication situations. It also has limited items examining L2 anxiety arising from

authentic communication that take place in natural social interactions, which often

involves many unpredictable external factors such as a variety of interlocutors (not

limited to teachers and peers) and environmental variables (not limited to a controlled

classroom setting).

To address the limitations of FLCAS in capturing the out-of-class L2 anxiety, Anxiety Scale for Spoken Englishes as a Lingua Franca (ASSELF; Wilang & Singhasiri, 2017) was chosen to be administered in the current study. ASSELF appraises anxiety caused by using English as a lingua franca in an EFL or ESL context, with example items targeting concerns over difficult questioning, body expression, responses from other interlocutors etc. ASSELF measures L2 anxiety in contexts that are better representations of how ESL is practiced in Malaysia. Therefore, it was deemed to have better ecological validity measuring L2 anxiety over other language anxiety tools for this study. It was hypothesized that a similar medium level of L2 anxiety would be reported from the Malaysia ESL speakers.

The second aim of the current study was to investigate the relationship between Malaysia ESL speakers' English proficiency (as measured by standardised English tests and Lexical Test for Advanced Learners of English — LexTALE), self-perceived competence (as measured by a questionnaire adapted from Eslami and Fatahi, 2008), frequency of ESL usage and their language anxiety experience. Similar to what most previous studies reported for the language proficiency measure, participants were given the flexibility to report any standardized English test score/grade in the recent 10 years. The use of language scores or course grades, however, might not be as accurate as reported because of its lack of systematicity and objectivity (see Brown et al, 2018 for a review). According to Teimouri et al. (2019), more than 2/3 did not include reliability estimates for the language achievement tests reported in past studies. Essential information was also missing from the language achievement tests reported such as the descriptive statistics (e.g., mean and standard deviations), confidence interval, and the

sources of language achievement measures used (Larson-Hall & Plonsky, 2015).

Subsequently, to address these concerns, LexTALE (Lemhöfer & Broersma, 2012) was

employed to provide a quick estimate of participants' present English proficiency based

on a simple lexical test (more details can be found in Section 2.1.1). For the self-

perceived competence measure, Eslami and Fatahi's (2008) self-perceived questionnaire

was chosen because of its wide coverage of different language use scenarios in the four

language skill domains (e.g., reading, writing, speaking and listening).

Previous studies had shown that dynamic linguistic factors like language

achievement, self-perceived oral competence, and frequency of language usage were

more likely to predict EFL speakers' out-of-class language anxiety as compared to static

factors such as gender and ethnic group affiliation (e.g., Jiang & Dewaele, 2020). In

Jiang and Dewaele's (2020) study, self-perceived oral competence was the strongest

predictor of FL anxiety, accounting for 18.9% of the variance, followed by frequency of

language use (1.2%) and language achievement (0.3%). Their findings suggested that

the three dynamic linguistic factors were important in contributing to FL anxiety.

However, whether the same set of linguistic factors explains L2 anxiety remains

speculative, because inadequate language achievement, perceived language competence

and frequency of language usage may not be the primary concerns to advanced speakers

(Onwuegbuzie et al., 1999; Tóth, 2007), particularly those who have many years of

experience learning and using ESL.

To test this hypothesis, this study examined L2 anxiety in relation to the same

three dynamic linguistic factors studied in Jiang and Dewaele's (2020). Following the

trend of past FL anxiety research (e.g., Jiang and Dewaele, 2020), lower L2 anxiety was

anticipated if participants reported higher L2 proficiency, higher self-perceived L2 competence and higher frequency of L2 usage. However, smaller predictive power of the variables was expected because there might be less variance in ESL community (as compared to EFL community) due to higher English exposure contact and proficiency in general.

The two research hypotheses are summarized as below:

H1: Malaysian ESL speakers will report moderate levels of L2 anxiety on average, but with distinct qualitative differences in various L2 use scenarios.

H2: Higher ESL proficiency (as measured by past ESL achievement and LexTALE), higher self-perceived ESL competence, and higher frequency of ESL usage are expected to predict lower language anxiety of the Malaysia ESL speakers significantly.

2.1.1 Method

2.1.1.1 Participants

The inclusion criteria are (a) Malaysian, (b) English is spoken as an L2, (c) at least high school level of English education, and (d) have not stayed in any English-speaking countries for more than 1 year. This is to ensure that their English experience is limited to their home country language environment and not influenced by long term interactions with English L1 speakers (Martinsen, 2010; Thompson & Lee, 2014; Wang, 2010). According to the G power analysis, at least 53 participants were needed for a simultaneous multiple regression to be conducted with number of predictors = 4, power = .80, alpha = .05 and a medium effect size (Cohen's f^2 = .25; Jiang & Dewaele, 2020).

A total of 211 participants were recruited through convenience sampling. Out of the 211 participants, 55 were males and 156 were females, with age ranging from 17 to 58 ($M =$ 23.44, $SD = 0.40$). There were 181 Mandarin speakers, including dialects like Hokkien ($n = 9$), Hakka ($n = 1$), Cantonese ($n = 13$) and Teochew ($n = 1$), 29 Malay speakers and 1 Tamil speaker. Participants started learning ESL at a mean age of 4.87 ($SD = 2.66$).

2.1.1.2 Materials

An online questionnaire was used to measure participants' (a) L2 anxiety, (b) ESL proficiency (as estimated by past ESL achievement and LexTALE), (c) self-perceived ESL competence and (d) frequency of ESL usage. All data collected was in interval scale. Details of the instruments incorporated in the questionnaire were reported below.

L2 Anxiety. ASSELF was used to measure participants' language anxiety in various anxiety-provoking situations (Wilang & Singhasiri, 2017; see Appendix A for the list of items). It highlights three components namely interlocutor-induced difficulties (i.e., anxiety caused by reactions or difficult questioning from other interlocutors), language-processing difficulties (i.e., difficulties in decoding and comprehending words from spoken speech) and apprehension over interlocutors (i.e., worry about the proficiency, accentedness and quantity of other interlocutors). It consists of 15 items and uses a 5-point Likert scale that ranges from *not anxious at all* (1) to *extremely anxious* (5). According to Wilang and Singhasiri (2017), the final score could be computed by averaging scores across all 15 items and was categorized into not anxious (1.0–1.7), slightly anxious (1.8–2.5), moderately anxious (2.6–3.4), very

anxious (3.5–4.2), and extremely anxious (4.3–5.0). The 13 items of ASSELF showed a high reliability with Cronbach's alpha of .94 (Wilang & Singhasiri, 2017).

Past ESL Achievement. Participants were given the flexibility to report any standardized English test score in the recent 10 years. Scores and grades from various English tests were reported, for instance, the Malaysian Certificate of Education (SPM), International English Language Testing System (IELTS), General Certificate of Education (O-level or A-level), South Australian Certificate of Education (SACE), Malaysian University English Test (MUET), Unified Examination Certificate (UEC), Online Literacy and Numeracy Assessment (OLNA) and English tests from foundation programs. To systematically convert the results of these established language tests to MUET band score equivalent for standardisation purpose, an English test score conversion table was adapted from multiple sources of conversion tables for university admission (see Appendix B). This ensured that participants' English test scores were comparable on a common scale.

Lexical Test for Advanced Learners of English (LexTALE). LexTALE was employed to provide an estimate of participants' present English proficiency. LexTALE is a quick and easy online lexical test with 60 real trials that sum up to a 100% score. According to Lemhöfer and Broersma (2012), LexTALE correlated significantly with translation performance (e.g., L1-L2 and L2-L1 translation tests which were often associated to the most face-valid test of L2 vocabulary knowledge) and other thorough tests of English proficiency (e.g., TOEIC and Quick Placement Test). The significant correlations provided good evidence supporting LexTALE as a valid general English proficiency test for moderate to advanced ESL speakers (Lemhöfer & Broersma, 2012).

Self-perceived ESL Competence. An adapted survey with 12 items was used to measure self-perceived ESL competence (Eslami & Fatahi, 2008; see Appendix C for the list of items). The survey targets different language use scenarios in four language-specific skills which are speaking (e.g., "I know how to maintain a conversation with an English speaker"), reading (e.g., "I can draw inferences/conclusions from what I read in English"), writing (e.g., "I can fill in different kinds of application forms in English such as a bank account application"), and listening (e.g., "I can understand when two native English speakers talk at a normal speed"). The questions are all affirmative statements which would be rated on a 5-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5). Overall self-perceived ESL competence was computed by averaging the scores across all 12 items. The average scores for the four language-specific skills were also calculated respectively.

Frequency of ESL usage. Participants were asked to rate how often they use English in the scale of 0–100% with different groups or in different settings, such as in general, with family, with friends, with strangers, in work/academic setting and during leisure activities (also used in Clément et al., 2003; Dewaele et al., 2008; Garcia de Blakeley et al., 2017; Levine, 2003). The higher the percentage, the higher the frequency of ESL usage.

2.1.1.3 Procedure

There were four sections in the online questionnaire. In the first section, participants were asked to provide personal background information such as their age, gender, L1, age of acquisition of ESL, duration of stay in an English-speaking country (i.e., never, several days, several weeks, several months, one year and above), frequency

of ESL usage and details about the latest English test taken (i.e., year, test name and grade). In the second section, participants would rate their anxiety level in various anxiety-provoking situations by completing the ASSELF questionnaire. In the third section, participants were asked to rate how they perceived their English proficiency through the self-perceived ESL competence questionnaire. Lastly, participants had to complete the LexTALE test online and provide their final scores.

2.1.2 Results

The two research aims were addressed in the two sub-sections below: 2.1.2.1 ASSELF Components and Items and 2.1.2.2 Dynamic Linguistic Factors of L2 Anxiety. The first sub-section examined differences between ASSELF components (i.e., interlocutor-induced difficulties, language-processing difficulties and apprehension over interlocutors) to compare contributions of the ASSELF components in L2 anxiety experienced by the Malaysia ESL speakers through a one-way repeated measures ANOVA. Multiple one-sample t-tests were also conducted to investigate which item(s) of ASSELF was rated to be more anxiety-provoking than the average rating.

The second sub-section examined whether the dynamic linguistic variables (i.e., ESL proficiency, average self-perceived ESL competence, frequency of ESL usage in general) predicted L2 anxiety in a simultaneous multiple regression model. Another two simultaneous multiple regressions were conducted as follow-ups to examine how much did the specific components of self-perceived ESL competence (i.e., speaking, listening, reading, and writing) and frequency of ESL usage (i.e., at home, in academic setting, in social setting, in other places, and during leisure activities) predicted L2 anxiety. A separate linear regression was run to examine whether past ESL achievement predicted

L2 anxiety. The past ESL achievement was analysed in a separate regression model because the variability of English tests reported raised doubts about its reliability. Lastly, several ad-hoc between-subject t-tests were conducted to compare the differences in the dynamic linguistic factors (i.e., ESL proficiency as estimated by LexTALE score, self-perceived ESL competence and frequency of ESL usage) between the group of very/extremely anxious (ASSELF score > 3.5) and the group of not/less/moderate anxious (ASSELF score < 3.5) participants.

A total of 354 responses were collected but only 211 responses were included in the final analysis. Removed data included 84 incomplete responses, 13 participants who reported to speak English as L1, 32 participants who reported to have stayed abroad for more than 1 year and 14 participants with anomalous data. After cleaning the data, the internal consistency of the questionnaires used was checked through Cronbach's alpha. Both ASSELF and self-perceived ESL competence questionnaires revealed good internal reliability with Cronbach alpha returned as $\alpha = 0.91$, 95% CI [0.89, 0.93] and $\alpha = 0.93$, 95% CI [0.92, 0.94] respectively.

2.1.2.1 ASSELF Components and Items

A one-way repeated measure ANOVA was conducted to compare the L2 anxiety level between the components of ASSELF (i.e., interlocutor-induced difficulties, language-processing difficulties and apprehension over interlocutors). The assumption of sphericity had been violated as shown by Mauchly's Test of Sphericity, $\chi2(2) = 49.47$, $p < .001$, therefore statistical results with Greenhouse-Geisser correction were reported. There was a significant difference across the ASSELF components, $F(1.65, 346.89) = 26.29$, $p < .001$, $\eta_p^2 = 0.11$, 90% CI [0.063, 0.16]. Post-hoc t-tests with Bonferroni

correction revealed that interlocutor-induced difficulties factor was more anxiety-provoking than both language-processing difficulties, $t(210) = 3.89$, $p < .001$, $d = 0.24$, 95% CI [0.09, 0.40] and apprehension over interlocutors, $t(210) = 7.25$, $p < .001$, $d = 0.45$, 95% CI [0.29, 0.61]. Language-processing difficulties factor was also found more anxiety-provoking than apprehension over interlocutors, $t(210) = 3.36$, $p = .003$, $d = 0.21$, 95% CI [0.06, 0.36].

On an item-level analysis, one sample t-tests were further conducted to identify the greatest challenge among all anxiety provoking scenarios by comparing the ratings of all ASSELF items with the mean anxiety level. After Bonferroni correction, the analyses revealed that L2 anxiety level was significantly higher than the mean anxiety level ($M = 3.12$, $SD = 0.72$) when people: (a) ask a difficult question; (b) ask questions where one is not ready to answer and (c) show signs of annoyance (see Table 2 for the statistical results). The results supported that "interlocutor-induced difficulties" factor was the most anxiety provoking component as the three anxiety-provoking situations were all under "interlocutor-induced difficulties" category.

Table 2

Estimates of means and standard deviations of significant ASSELF items as compared to the mean ASSELF rating.

ASSELF items	*M*	*SD*	*t*(210)	*d*	95% CI	
					LL	UL
Q2: The interlocutor asks me a difficult question.	3.33	1.02	2.96*	0.21	0.07	0.34

Q4: The interlocutor asks me a question where I am not prepared to answer.	3.36	1.10	3.04*	0.22	0.08	0.35
Q7: The interlocutor shows some sign(s) such as facial expression to make me uncomfortable.	3.71	1.14	7.47**	0.52	0.37	0.66

Note. $*p < .01$, $**p < .001$

2.1.2.2 Dynamic Linguistic Factors of L2 Anxiety

A simultaneous multiple regression was conducted to give a broad overview of how ASSELF rating could be predicted based on (a) LexTALE score, (b) self-perceived ESL competence and (c) frequency of ESL usage in general. The pre-analysis correlation check showed significant relationships between average ASSELF rating with average self-perceived ESL competence ratings and with frequency of ESL usage in general, but not with LexTALE score (see Table 3). The simultaneous regression model was significant, $F(3, 207) = 5.97$, $p < .001$, adj. $R^2 = .07$. Both average self-perceived ESL competence ($\beta = -0.14$, $t(207) = -2.05$, $p < .05$) and frequency of ESL usage in general ($\beta = -0.21$, $t(207) = -2.94$, $p < .01$) were significant predictors of ASSELF rating in the model. LexTALE score, on the other hand, did not predict ASSELF rating significantly, $\beta = 0.02$, $t(207) = .28$, $p = .78$. Participants' final predicted L2 anxiety model was ASSELF rating = 3.90 - (0.14* self-perceived ESL competence) - (0.21*frequency of ESL usage).

Table 3

Means, standard deviations and correlations between average ASSELF rating and the three dynamic linguistic factors (i.e., average self-perceived ESL competence rating, average LexTALE score and frequency of ESL usage in general).

Variable	*M*	*SD*	1	2	3	4
1. ASSELF	3.12	0.72	—			
2. LexTALE	75.58	10.66	0.024	—		
3. Self-perceived ESL competence	3.71	0.76	- 0.20*	- 0.008	—	
4. Frequency of ESL usage in general	0.52	0.21	- 0.25**	- 0.024	0.29**	—

Note. *$p < .005$. **$p < .001$.

In a subsequent regression analysis ran with sub-components of self-perceived ESL competence (i.e., speaking, listening, reading, and writing) as the predictors, only self-perceived *speaking* competence ($\beta = -0.19$, $t(206) = -2.11$, $p = .04$) was significant in predicting ASSELF rating, $F(4, 206) = 4.27$, $p = .002$, adj. $R^2 = .06$. However, the regression model with frequency of ESL usage in specific settings (i.e., at home, in academic setting, in social setting, in other places, and during leisure activities) as predictors was not significant, $F(5, 205) = 1.63$, $p = .15$, adj. $R^2 = .02$.

Another linear regression analysis was run between past ESL achievement (converted to MUET band score equivalent) and L2 anxiety. Only 187 out of 211 responses were retained for the analysis after removing test scores that were reported

more than 10 years ago. On average, participants reported high ESL achievement (M = 5.25, SD = .076, in the range from Band 1 – 6), but the regression model was not significant in predicting ASSELF rating, $F(1, 185)$ = 1.56, p = .21, adj. R^2 = .003.

Several ad-hoc between-subject t-tests were conducted to further understand the differences in the dynamic linguistic factors between the group of very/extremely anxious (ASSELF score > 3.5; n = 62) and the group of not/less/moderate anxious (ASSELF score < 3.5; n = 149) participants. There was no significant difference in the LexTALE score between the two groups, $t(209)$ = 0.72, p = .48. d = 0.11, 95%CI [-0.19, 0.40]. However, the group of very and extremely anxious participants were found to exhibit relatively lower self-perceived ESL competence (M = 3.54, SD = 0.73), $t(209)$ = -2.13, p = .03. d = -0.32, 95%CI [-0.62, -0.02] and lower frequency of ESL usage (M = 44.10, SD = 22.11), $t(209)$ = -3.57, p < .001. d = -0.54, 95%CI [-0.84, -0.24] as compared to other participants (self-perceived ESL competence: M = 3.79, SD = 0.77; frequency of ESL usage: M = 55.00, SD = 19.36).

2.1.3 Discussion

This study set out to explore the L2 anxiety phenomenon among the Malaysia ESL speakers. The findings revealed that up to 65.88% of the Malaysia ESL participants perceived themselves as slightly or moderately anxious when using ESL. The moderate level of average ASSELF rating among Malaysia ESL speakers was in line with the past language anxiety literature that used FLCAS (Chin et al, 2016; Heng et al, 2012; Lim & Budin, 2014; Miskam & Saidalvi, 2019; Wong, 2009), which showed that out-of-class anxiety level was responded similarly as in-class anxiety level. Malaysia ESL speakers were not expected to experience severe L2 anxiety problem due to the ample

opportunities of contact with the language within their living environment. This includes

both direct contact with various English L1 and L2 speakers and indirect contact

through cultural products such as electronic and printed media. Ample exposure to

English helps to moderate speakers' language anxiety by providing more practice

opportunities that can increase their familiarity towards English use. As a result,

Malaysia ESL speakers get better at managing impromptu English use scenarios, which

could reduce the anxiety related to using ESL. Growing familiarity also helps to

diminish the unrealistic belief and expectations about using ESL, especially the idea that

it is hard to communicate fluently. In some individuals, moderate level of L2 anxiety

could be beneficial as it helps ESL learners to realize their lack of competence and

motivate them to work harder (Lim & Budin, 2014). Nevertheless, even with the early

bilingualism national policy and an environment that encourages ESL practice, quite a

proportion of Malaysia ESL speakers (29.38% of the current study's participants)

reported being very and extremely anxious when using ESL, calling attention to the

prominence of L2 anxiety phenomenon. This group of very and extremely anxious

participants were found to exhibit relatively lower self-perceived ESL competence and

lower frequency of ESL usage as compared to other participants (see Section 2.1.2.2).

The findings suggested that L2 anxiety is something worthy of attention as it is not

diminished due to high exposure contact in an ESL context.

  From the ASSELF questionnaire, situations related to "interlocuter-based

difficulties" (e.g., when other people showed signs of annoyance or asked difficult

questions that the participants were not ready to answer) were rated to be more

distressing than situations related to "apprehension over interlocutors" (e.g., other

interlocutors being more intimidating with high proficiency and accents from English as

L1 countries) and "language processing difficulties" (e.g., incomprehensible accents,

words and sentences). Anxiety due to "interlocutor-induced difficulties" could be

attributed to the perceived difficulties conversing in an L2. The unanticipated

conversational difficulties induced by interlocutors can result in delays in responding

fluently and so leave an impression of incompetency. L2 speakers in this situation could

then develop a fear of negative evaluation, for instance, giving unfavourable

impressions, having grammatical mistakes pointed out, etc. (see Aydin, 2008; Darmi &

Albion, 2012; Hashim & Isa, 2012; Lim & Budin, 2014; Rashid & Alias, 2018). This

fear of negative evaluation could further be exacerbated by high expectations imposed

on themselves. As a result, pressure to perform decently with minimal mistakes triggers

one's L2 anxiety.

On the other hand, Malaysia ESL participants' anxiety was less affected by

"language decoding difficulties" and "apprehension over interlocutors" components.

The findings seemed to suggest that L2 anxiety of ESL speakers from an ESL

environment differs from an English L1 environment (e.g., Pappamihiel, 2002;

Woodrow, 2006), as the largest source of L2 anxiety for the ESL speakers from an ESL

environment might not necessarily be communicating with the local English L1

speakers (which fell under the "apprehension over interlocutors" component in

ASSELF). However, this would require further comparison with speakers from an

English L1 environment using the same ASSELF questionnaire to justify the hypothesis.

The current study also investigated how much did the dynamic linguistic

variables (i.e., language proficiency, self-perceived competence and frequency of ESL

usage) predict L2 anxiety. Together, they accounted for 7% of the variance in the model.

The variance explained was considered small when referring to similar multiple

regression analyses reported in past FL anxiety literature (e.g., Dewaele & Al-Saraj,

2015; Jiang & Dewaele, 2020; Luo, 2018; Onwuegbuzie et al, 1999; Tóth, 2007). One

reason could be that greater amount of variance explained in other past studies is due to

the inclusion of more predictors in their model, such as age of English acquisition, L2

aptitude, L2 motivation, and personality traits (e.g., perfectionism, extraversion,

emotional stability etc.). These variables were not included in the current study,

however, because some are not dynamic factors (e.g., personality traits) which were the

main scope of the current study. There are also large individual differences in these

variables that could not be held accountable by the different English-speaking

environments. Another reason could be that linguistic variables related to language

competence and language use experience (i.e., inadequate language achievement,

perceived L2 competence and frequency of language usage) might not be the primary

concerns for the participants in the current study. Several studies had proposed language

anxiety to be a phenomenon that is more related to identity-based rather than

competence-based constructs (Jiang & Dewaele, 2020; Stroud & Wee, 2006). In this

case, other extra-linguistic factors such as internal belief, attitude and competitiveness

might better determine the level and nature of individual language anxiety (Donate,

2021; Tóth, 2007).

Only self-perceived ESL competence and frequency of ESL usage predicted L2

anxiety significantly in the multiple regression analysis. Self-perceived competence is

often acknowledged as one of the most impactful factors of FL/L2 anxiety, which was

found to account for up to 18% to 42% of FL/L2 anxiety variance (Garcia de Blakeley, 2017; Onwuegbuzie et al, 1999; Tóth, 2007). Among all the sub-components of self-perceived competence (i.e., speaking, listening, reading, and writing), self-perceived *speaking* competence was the only one that significantly predicted L2 anxiety in the current study. Past literature has consistently shown a significant negative relationship between FL/L2 anxiety and self-perceived speaking ability (Kitano, 2001; Liu & Chen, 2013; MacIntyre et al., 1997), whereby the less confident FL/L2 speakers were in their speaking ability, the more anxious they would feel using the language. The confidence to speak well affects how anxious one might feel in a reciprocal conversation where verbal exchanges and interactions are involved. Instant information processing and formulation of appropriate responses in a less familiar L2 can be cognitively demanding and challenging for the L2 speakers (refer to the attentional control theory by Eysenck et al., 2007 in Section 1.1). From auditory perception, phonetic and meaning decoding, to producing appropriate verbal responses in sentences with the right vocabulary choices, these processes require substantial amount of cognitive energy to balance between conveying right intention in an L2 and suppressing the activation of L1 network. Yet, these cognitive tasks are essential for effective conversation. L2 anxiety kicks in when one becomes less confident with his or her L2 speaking capability, especially when the perceived danger (e.g., humiliation for making an error) outweighs the potential benefits (e.g., successful conversation; Gregersen & Horwitz, 2002; Horwitz et al., 1986; Liu, 2018) in an L2 communication. All in all, the result was in sync with past findings about speaking being rated as the most anxiety-provoking compared to other language specific skills (Cheng et al., 1999; Horwitz, et al, 1986; Lindenau, 1987).

Another significant predictor of L2 anxiety was the frequency of ESL usage in general. The more frequent one uses an L2, the lower the associated L2 anxiety because one gets to practise and become familiar with the possible scenarios that might occur during an L2 conversation. Nevertheless, after breaking down frequency of ESL usage into specific components (i.e., with family, friends, strangers, in academic/work setting and during leisure activities), each of them did not predict L2 anxiety significantly. This could be due to the reason that frequency of ESL usage in general is more representative of a multilingual's everyday English usage. When looking at the settings individually, they were not good indices that reflected the overall English use and experience of the Malaysia ESL speakers in everyday life, because they were too polarised for individual settings. For instance, the participants, who were mostly university students or working adults, tended to report higher English usage in the academic/work setting due to the use of English as the medium of instruction or function ($M = 77.47$, $SD = 21.25$). On the contrary, they tended to employ their respective L1s and used less frequency of English when interacting with their family ($M = 23.59$, $SD = 22.79$) or friends ($M = 47.09$, $SD = 25.22$). These measures alone did not reflect the actual English usage in daily life, especially for the Malaysia ESL speakers who often practise code-switching (e.g., ESL spoken interchangeably with other languages) during conversations (Pillai & Ong, 2018).

Surprisingly, ESL proficiency (measured in standardised English test scores and LexTALE score) was not a significant predictor of L2 anxiety, which was contrary to most past studies (Ewald, 2007; Kitano, 2001; Liu, 2016; MacIntyre & Gardner, 1991b, 1994; MacIntyre et al., 1997; Steinberg & Horwitz, 1986). This could be attributed to

how the standardised English test scores were acquired and compared in the current study. Using final grades of various English tests as a measure of ESL proficiency could bring in a lot of variability in terms of their test formats, assessment criteria and evaluation benchmark. Although the different test scores had been converted to comparable MUET test scores based on English Language Equivalencies from multiple sources (see Appendix B), much of the variance was reduced or lost during the conversion process. For instance, the MUET scores ($M = 5.25$, $SD = .076$, in the range from Band 1 – 6) has a much more restricted range compared to a typical high school exam paper that is scored from 0% to 100%. Furthermore, 63.1% of the ESL achievement reported were SPM which did not assess speaking and listening performance in the final grading, although most of the ASSELF items measured L2 anxiety in conversational setting. It would be more accurate to predict levels of L2 anxiety in ASSELF using speaking and listening test scores of the standardised English tests.

The lack of predictive power was also observed even when an objective English proficiency test (i.e., LexTALE) was administered equally to all participants and was comparable on an equal footing. Mature Malaysia ESL speakers are expected to have developed decent L2 proficiency level. If the assumption is true, less variance is expected in the speakers' language proficiency as compared to beginner learners, thus making their objective language proficiency level a poor predictor of their L2 anxiety. The results were consistent with those of Tóth's (2007) and Onwuegbuzie et al.'s (1999) studies, which likewise discovered that L2 proficiency explained a small variance (<1.27%) in L2 anxiety for speakers with excellent academic L2 achievement. Instead of

the objectively measured competence, self-perceived competence might have more influence on anxiety, as L2 speakers with low self-perceived competence suffered from greater L2 anxiety despite performing better in objective language tests (also see Gardner, et al, 1987; Kraemer & Zisenwine, 1989; MacIntyre et al., 1997).

In summary, the current results showed that Malaysia ESL speakers were moderately anxious on average with quite a proportion of them feeling very and extremely anxious. They were more anxious when they perceived themselves as less competent ESL speakers and used ESL less frequently. The results provided some general ideas about how some dynamic linguistic variables could contribute to the L2 anxiety phenomenon in Malaysia. However, it was difficult to evaluate the magnitude and characteristics of this unique language anxiety phenomenon observed when it was being investigated in just one single context (i.e., Malaysia ESL environment). Comparison between the L2 anxiety phenomenon observed in this study with FL anxiety from other past studies was also inappropriate because most past FL anxiety research was investigated in the classroom setting. As a follow-up, the same questionnaire study was replicated to allow comparison of language anxiety and its linguistic factors between speakers from EFL and ESL environments.

2.2 Study 2: Comparison with Speakers from an EFL Environment (e.g., China)

When conducting comparative studies, it is essential to ensure that the compared group are reasonably similar in all relevant characteristics (such as age of English acquisition, self-perceived English competence, frequency of English usage, and language proficiency), if the purpose is to attribute any observed differences in language anxiety of the speakers to their immediate environment. However, this is unrealistic as

many studies had suggested that both EFL and ESL environments provide different language use experience and motivation to the speakers (see Section 1.3 Research Rationale), which could be hard to control in a matched-comparison study. After careful consideration, I decided to target students who speak Mandarin or other Chinese dialects as their L1, similar to Study 1 whereby most participants were Malaysian Chinese (which would be termed as Malaysia ESL speakers). I also decided to target students studying in the same English medium of instruction (EMI) institution to control for speakers' English academic exposure. The recruitment criteria were carefully selected to reduce any potential confounding variables while comparing language anxiety of speakers between ESL and EFL environments, such as speakers' L1 interference and English academic exposure. As a result, the current study collected similar data of students from China as the representatives of speakers who have learnt the English language in an EFL environment (which would be termed as China EFL speakers henceforth).

In China, most Chinese speak Standard Mandarin (also known as Putonghua) or one of its regional languages/dialects (e.g., Wu, Cantonese, Min etc.) as their L1 (Barnes, 1978). The status of English became more important when the Chinese government came out with new educational policies to meet the needs of the country's economic reform and opening in the late 1970s (Wang, 2007). Currently, learning the English language is compulsory for every Chinese student starting from Grade 3 (approximately at age 8) and it becomes one of the main subjects tested in the national college entrance exam (also known as Gaokao). The journey of EFL acquisition does not stop at the high school level; university students are also required to pass the College

English Test Band 4 (CET-4) as one of the requirements to graduate from university. Despite the growing promotion of English learning, Mandarin remains as the common language used in the country whereas English use in daily life communication is rare in comparison. China was ranked 82 among 113 countries and was regarded as a moderate English proficiency country in the EFEPI report (2023).

Not many studies had made an explicit comparison of language anxiety between an EFL and ESL environment as the terms "FL" and "L2" were often treated the same and used interchangeably (see Section 1.3). One of the studies that touched on the difference in language anxiety between an EFL and ESL environment was by Wilang and Singhasiri (2017). According to them, the anxiety level rated by Thai students (who were treated as EFL speakers) was higher than the group of foreign students (composed of a mixture of EFL and ESL speakers from different places) when using English outside of classroom, especially in the factor of apprehension about interlocutor. Their findings also showed that the EFL students tended to be more anxious in conversations involving proficient/native-accented speakers or more than two interlocutors, because English is not widely used or recognized in the EFL country (Wilang & Singhasiri, 2017). A related study by Zulkifli (2007) compared the classroom language anxiety between China EFL speakers and Malaysia ESL speakers studying in Malaysia. Despite the small sample size, he found that China EFL speakers reported greater anxiety level than the Malaysia ESL speakers due to fear of negative evaluation. The China EFL speakers were more anxious about the negative evaluation by the local peers and teachers, possibly because they perceived greater pressure to integrate and accommodate to the unfamiliar English environment (e.g., getting accustomed to the unfamiliar

English variety spoken there which could affect effective communication). These studies indicated the importance of English use environment in shaping one's language anxiety. They also seemed to suggest that the language anxiety level of speakers from an EFL environment was higher than those from an ESL environment.

Extending on their research, the primary aim of this study was to investigate how speakers from an EFL (i.e., China) and an ESL (i.e., Malaysia) academic environment would rate their anxiety in different anxiety-provoking scenarios as described by ASSELF (Wilang & Singhasiri, 2017). It was hypothesized that speakers from an EFL academic environment (i.e., China EFL speakers) would experience higher anxiety level than speakers from an ESL academic environment (i.e., Malaysia ESL speakers), because EFL speakers were assumed to have less access and exposure to the target language in their immediate environment.

Participants' English proficiency (as estimated by LexTALE), self-perceived English competence, and frequency of English usage were also collected to investigate the fundamental differences in English experience between Malaysia ESL speakers and China EFL speakers. It was hypothesized that Malaysia ESL speakers would have higher English proficiency, self-perceived English competence, and frequency of English usage as compared to China EFL speakers, given the more accessible learning and language use opportunities in their immediate living environment. The current study also examined how these linguistic variables contributed to participants' language anxiety, and whether the impact of these linguistic factors differed between the two groups.

The three research hypotheses are summarised as below:

H1. Malaysia ESL speakers will report higher English proficiency, self-perceived English competence, and frequency of English usage than the China EFL speakers.

H2. Malaysia ESL speakers will report lower language anxiety level than the China EFL speakers.

H3. English proficiency, self-perceived English competence, and frequency of English usage will predict language anxiety of China EFL and Malaysia ESL speakers differently.

2.2.1 Method

2.2.1.1 Participants

The inclusion criteria are (a) Chinese languages as L1, (b) English spoken as an FL/L2, (c) university student from an EMI institution, and (d) have not stayed in any English-speaking countries for more than 1 year. According to the G power analysis, at least 118 participants were needed for a two-ways mixed ANOVA to be conducted with power = .80, alpha = .05, numerator = 2, number of groups = 6, and a medium effect size (Cohen's f = .29 based on Wilang and Singhasiri, 2017). The current study recruited a total of 203 participants (for their demographic information, see Table 4). All participants had received at least 10 years (11 for Malaysia ESL speakers) of compulsory English education before advancing to their tertiary education. All admitted students met the English requirement of the University of Nottingham with at least an IELTS band score of 6.0 with no less than 5.5 in speaking, listening, reading and writing. This indicated that the participants were at least *competent* English users, according to the IELTS (n.d.) band score description.

Table 4

Descriptive information about participant's number, mean age, gender, L1 medium of instruction in each schooling stages between Malaysia ESL and China EFL speakers (number in brackets).

Country	Malaysia (100)	China (103)
Age	19.91 ($SD = 2.23$)	20.13 ($SD = 0.85$)
Gender	29 males, 71 females	20 males, 83 females
L1	Mandarin (90), Cantonese (8), Hokkien (1), Hakka (1)	Mandarin (97), Cantonese (2), Chongqingnese (1), Gan (1), Sichuanese (1), Huzhouese (1)
Medium of instruction in different stages of schooling	Preschool: Mandarin (48), English (50), Cantonese (1), blank (1) Primary school: Mandarin (87), English (10), Malay (3) Middle school: Mandarin (29), English (50), Malay (21)	Preschool: Mandarin (98), English (2), Cantonese (2), blank (1) Primary school: Mandarin (100), English (1), Cantonese (1), Blank (1) Middle school: Mandarin (94), English (9)

Information regarding the participants' medium of instruction at each stage of their education was also collected in the current study to provide additional details about

participants' English academic experience for further comparison (see Table 4). Most of

the China EFL speakers had attended preschools (95.15%), primary schools (97.09%)

and middle schools (91.26%) that used Mandarin as the medium of instruction. In

contrast, Malaysia ESL speakers had attended schools that were more diverse in terms

of the language used as the medium of instruction. About half of them went to English-

medium preschools (50%) and switched to Mandarin-medium primary schools (87%)

later on. Diversity of language medium was the greatest for middle school students in

Malaysia, with different proportions of students attending English (50%), Mandarin

(29%) and Malay-medium (21%) middle schools.

2.2.1.2 Materials

The questionnaire used in the current study was similar to Study 1. It comprised

of four sections, including the language background questionnaire, ASSELF

questionnaire, self-perceived English competence questionnaire and LexTALE. In

addition to all the information acquired in Study 1, participants were also asked for the

number of languages known, medium of instruction in different stages of schooling (i.e.,

preschool, primary school and middle school) and an open question to describe their

unique English learning experience, if there was any. These new questions were added

to allow a more comprehensive understanding of participants' English experience

between EFL and ESL academic environments. The participants' standardized English

test scores were not collected because of the limitations of achievement measures as

discussed in Study 1 (also see Brown et al, 2018; Larson-Hall & Plonsky, 2015). There

was no reliable conversion reference to compare the English test scores/grades between

the two countries or two different education systems as well.

2.2.2 Results

There were two sub-sections: 2.2.2.1 Differences between Malaysia ESL and China EFL Speakers and 2.2.2.2 Dynamic Linguistic Factors of Language Anxiety. The first sub-section compared the differences in age of English acquisition, LexTALE score, self-perceived English competence and frequency of English usage in general between Malaysia ESL and China EFL speakers through independent sample t-tests. A two-way 2×3 mixed-design ANOVA was later conducted to compare the language anxiety level between the two groups of speakers across three ASSELF components (i.e., interlocutor-induced difficulties, language-decoding difficulties, and apprehension over interlocutors). The second sub-section investigated how the dynamic linguistic variables (i.e., English proficiency, average self-perceived English competence frequency of English usage in general) predicted L2 anxiety through three simultaneous multiple regression models for all participants, Malaysia ESL speakers only and China EFL speakers only.

A total of 239 responses were collected but only 203 responses were included in the final analysis. Data were removed from 24 participants who did not complete the questionnaire and from 12 participants who had anomalous data. Before conducting the main analyses, the internal reliability of the questionnaires used was examined through Cronbach's alpha. Both ASSELF and self-perceived English competence questionnaires revealed good internal reliability with $\alpha = 0.90$, 95% CI [0.87, 0.92] and $\alpha = 0.91$, 95% CI [0.89, 0.92] respectively.

2.2.2.1 Differences between Malaysia ESL and China EFL Speakers

Several independent sample t-tests revealed an earlier age of English acquisition, higher LexTALE score, higher self-perceived English competence and higher frequency of English usage in Malaysia ESL speakers compared to China EFL speakers (see Table 5). Further analyses showed that Malaysia ESL speakers reported significantly higher self-perceived English competence in all four language specific skills (i.e., reading, writing, listening and speaking; see Table 6) and higher frequency of English usage in all different settings (i.e., at home, at school, with friends, family and strangers; see Table 7) than the China EFL speakers.

Table 5

Comparisons of average age of English acquisition, LexTALE score, average self-perceived English competence rating and frequency of English usage in general between Malaysia ESL and China EFL speakers.

	Malaysia		China		$t(201)$	d	95% CI	
	M	*SD*	*M*	*SD*			LL	UL
AoA	5.31	2.05	7.18	2.12	- 6.37**	- 0.89	-1.18	-0.61
LexTALE	80.77	11.85	65.18	10.79	9.81**	1.38	1.07	1.68
SPC	4.03	0.58	3.47	0.61	6.65**	0.93	0.64	1.22
FOU	0.59	0.21	0.50	0.18	3.15*	0.44	0.16	0.72

Note. AoA = Age of English acquisition; SPC = Self-perceived English competence; FOU = Frequency of English usage.

p < .01. **p* < .001.

Table 6

Comparison of self-perceived language specific skills between Malaysia ESL and China

EFL speakers.

	Malaysia		China		$t(201)$	d	95% CI	
	M	*SD*	*M*	*SD*			LL	UL
Speaking	3.93	0.71	3.46	0.82	4.32**	0.61	0.32	0.89
Listening	4.19	0.64	3.40	0.76	8.00**	1.12	0.83	1.42
Reading	4.01	0.73	3.62	0.76	4.22**	0.59	0.31	0.87
Writing	3.99	0.66	3.41	0.74	5.84**	0.82	0.53	1.11

$**p < .001.$

Table 7

Comparison of frequency of English usage between Malaysia ESL and China EFL

speakers.

	Malaysia		China		$t(201)$	d	95% CI	
	M	*SD*	*M*	*SD*			LL	UL
Home	0.32	0.26	0.10	0.13	7.59**	1.07	0.77	1.36
Friends	0.58	0.23	0.25	0.17	11.58**	1.63	1.31	1.94
School	0.87	0.15	0.80	0.19	2.95*	0.41	0.14	0.69
Strangers	0.58	0.27	0.13	0.15	15.22**	2.14	1.79	2.48
Leisure	0.67	0.27	0.39	0.24	7.64**	1.07	0.78	1.37

$*p < .01. **p < .001.$

A two-way 2×3 mixed-design ANOVA was later conducted to compare language anxiety level between Malaysia ESL and China EFL speakers across the three components in ASSELF (i.e., interlocutor-induced difficulties, language-decoding difficulties, and apprehension over interlocutors). There was no significant difference in the average ASSELF rating between Malaysia ESL and China EFL speakers, $F(1, 201)$ = 1.05, p = .31, η_p^2 = 0.005, 90% CI [0, 0.034]. There was, however, a significant difference across the ASSELF components after Greenhouse-Geisser correction, $F(1.80, 361.65)$ = 140.40, $p < .001$, η_p^2 = 0.41, 90% CI [0.35, 0.46]. The Bonferroni-corrected post-hoc t-tests showed that on average, all participants rated interlocutor-induced difficulties to be more anxiety-provoking than language decoding difficulties, $t(202)$ = 6.18, $p < .001$, d = 0.39, 95% CI [0.23, 0.56] and apprehension over interlocutors, $t(202)$ = 16.58, $p < .001$, d = 1.06, 95% CI [0.86, 1.26]. Participants also rated language-decoding difficulties to be significantly more anxiety-provoking than apprehension over interlocutors, $t(202)$ = 10.40, $p < .001$, d = 0.66, 95% CI [0.49, 0.84].

The ANOVA analysis further revealed a significant interaction effect between ASSELF components and speaker groups, $F(1.80, 361.65)$ = 8.23, $p < .001$, η_p^2 = 0.04, 90% CI [0.01, 0.08]. When comparing ASSELF components for both Malaysia ESL and China EFL speaker groups, interlocutor-induced difficulties were rated to be the most anxiety-provoking, followed by language decoding difficulties and lastly apprehension over interlocutors (ps < .001). When comparing speaker groups for each ASSELF component, there was no significant difference between Malaysia ESL and China EFL speakers in language-processing difficulties (p = 1.00) and apprehension over interlocutor (p = 1.00) components (see Figure 1). However, the Malaysia ESL speakers

reported higher anxiety rating for the apprehension over interlocutor component as compared to the China EFL speakers (see Figure 1), $t(201) = 2.99$, $p = .045$, $d = 0.42$, 95% CI [0.0003, 0.84]. In particular, the Malaysia ESL speakers found speaking to a proficient English speaker, $t(201) = 2.16$, $p = .032$, $d = 0.3$, 95% CI [0.026, 0.58] and an interlocutor with a native-like accent, $t(201) = 2.80$, $p = .006$, $d = 0.39$, 95% CI [0.12, 0.67] to be more anxiety-provoking than the China EFL speakers (see Appendix D for the mean scores of each ASSELF items).

Figure 1

Interaction effect between ASSELF components and speaker groups.
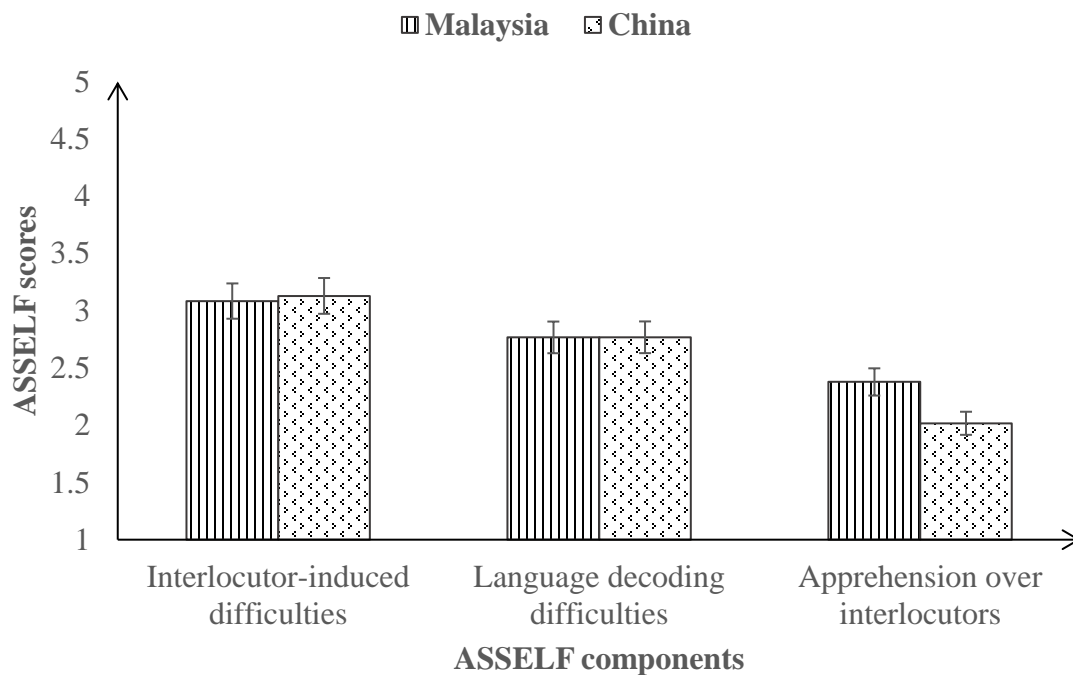
2.2.2.2 Dynamic Linguistic Factors of Language Anxiety

Before conducting the main regression analyses, a pre-analysis check showed significant correlations between average ASSELF rating with average self-perceived English competence rating and with frequency of English usage in general, but not

between average ASSELF rating and LexTALE score (see Table 8). This pattern was

consistent with the correlational results from Study 1 (see Table 3).

Table 8

Means, standard deviations and correlations between average ASSELF rating and the

three dynamic linguistic factors (i.e., average LexTALE score, average self-perceived

English competence rating and frequency of English usage in general).

Variable	*M*	*SD*	1	2	3	4
1. ASSELF	2.81	0.72	—			
2. LexTALE	72.86	13.74	- 0.10	—		
3. Self-perceived English competence	3.75	0.66	- 0.32**	0.53**	—	
4. Frequency of English usage in general	0.55	0.20	- 0.18*	0.28**	0.40**	—

*$p < .05$, **$p < .001$.

Three simultaneous multiple regressions were conducted to examine how

English proficiency, self-perceived English competence, and frequency of English usage

predicted language anxiety of all participants, Malaysia ESL speakers only and China

EFL speakers only. To represent the categorical variable of speaker groups in a multiple

regression analysis, China was dummy-coded as the value 0 and Malaysia was dummy-

coded as the value 1. The independent variables included (a) dummy-coded speaker

groups, (b) LexTALE score, (c) average self-perceived English competence rating and (d) frequency of English usage in general, whereas the dependent variable was the average ASSELF rating. Overall, only dummy-coded speaker groups and self-perceived English competence were significant in predicting language anxiety. Similar patterns and predictors were observed when separate multiple regression analyses were conducted for Malaysia ESL and China EFL speaker groups too (see Table 9).

Table 9

Multiple regression analyses for all participants, Malaysia ESL speakers only and China EFL speakers only.

	B	β	t	p	F	df	p	Adj. R^2
All participants (N = 203)								
Overall model					8.34	4, 198	< .001	0.13
Intercept	4.36							
FOU	-0.26	-0.07	-1.01	0.31				
SPC	-0.42	-0.39	-4.67	< .001				
LexTALE	$2.23e^{-4}$	0.004	0.05	0.96				
Group [a]	0.30	0.21	2.62	0.009				
Malaysia ESL speakers only (n = 100)								
Overall model					8.20	3, 96	< .001	0.18
Intercept	5.19							
FOU	-0.43	-0.12	-1.07	0.29				
SPC	-0.50	-0.38	-3.23	0.002				

LexTALE	$-4.19e^{-4}$	-0.006	-0.06	0.95

China EFL speakers only (n = 103)

Overall model					3.41	3, 99	0.02	0.07
Intercept	3.82							
FOU	0.07	0.02	0.18	0.85				
SPC	-0.34	-0.32	-3.10	0.002				
LexTALE	0.002	0.03	0.31	0.75				

Note. SPC = Self-perceived English competence; FOU = Frequency of English usage in general.

[a] Dummy-coded speaker groups: 0 = China, 1 = Malaysia

In general, participants with higher self-perceived English competence tended to report lower language anxiety. Similar to Study 1, further analysis that involved self-perceived English speaking, listening, reading, and writing competence as explanatory variables revealed self-perceived speaking competence (β = -0.31, $t(198)$ = -3.21, p = .002) to be the sole predictor of language anxiety, $F(4, 198)$ = 7.27, $p < .001$, adj. R^2 = .11. Surprisingly, frequency of English usage in general was not a significant predictor of language anxiety in the current study, contrary to what was found in Study 1. When another simultaneous multiple regression was run involving frequency of English usage in various settings (i.e., at home, in academic setting, in social setting, in other places, and during leisure activities) as explanatory variables, the model was not significant, $F(5, 197)$ = 2.19, p = .06, adj. R^2 = .03.

2.2.3 Discussion

This study set out to examine language anxiety and the dynamic factors contributing to it among students from the Malaysia and China campuses of an EMI university. As expected, the Malaysia ESL speakers reported higher English proficiency as measured by LexTALE, higher self-perceived English competence rating, as well as higher frequency of English usage compared to the China EFL speakers. These differences are meaningful, considering that all participants speak Chinese languages as their L1s, and studied in the same type of EMI academic setting. This allows the differences observed in their language anxiety to be attributed to their English environment and experience with greater confidence.

It is not surprising that the Malaysia ESL speakers reported higher English proficiency (as estimated by LexTALE) and higher self-perceived English competence than the China EFL speakers, given that English is more commonly used in Malaysia as a learning medium in schools, to fill in official documents, and as a lingua franca for daily interactions, especially in the urban areas (Campbell, 2018; Thirusanku & Yunus, 2014). The Malaysia ESL speakers reported using English more frequently in all settings examined, such as at home, with strangers, with friends, and during leisure activities, compared to the China EFL speakers. Although their L1 was Mandarin, the Malaysia ESL speakers still reported using English around 32% of the time spent at home. In contrast, because English is not a commonly used language in China, the China EFL speakers' exposure to the language was more limited to passive listening in classes or through self-sought entertainment such as English TV shows and songs. As shown in Table 7, the highest averages for daily English usage of the China EFL

speakers were at school ($M = 80\%$, $SD = 19\%$) and for leisure activities ($M = 39\%$, $SD = 24\%$). Overall, their English usage was far less frequent than the Malaysia ESL speakers in all different settings (see Table 7). These results confirmed the expected differences in English ability and experience between English speakers from EFL and ESL environments, which further supported the need to study whether differences exist between L2 and FL anxiety.

There was no significant difference in the average language anxiety level between Malaysia and China speaker groups. Most of the participants (71.43%) in both speaker groups reported being slightly or moderately anxious in the range of 1.8–3.4 of ASSELF rating when using English in an out-of-class context (based on the classification set by Wilang & Singhasiri, 2017). Interestingly, while Wilang and Singhasiri (2017) found language-decoding difficulties (i.e., difficulties in decoding and comprehending words from spoken speech) to be the most anxiety-provoking factor, participants in the current study rated interlocutor-induced difficulties (i.e., difficult reactions or questioning from other interlocutors) to be the most anxiety-provoking factor, followed by language-decoding difficulties and lastly apprehension over interlocutors (i.e., worry about the proficiency, accentedness and quantity of other interlocutors). As participants in the current study were moderate to advanced English speakers who were studying at an international EMI university, they presumably had ample opportunity to interact with proficient English speakers (e.g., international classmates and lecturers) with different accents on a daily basis. Therefore, they were expected to have more practice with decoding accented speech and were less

apprehensive over various conversation situations determined by the characteristics of the interlocutor(s) involved.

One unexpected and interesting result of the study is that even with their advantages, such as higher English exposure and higher proficiency in general (as suggested by self-rated proficiency and LexTALE score), Malaysia ESL speakers reported higher anxiety level than the China EFL speakers if the other interlocutor was a proficient English speaker or spoke with a native accent. This unexpected result could possibly be explained by the differences in sociolinguistic attitude and expectation between Malaysia and China.

Many deem the use of Colloquial Malaysian English as not suitable for international communication (Ismail et al., 2007; Lin et al., 2018; Shibata, 2021). This could be true for the participants in this study, who were composed of mainly Malaysian Chinese from backgrounds affluent enough to permit them to study at an EMI university. Fearing such negative evaluation of their spoken English, Malaysia ESL speakers might experience language attitude anxiety (Attanayake, 2019, see Section 1.3) with higher pressure to perform, especially when they have to interact with people who speak standard English or appear to have higher English proficiency. Proficient Standard English speakers could be seen to be more intimidating because they are not only able to spot language mistakes, but also because their spoken English contrasts with the dialectal variation of common ESL speakers. They are often seen as the watchdogs of correct English and are given higher prestige and status. Proficient Standard English speakers in Malaysia are also more likely to be of a higher socio-economic status and to

live in the urbanized areas of the country (Pillai & Ong, 2018), which is a further potential cause of inferiority and anxiety in the Malaysia ESL speakers.

In contrast, the use of English in daily life is relatively rare among the China Chinese because Mandarin remains the only common language (Bolton & Graddol, 2012; Wei & Su, 2015; Yang, 2006). This was supported by the current findings which showed that the English use experience of the China EFL speakers was mostly limited to classroom settings (see Table 7). China EFL speakers are more likely to assume that their English communication outside the classroom only occurs with international interlocutors (e.g., foreign tourists etc.) who do not speak Mandarin. Thus, the scenarios in which the other interlocutor is a proficient English speaker or speaks with a native-like accent might not have been considered unexpected or unusual by the China EFL speakers, and therefore might not be perceived as equally anxiety-provoking as how they could be to the Malaysia ESL speakers. This speculation, however, remains to be tested and could be explored in future follow-up studies by investigating the attitudes of Chinese EFL speakers towards English use in their living environment.

Among the dynamic linguistic factors, self-perceived ESL competence (particularly in speaking) was the only significant variable that predicted language anxiety. The same finding was replicated for speaker groups from both EFL and ESL environment, suggesting the prevalence of self-perceived competence in language anxiety. The significant result of self-perceived language competence (rather than actual language competence) in predicting language anxiety suggested that language anxiety is mostly influenced by one's perception of their own ability instead of their actual level of language skill. While past studies had shown that anxious speakers tend to form a "self-

derogation" bias leading to lower self-perceived competence judgment (Gardner, et al,

1987; Kraemer & Zisenwine, 1989; MacIntyre et al., 1997), it is important to note that

the relationship between self-perceived competence and language anxiety is

bidirectional, as shown in the current study. Therefore, it could be a good strategy for

future language anxiety interventions to target on enhancing one's self-perceived FL/L2

competence so that they feel less anxious when using an FL/L2 outside of the classroom

setting.

Similar to Study 1, language proficiency (as estimated by LexTALE score) was

not a significant predictor of language anxiety. The influence of language proficiency on

participants' language anxiety was limited, probably because participants in the present

study had a relatively restricted range of English proficiency from middle to high level

(LexTALE mean score = 72.86, SD = 13.74, in the range of 43.75% – 98.75%). The

relatively high English proficiency of participants was expected given that they were all

recruited from an EMI tertiary institution which required certain level of English

proficiency to be admitted. When examining language anxiety among proficient

speakers, Tóth (2008) found that English major students with high English proficiency

reported similar language anxiety as the FL introductory course students who had a

wider variability of language proficiency, but higher language anxiety than non-English

major students who had relatively lower English proficiency. The greater anxiety

reported by this study's proficient English-major students than their less proficient, non-

English-major peers was attributed to their greater pressure to meet the demands of their

English classes. Tóth (2008) concluded by suggesting that there were factors other than

language proficiency, such as English learning environment, that were better

explanations behind the variance in language anxiety among proficient speakers. This argument was supported by Pappamihiel's (2002) study in which she noticed that the effect of language proficiency on language anxiety was only discernible in low L2 immersion environments (e.g., ESL classroom where English is taught as an L2) and not high L2 immersion environments (e.g., mainstream classroom where English is used as the main medium of instruction). That being said, improving language proficiency might not be a straightforward way to reduce language anxiety particularly for proficient speakers who live in a highly immersive English learning environment (e.g., studying in an EMI institution).

The last dynamic factor of the regression model (i.e., frequency of English usage in general) was also not a significant predictor of language anxiety, and this result was different from what was found in Study 1. In Study 1, the frequency of English usage in general was more representative of the participants' everyday English usage as they came from different academic and language backgrounds, recruited through convenience sampling with a mixture of students and working adults. With recruitment in a controlled academic setting employed by the current study, the frequency of English usage in general might show less variability to explain the variance in language anxiety. For instance, they could report higher frequency of English usage in general as they were required to complete academic tasks (e.g., assignments and projects) using English most of the time, even though the frequency of English usage in these occasions did not necessarily reflect how efficient they practise using English for communication purposes. The frequency of ESL usage in general became less predictive of the language

anxiety when the sample recruitment was restricted to the academic EMI context, yielding a different outcome from Study 1.

The impact of these linguistic factors is also very likely to differ across different socio-demographic groups due to the different sociolinguistic expectations in the immediate environment. For instance, the dynamic linguistic variables seemed to have predicted language anxiety of Malaysia ESL speakers (adj. $R^2 = .18$) better than that of the China EFL speakers (adj. $R^2 = .07$). Due to the high demands and expectations on their English abilities in the immediate ESL environment, Malaysia ESL speakers might perceive the need to constantly evaluate their own English competence to meet the societal expectation. As a result, they exhibited greater anxiety to portray themselves as decent ESL speakers. On the contrary, the language anxiety of China EFL speakers was less affected by their self-perceived English competence because their immediate environment does not require them to be good English speakers, as long as it serves the instrumental purpose to communicate with other international interlocutors.

In summary, language anxiety is a common phenomenon that affects speakers and persists even after they achieve high proficiency in the target FL/L2. The differences in the dynamic linguistic variables (i.e., language proficiency, self-perceived language competence, and frequency of language usage) could serve to differentiate between speakers of an EFL and ESL environment. Despite reporting higher English proficiency, self-perceived English competence and frequency of English usage, speakers from both EFL and ESL environment seemed to report similar language anxiety level. However, Malaysia ESL speakers were found to be more anxious than China EFL speakers when contemplating scenarios of having to speak to a more

proficient English L1 speaker. Judging by these differences in language anxiety

experienced by the two groups of speakers in different language use contexts, future

studies should take into account the socio-demographic background of speakers and

socio-linguistic expectations in their immediate English learning environment when

interpreting the language anxiety phenomena.

Both Study 1 and 2 supported the idea that subjective self-perceived language

competence is a more prominent predictor of language anxiety than actual language

competence (also see Clément et al, 1980; Jiang & Dewaele, 2020; MacIntyre, 1992;

Teimouri et al., 2019). Following this trend of findings, educators and researchers could

consider focusing on boosting speakers' self-perceived language competence to alleviate

language anxiety. This can be achieved if speakers perceive control over an FL/L2 use

scenario, for instance by priming them to believe that they have higher language

competence than other interlocutors to pull off effective FL/L2 communication. The

perception of interlocutors being proficient English speakers invoked strong language

anxiety feeling among Malaysia ESL speakers in this study. The next chapter

investigated whether it was possible to manipulate participants' perceived language

competence of other speakers through a deceptive experiment, and consecutively

influence their associated anxiety feeling towards the speakers.

CHAPTER 3: THE ROLE OF PERCEIVED LANGUAGE COMPETENCE IN L2

ANXIETY

3.1 Introduction

The previous chapter showed that participants' self-perceived language

competence (speaking skills in particular) predicted their language anxiety the strongest.

This raises the question on whether subjective perceived competence could be leveraged

to alleviate one's L2 anxiety. According to Foss and Reitzel (1988), perceived language

competence can be defined as the degree of assumed language proficiency one holds

towards the language use behaviors of (a) *self* or (b) *others*, subjected to one's L2 use

experience (and the interpretation of that experience) with others. People often evaluate

their self-perceived competence by referring to other people through social comparison

(Foss & Reitzel, 1988; Marsh et al., 2017; Wheeler & Suls, 2005). This may imply that

perceived language competence is an amenable intrinsic trait or an impression that could

change from situation to situation. To shed further light on the relationship between

perceived language competence and language anxiety, the current chapter examined the

possibility of manipulating one's perceived language competence of others through a

short-written statement, and consecutively how this affected their L2 anxiety in an

experimental design.

3.1.1 Self-perceived Competence

People always try to create favourable impression of themselves in front of

others according to the self-presentational theory (Schlenker & Leary, 1982). Self-

perceived competence, in this case, seems to play an important role in how much one

believes he or she can present himself desirably using an L2. Anxiety surfaces when low

self-perceived competence individuals experience uncertainty about scenarios involving the use of an L2, coupled with the fear of potential failures in L2 communication. Every time when an L2 user appraises an obstacle in L2 communication (e.g., worrying what and how to say about a word), attention is inevitably diverted to interlocutors' reaction for signs of approval or disapproval (MacIntyre & Serroul, 2014). The perceived reactions help to inform whether there are potential threats to speakers' L2 self-concepts. If the communication difficulties persist, L2 anxiety would arise with self-derogating cognition and self-doubts. On the contrary, when L2 users believe themselves to have high L2 competency, they are more likely to perceive any L2 task to be easier than it actually is and that might lower the L2 anxiety experienced (Sultan, 2012).

Self-perceived competence is well-researched in L2 anxiety studies. Most L2 anxiety research focused on self-perceived competence because self-relevant information is more accessible and available as compared to other-relevant information (Endo, 2007; Markus, 1977; Ross & Sicoly, 1979; Srull & Gaelick, 1983). Yet, there are several challenges when it comes to measurement of self-perceived competence. Firstly, the frames of reference used to make a self-perceived competence judgment could vary greatly across individuals and studies, although it is known to have great impact on the resulting measurements. Most of the past self-perceived competence studies were conducted in English-speaking countries (e.g., UK and US) in which comparison with the English L1 speakers may seem to be a default. It is however less straightforward to measure self-perceived competence in places where English is spoken as an L2, such as in Malaysia. In these scenarios, participants who are asked to make a self-perceived

competence judgment without being provided any frame of reference might refer to different targets (e.g., English L1 speakers, English L2 speakers, or speakers from a pre-dominantly English-speaking country etc.), rendering inconsistency in the resulted scores or judgments. The reference-group effect (i.e., evaluation based on a reference group instead of an absolute measure) could lead to inaccurate evaluation of self-perceived competence due to the ambiguity of target for comparison (Crede et al., 2010; Gu et al., 1995). Secondly, L2 users might evaluate their self-perceived competence differently depending on whether they are from a more independent or interdependent orientated culture. Interdependent culture or collectivist population (such as in Asia) who values connectedness is more prone to evaluate and compare self in relation to others in the community (Markus & Kitayama, 1991), hence they have stronger social comparison tendency than independent culture population (Baldwin & Mussweiler, 2018).

3.1.2 Perceived Competence of Others (PCO)

The presence of these challenges highlights the importance of considering the social context when making informed assessments of perceived language competence. The perception of other interlocutors' language proficiency, termed as perceived language competence of others (PCO) in the current thesis, should also be investigated alongside self-perceived competence on how they contribute to L2 anxiety. PCO in the current study refers to the evaluation of other interlocutors' language competence from the non-language specialist's perspective. The evaluations of language competence made by language specialists and non-language specialists are fundamentally different: language specialists are more sensitive towards linguistic form and grammar, whereas

non-language specialists may be more concerned with how successful the communication is in terms of relaying intended message (Elder et al., 2017; Sato, 2014; Sato & McNamara, 2019). The target of investigation in the current study was the non-language specialists (or lay public) because they are the ultimate arbiters of daily English usage.

During everyday conversation, evaluation of others' competence often comes automatic and is inevitable. It is usually done before the evaluation of own competence (Marsh et al., 2017). Omission of PCO during the formation of self-perceived competence is difficult because social comparison serves as a good benchmark for the L2 speaker to gauge where they stand (Wheeler & Suls, 2005). When a discrepancy is observed between self and other's language competence, especially in scenarios where the interlocutors appear to be highly proficient or better English speakers, this could result in higher anxiety among the L2 users (James et al., 2020; Kamaruddin et al., 2020; Liu & Chen, 2013). One may expect a person with high language competence to impose stricter judgment on L2 fluency and grammar because they could discern between poor and good language use (Kobayashi, 1992; Kitano, 2001). As a result, the anxiety to speak well could increase due to the fear of negative evaluation from these higher competent interlocutors.

A potential theoretical model that can be used to explain the effect of PCO on L2 anxiety is the relational competence model (Foss & Reitzel, 1988). This model suggested that language competence is the degree of perception one holds towards the language use behaviours of self or others, which could change from situation to situation. One good way that describes how perceived competence leads to

communicative anxiety is "what behaviors are most likely to be viewed as competent?"

instead of "what behaviors are competent?" (Spitzberg & Hurt, 1987, p. 30). The

relational competence model involves five fundamental components (i.e., motivation,

knowledge, skills, criteria outcomes and context) which L2 speakers could work on to

recognise and handle L2 anxiety better. First, L2 speakers need strong motivation to

increase their L2 skill level. An avoidance approach would reinforce their perceived L2

incompetence as they do not have any opportunity to practise their L2 skills and get

positive evaluation. Second, L2 speakers need certain amount of knowledge (e.g.,

communication strategies) to know how to handle an L2 use situation, or else it would

reduce their perceived L2 competence and increase their anxiety. Third, having the

motivation and knowing the theories solely would not help in reducing L2 anxiety if the

L2 speakers do not possess the actual L2 skills. Their actual L2 performance might not

be the same with their self-perceived L2 competence or PCO, though both perceptions

matter more than the actual L2 performance in determining their L2 anxiety. This aligns

with the findings from the previous chapter, where participants' self-perceived

competence, rather than language proficiency, was a significant predictor of L2 anxiety.

Fourth, for the criteria outcomes, L2 speakers need some evidence of their L2

competence (e.g., feedback from other interlocutors) to provide realistic evaluation of

their L2 performance and consequently determine their L2 anxiety. Lastly, L2 speakers

will provide meaning to an L2 use context based on their personal knowledge, culture

and feeling. The perception that one has towards the L2 use context would determine

how comfortable (e.g., whether anxiously or confidently) they interact in the

environment. Overall, the relative competence model values perceived language

competence in understanding and dealing with L2 anxiety which provides strong

support for PCO.

Past L2 anxiety research had also acknowledged the importance of PCO as a

potential source of L2 anxiety. Examining the popular FL/L2 anxiety measurement tool

— FLCAS (Horwtiz et al., 1986), PCO was represented in these two items: "I keep

thinking that the other students are better at languages than I am" and "I always feel that

the other students speak the English language better than I do". They were rated as some

of the most anxiety provoking situations in the FLCAS (e.g., Horwtiz et al., 1986; James

et al., 2020; Liu & Chen, 2013). In the Malaysia context, PCO is commonly regarded as

an important factor of L2 anxiety among the Malaysia ESL speakers through

questionnaires and interviews (James et al., 2020; Kamaruddin et al., 2020; Mohamad &

Ab Wahid, 2008). These studies had shown that Malaysia ESL speakers tend to compare

their English competence with other interlocutors, as they are concerned about the

negative evaluation that they might receive.

Although the effect of PCO on L2 anxiety seems self-explanatory, the

relationship between L2 anxiety and PCO is not always positive. Low PCO could lead

to higher L2 anxiety if the L2 users are on the receiving end. A study by Chun et al.

(2017) showed that if the students perceived low English competence of their

instructors, they would expect more difficulty in understanding the delivered speech

content and experienced higher anxiety level. The questionnaire study was administered

during an elective EMI course in a major South Korean university using six items

adopted from FLCAS to measure language anxiety and two items measuring the

perceived competence of instructors' English skills (equivalent to PCO rating used in

the current study). It was important to note that Chun et al.'s (2017) study only

measured listening anxiety as there was no interaction from the participants' side. When

an L2 user is expected to provide spontaneous responses in an L2 conversation, the

induced communicative anxiety is usually higher as one has to juggle between both

listening and speaking cognitive processes (Cheng et al, 1999; Horwitz, et al, 1986;

Lindenau, 1987). Higher PCO, in this case, could make the L2 conversation more

anxiety-provoking because of the fear of negative evaluation for their English-speaking

performance. That being said, PCO induces certain degree of L2 anxiety, but the

direction of influence (i.e., positive or negative effect) may depend on whether an

interaction is expected from the L2 users.

3.1.3 The Current Study

Given the significance of perceived language competence in language anxiety

based on past literature and Chapter 2 findings, understanding the roles of both self-

perceived competence and PCO in L2 anxiety would provide more insights into how

they could affect language anxiety from a social-linguistic perspective. Most past

research tend to examine the relationship between perceived language competence and

L2 anxiety in a cross-sectional and correlational study design which restricts the studies'

ability to draw causal relationships between the studied variables. Building on the

limitations of the previous study designs, the current study aimed to examine the

relationship between perceived language competence and L2 anxiety among Malaysia

ESL speakers using an experimental design, which was the first attempt to the author's

knowledge. In addition to the experimental study, the current study collected

participants' feedback on their anxiety experience through an open-ended question. This

design helped to complement the quantitative results to provide a more comprehensive overview of the factors and reasons behind Malaysia ESL speakers' L2 anxiety. Participants' narratives in the qualitative data provide essential context for interpreting behaviours, developing grounded theories and could be used to help develop surveys. Their perspectives reveal how concepts are understood by non-experts, consecutively informing more effective communication and interventions.

The first aim was to investigate whether perception of others' language competence (i.e., PCO) is amenable and could be manipulated. Participants were divided randomly into three groups that received different information of the speakers' English proficiency (i.e., high IELTS score group, low IELTS score group, and control group). For the high and low IETLS score groups, participants were told that the speakers they would be seeing in the short video clips received an IELTS band score of 8.5 and 5.5 respectively. For the control group, participants were not given any information about the speakers' English proficiency. During the experiment, participants were shown videos of speakers giving a short English speech, followed by a short-written statement to inform the fabricated IELTS score of the speakers. The purpose of showing the fabricated IELTS scores was to induce a stereotype priming[2] effect, before participants were asked how anxious they would feel if they were to communicate with the speakers.

The second aim was to investigate whether the deception of speakers' language competence could affect participants' L2 anxiety rating. It was hypothesised that the

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[2] *Stereotype priming* investigates the behaviours followed by the activation of a stereotype (Wheeler & Petty, 2001), e.g., how one reacts after knowing that the interlocutor is a high proficient English speaker.

manipulation of language proficiency information would affect both PCO and L2 anxiety ratings in the same direction (James et al., 2020; Kamaruddin et al., 2020; Liu & Chen, 2013). For instance, when participants were told that the speaker had a high IELTS band score, they would perceive the speaker's language competence to be significantly higher than the control group, resulting in higher reported L2 anxiety.

The third aim was to examine the relationships between L2 anxiety with (a) self-perceived competence, (b) PCO, and (c) the difference between self-perceived competence and PCO. To provide a consistent comparison between self-perceived competence and PCO, the current study asked participants to rate their self-perceived competence in the scale of IELTS score (see Appendix E) and not through the self-perceived competence questionnaire used in the previous chapter. There were three predictions for the relationships: (a) a negative relationship between self-perceived competence and the associated L2 anxiety (Garcia de Blakeley, 2017; Onwuegbuzie et al, 1999; Tóth, 2007); (b) a positive relationship between PCO and the associated L2 anxiety (James et al., 2020; Kamaruddin et al., 2020; Liu & Chen, 2013); and (c) a positive relationship between the discrepancy between self-perceived competence and PCO and the associated L2 anxiety (refer to James et al., 2020, Kamaruddin et al., 2020 and Mohamad and Ab Wahid, 2008 about how comparison leads to language anxiety).

The five research hypotheses are summarised below:

H1: The fabricated information about speakers' language proficiency will affect the perception of their language competency (i.e., PCO). Participants in the high IELTS score group will report higher PCO rating than the control group, whereas participants in the low IELTS score group will report lower PCO rating than the control group.

H2: The fabricated information about speakers' language proficiency will affect the associated L2 anxiety reported towards the speakers. Participants in the high IELTS score group will report higher L2 anxiety level than the control group, whereas participants in the low IELTS score group will report lower L2 anxiety level than the control group.

H3(a): Higher self-perceived competence will predict lower L2 anxiety.

H3(b): Higher PCO will predict higher L2 anxiety.

H3(c): Larger magnitude difference between self-perceived competence and PCO will predict higher L2 anxiety.

The fourth aim was to examine the factors that could contribute to participants' L2 anxiety. An open-ended question about why participants felt anxious towards the speakers was asked towards the end of each trial. Thematic analysis would be conducted to investigate factors of L2 anxiety, particularly those that were related to self-perceived competence and PCO.

3.2 Method

3.2.1 Design

This study adopted a convergent parallel design that involved both quantitative and qualitative survey design. The first and second aims were examined in a quantitative between-subject design. The independent variable was the deceptive information given about the English proficiency of the speakers shown in the short video clips. Participants were divided into three groups, receiving different information of the speakers' English proficiency (i.e., high IELTS score group, low IELTS score group, and control group).

For the high and low IETLS score groups, participants were told that the speakers they would be seeing in the short video clips received an IELTS band score of 8.5 and 5.5 respectively. For the control group, participants were not given any information about the speakers' English proficiency. The dependent variables were participants' (a) PCO rating of the speakers and (b) L2 anxiety rating towards the speakers.

For the third aim, the influences of self-perceived competence, PCO and the difference between the two on L2 anxiety were examined through a simultaneous multiple regression analysis. The three independent variables included in the regression model were (a) self-perceived competence rating, (b) PCO rating and (c) the difference between self-perceived competence and PCO ratings. The dependent variable was the L2 anxiety rating towards the speakers.

The fourth aim was investigated using an open-ended question. Following Braun and Clarke's (2006) thematic analysis approach, participants' responses were analysed to uncover important themes and extract meanings of why they felt anxious towards the speakers shown in the video stimuli.

3.2.2 Participants

According to the G power analysis, at least 159 participants were needed for a one-way between-subject ANOVA to be conducted with power = .80, alpha = .05, number of groups = 3, and a medium effect size (Cohen's f = .25). A total of 193 participants were recruited and were randomly assigned to three groups: low IELTS score group, control group and high IELTS score group (see Table 10 for the descriptive statistics of each group). Note that these participants were not the same participants in Chapter 2. Their age ranged from 15 to 58 (M = 23.01, SD = 5.01). All participants were

Malaysia ESL speakers who speak different L1s at home: 180 of them speak Chinese languages (including dialects like Cantonese [$n = 5$], Hokkien [$n = 2$], and Hakka [$n = 1$]), 12 speak Malay and 1 speak Tamil. Note that the current study did not limit the participants to Malaysian Chinese anymore. The recruited participants had not stayed in any English-speaking countries for more than one year. Overall, participants perceived themselves as somewhat moderate English speakers ($M = 5.73$, $SD = 1.30$ on the scale of IELTS band score 1 to 9) who used a considerable amount of English in their daily life ($M = 51.80$, $SD = 21.66$ on the scale of 0–100%), even though English was not their L1. The difference in self-perceived competence and frequency of ESL usage across the three groups is reported in the result section (see Section 3.3).

Table 10

Descriptive information about participant's mean age, gender, average self-perceived ESL competence rating and frequency of ESL usage in general for each allocated group (standard deviation in brackets).

	High IELTS score group of Band 8.5 (*n* = 69)	Control group with no information (*n* = 59)	Low IELTS score group of Band 5.5 (*n* = 65)
Age	23.23 (4.87)	23.73 (6.73)	22.11 (2.76)
Gender	15 males, 54 females	18 males, 41 females	32 males, 33 females
Self-perceived ESL competence	5.90 (1.46)	5.75 (1.20)	5.54 (1.20)
Frequency of ESL usage	52.10 (21.67)	49.39 (22.92)	51.52 (20.68)

Note. Self-perceived ESL competence was evaluated on the scale of IELTS band score 1–9. Frequency of ESL usage was evaluated on the percentage scale of 0–100%.

3.2.3 Materials

Six video stimuli were used in this study. In each video, a speaker sat facing the camera and talked about a topic in an IELTS speaking test. The topics of the videos varied from speakers' personal life (e.g., house, school's library, and hobby) to their thoughts on an issue (e.g., celebrities, kindness between small town and city, occasions when you give gifts etc.). The videos lasted for 22s on average and the speech was 58 words long on average. The video clips were obtained from YouTube with each of the speakers having an actual band score given by a real IELTS examiner. These speakers were all EFL or ESL speakers who were given a band score of 7 (out of 9) in the actual IELTS speaking test, which posited them as English speakers of the upper intermediate level. To guarantee English speaker diversity and reduce any potential bias or preconception towards one specific speaker group, English speakers from several nationalities were included. As a result, the speakers comprised of two White Caucasians (i.e., German and Italian), two local/familiar speakers (i.e., Chinese and Indian), and two relatively foreign speakers (i.e., Korean and Turkish).

3.2.4 Pilot test

A pilot test was conducted to examine the prototype of the experiment and the appropriateness of the fabricated statements about the IELTS band scores. A total of 16 graduates of tertiary education who were proficient English users were recruited through convenience sampling. They were divided into two groups and were told that the speakers in the video stimuli received either a high IELTS score of 9 ($n = 9$) or a low

IELTS score of 5 ($n = 7$) in the actual IELTS exam through a short description text.

They were then asked to watch six videos and rate the perceived competence of the

speakers (on the scale of IELTS band score 1 to 9, see Appendix E for the descriptions

of each IELTS band score) and the associated anxiety towards the speakers (on a Likert

scale of 1 to 5 inspired by ASSELF, with 1 indicating *not anxious at all* and 5 indicating

extremely anxious) after each video. At the end of the pilot test, participants were asked

on further feedback about the videos' clarity and length, whether the short description

texts about speaker's IELTS scores were persuasive and to explain possible reasons of

the anxiety ratings they provided for the speakers in the videos.

Overall, the videos were clear, and the duration was optimal according to the

pilot test participants. An independent t-test had shown that the pilot test participants in

the high IELTS score group ($M = 7.54$, $SD = 0.74$) rated speakers in the videos to be

significantly more proficient than the low IELTS score group ($M = 5.76$, $SD = 0.43$),

$t(14) = 5.63$, $p < .001$, $d = 2.94$, 95% CI [1.38, 4.25]. This provided the preliminary

support to the use of stereotype priming in the experiment. However, around half of the

high IELTS score group ($n =4$) and low IELTS score group ($n = 4$) believed that the

speakers might display different levels of English proficiency than the IELTS scores

provided. Noticing some discrepancy between the PCO rating given by the participants

and the provided IELTS score, a decision was made to lower the band score given to the

high IELTS score group to 8.5 and increase the band score given to the low IELTS score

group to 5.5. This should make the fabricated scores used in the actual experiment more

realistic and convincing with only 1.5 band scores away from the original IELTS score

awarded (i.e., 7).

3.2.5 Procedure

The whole experiment was administered online in the form of a questionnaire with embedded videos through Qualtrics. The online questionnaire consisted of two sections. The first section asked for personal background information which included age, gender, nationality, L1, duration of experience abroad (i.e., never, several days, several weeks, several months, one year and above), frequency of ESL usage (on the percentage scale of 0–100%) and self-perceived ESL competence rating (on the scale of IELTS band score 1–9).

The second section presented the actual experiment with six videos in a random order; each video was followed by three questions. In the beginning of this section, participants were presented a short description text to inform about speakers' IELTS band scores based on the groups they were allocated (i.e., high IELTS score group: band 8.5, control group: no information, and low IELTS score group: band 5.5). Later for every video, participants had to watch and rate the perceived competence of the speaker (on the scale of IELTS band score 1 to 9, see Appendix E for the descriptions of each IELTS band score) and the associated anxiety towards the speaker (on a Likert scale of 1 to 5 inspired by ASSELF, with 1 indicating *not anxious at all* and 5 indicating *extremely anxious*). An open-ended question was included as the last question for participants to explain the anxiety rating they provided towards the speaker. Participants took around 20 minutes to complete the whole experiment.

3.3 Results

After two incomplete data points were removed from the total of 195 responses, 193 data responses were included in the analyses. There were two sub-sections: Section

3.3.1 Relationship between Self-perceived Competence, PCO and L2 Anxiety (which addressed the first three research aims) and Section 3.3.2 Qualitative Feedback (which addressed the fourth research aim).

The first sub-section reported four one-way between subject ANOVAs conducted to compare the difference in (a) self-perceived competency, (b) frequency of ESL usage, (c) PCO rating and (d) L2 anxiety rating across the three groups (i.e., high IELTS score group, control group with no information provided and low IELTS score group). Two simultaneous multiple regression analysis were later conducted to investigate how self-perceived competence, PCO and the difference between the two predicted L2 anxiety level for (a) all participants and (b) the control group only. The second sub-section discussed the themes generated from the thematic analysis to understand why participants felt anxious towards speakers in the videos.

Before the main analyses, it was important to first ensure that the participants did not differ in terms of English proficiency and experience across the three groups, as these variables had been shown to affect L2 anxiety (Liu, 2006; Onwuegbuzie et al., 1999). Therefore, self-perceived competence (as a measure of language proficiency) and frequency of English usage were compared across the three groups using two one-way between-subject ANOVAs. The analyses confirmed that there was no significant difference across the three groups in their self-perceived ESL competence, $F(2, 190) = 1.30, p = .28, \eta_p^2 = 0.01$, 90% CI [0, 0.05] and frequency of ESL usage, $F(2, 190) = 0.27, p = .77, \eta_p^2 = 0.003$, 90% CI [0, 0.02]. This showed that participants' linguistic proficiency and experience were similar across the three groups, hence no further action was taken to control for these variables.

3.3.1 Relationship between Self-perceived Competence, PCO and L2 Anxiety

To answer the first research aim, PCO rating was compared across the three groups to justify whether manipulation of the deceptive information given was effective (see Table 11 for the descriptive statistics). A one-way between-subject ANOVA revealed a significant difference in the average PCO rating across the three groups, $F(2, 190) = 15.89$, $p < .001$, $\eta_p^2 = 0.14$, 90% CI [0.07, 0.21]. Participants in the low IELTS score group gave significantly lower PCO rating to the speakers in the video stimuli as compared to the control group, $t(190) = -3.17$, $p = .005$, $d = -0.57$, 95% CI [-1.01, -0.13] and the high IELTS score group, $t(190) = -5.62$, $p < .001$, $d = -0.97$, 95% CI [-1.41, -0.54]. There was, however, no significant difference in the average PCO rating between the high IELTS score group and the control group ($p = .07$).

Table 11

Descriptive statistics about participant's average PCO rating and average L2 anxiety rating for each allocated group (standard deviations in brackets).

	High IELTS score (Band 8.5)	Control (No information)	Low IELTS score (Band 5.5)
PCO	6.92 (0.94)	6.57 (0.88)	6.07 (0.80)
L2 Anxiety	1.93 (0.69)	1.90 (0.73)	1.88 (0.65)

Note. Perceived competence of others (PCO) was evaluated in the scale of IELTS band score 1–9. L2 anxiety was evaluated in the Likert scale of 1–5.

To answer the second research aim, L2 anxiety rating was compared across the three groups to investigate whether the manipulation of the deceptive information given affected participants' anxiety level (see Table 11 for the descriptive statistics). A one-

way ANOVA showed no significant difference in L2 anxiety rating across the three

groups, $F(2, 190) = .07$, $p = .93$, $\eta_p^2 = 0.0008$, 90% CI [0, 0.004].

To answer the third research aim, a simultaneous multiple regression was

conducted to investigate the strength of self-perceived competence, PCO and the

difference between the two in predicting L2 anxiety. From the pre-analysis, there were

significant correlations between self-perceived competence and L2 anxiety ($r = -.38$, p

$< .001$) and between the difference of self-perceived competence and PCO with L2

anxiety ($r = .28$, $p < .001$), but not between PCO and L2 anxiety ($r = -.03$, $p = .66$). A

significant regression model was found with self-perceived competence being the only

significant predictor of L2 anxiety (see Table 12 for the statistical result). The semi-

successful experimental manipulation of PCO might have contaminated the potential

relationship between PCO and L2 anxiety. In order to rule out that confounding

explanation, another simultaneous multiple regression involving the same variables was

conducted with data of the control group only (see Table 12). For a simultaneous

multiple regression to provide power = 80%, $\alpha = .05$., and a medium effect size of $f^2 =$

0.19 (based on the effect size of the model with all participants), at least 44 individuals

were needed. The new regression model still showed that self-perceived competence

was the only significant predictor of L2 anxiety, suggesting that providing the short

proficiency statements did not mask the purported relationship.

Table 12

Multiple regression analyses for all participants and control group only.

	B	β	t	p	F	df	p	Adj. R^2
All participants (n = 193)								
Overall model					12.27	3, 189	< .001	0.15
Intercept	2.67							
SPC	-0.19	-0.36	-3.93	< .001				
PCO	0.04	0.06	0.67	.50				
Discrepancy	0.02	0.10	1.09	0.28				
Control group only (n = 59)								
Overall model					8.10	3, 55	< .001	0.27
Intercept	1.95							
SPC	-0.23	-0.38	-2.15	0.04				
PCO	0.18	0.22	1.37	0.18				
Discrepancy	0.04	0.20	1.09	0.28				

Note. SPC = Self-perceived competence; PCO = Perceived competence of others;

Discrepancy = Discrepancy between self-perceived competence and PCO.

3.3.2 Qualitative Analysis

The mixed results between the significant manipulation of PCO rating (for the

low IELTS score group) but non-significant predictability of PCO in L2 anxiety

suggested that there might be other factors that affected their L2 anxiety. To provide a

more comprehensive overview of the factors in play, a thematic analysis was carried out

on the written responses of participants explaining the reasons of their anxiety feelings

reported. After reading and getting familiar with the responses, initial codes were

generated to reduce the large data into small chunks of information. The codes were

later categorised into meaningful themes based on significance. The emerging themes

represented the primary factors of L2 anxiety identified from the current study, which

are discussed in the following, from the most to the least prominent themes identified:

difficulty in comprehension, comparison between self and others, interlocutor-induced

factors and individual difference in personality. The themes generated were cross-

checked and validated by a second researcher. The overall weightage of each main

theme and sub-theme, such as the number of mentions and proportion percentage, are

reported in Table 13. A detailed breakdown for the proportion percentage of the L2

anxiety factors towards each speaker can be found in Table 14.

Table 13

Sources of participants' L2 anxiety

Main Themes	Sub-themes	Number of Mentions	Proportion Percentage (%)	Total Percentage (%)
	Strong foreign accent	177	39.16	
Difficulty in comprehension	Unusual speaking pace	64	14.16	66.37
	Apprehension over communication effectiveness	59	13.05	
Comparison between self and others	PCO	54	11.95	23.23
	Self-perceived incompetence	51	11.28	
Interlocutor-induced factors	Speaker's ethnic identity	12	2.65	6.2
	Speaker's tone and attitude	16	3.54	
Individual difference in personality	Lack of confidence	9	1.99	4.2
	Introvert	10	2.21	

Note. The proportion of percentage was calculated through the equation below:

$$\frac{\textbf{Number of mentions}}{\textbf{Total number of mentions (452)}} \times \textbf{100\%}$$

Table 14

Proportion of L2 anxiety factors towards each speaker (in percentage).

Speakers / Factors	Emanuele (Italian)	Hendrick (German)	Dimple (Indian)	Jing Yi (Chinese)	Raziye (Turkish)	Kyoungae (Korean)
Not anxious	35.71	26.67	34.87	66.50	34.36	64.89
No comment	27.55	18.97	19.49	5.50	28.21	5.32
Strong foreign accent	14.80	7.18	24.62	6.50	23.59	14.36
Unusual speaking pace	5.61	15.90	6.67	2.00	2.05	0.53
Communication difficulties	5.10	7.18	5.64	2.50	5.13	4.26
PCO	4.59	11.28	2.56	5.00	2.05	2.66
Self-perceived competence	3.06	5.64	3.59	7.00	2.56	4.26
Speakers' ethnic identity	2.04	3.59	0	0	0.51	0
Speakers' tone and attitude	0.51	2.05	0.51	3.00	0.51	1.60
Lack of confidence	0.51	1.03	1.03	1.00	0.51	0.53
Introvert	0.51	0.51	1.03	1.00	0.51	1.60

Note. The proportion percentage of each factor was calculated for each speaker through the equation:

$$\frac{\textbf{Number of mentions of the specific factor for the specific speaker}}{\textbf{Total number of mentions of all factors for the specific speaker}} \times \textbf{100}\%$$

3.3.2.1 Difficulty in comprehension.

The most prevalent theme identified was difficulty in comprehension. Participants indicated that their L2 anxiety rating depended on whether they perceived challenges in understanding the speakers' speech. Some participants mentioned strong foreign accent and unusual speaking pace (i.e., being too fast or too slow) as some of the challenges encountered. Participants also expressed concerns that the comprehension difficulty could impact effective communication. The subsequent sub-sections discussed how these factors (i.e., strong foreign accent, unusual speaking pace and apprehension over communication effectiveness) contributed to the difficulty in comprehension theme.

Strong foreign accent. Most participants mentioned that strong and unfamiliar accents of the speakers could induce high anxiety as they make the word decoding process longer and harder, as illustrated in the excerpt "Accent would be the only thing (that) makes me anxious. As I need more time to interpret what she is saying. Can't understand her accent…". Some participants showed awareness of the existence of English variations. For instance, one participant said that: "Not that all the accents are bad it's just I'm bad with accents". However, the awareness of English variations did not help participants to be less anxious because greater effort was anticipated to overcome communication problems posed by these foreign accents, as shown in the the excerpt

"His accent makes it quite difficult to understand", and "Her slang a bit different from me, I need to pay more attention to understand what she's talking".

Unusual speaking pace. This was the most anxiety-provoking factor suggested for the speaker Hendrick (see Table 14). Participants grew more anxious when listening to his unusually fast speaking pace as they found it difficult to extract information from the speech. On the other hand, participants also reported feeling anxious and impatient if the speaking pace was too slow. Some of the supporting excerpts were as follows: "A little bit too fast. Scare can't understand" and "Because her tone is bit slow I might lose patience to listen".

Apprehension over communication effectiveness. Most believed that the effectiveness of communication could be greatly affected if the speakers' speech was not comprehensible. Participants commented that they were easily confused by words that were phonetically similar to each other. This was illustrated in the quote "… she stated that there is a problem about her house area, but I can't listen the problem clear enough, am I hearing parking or barking (problem about her house area)?". L2 anxiety, therefore, might be a result of the need for participants to be vigilant throughout the conversations, as suggested by one participant "A bit anxious, because I need to listen attentively to hear what she say(s)". Participants seemed to dislike the idea of causing trouble to others like asking people to repeat sentences that they did not hear clearly, as highlighted in the quote "The only thing that I might be anxious about is to ask her for repeating her sentences". If the participants had trouble understanding the speakers, they would think that the speakers would have trouble understanding them as well in a communication, as portrayed in the excerpt "Yes and it might due to the fear of

Emanuele not understanding what I say". Participants were worried that they were unable to respond appropriately and spontaneously in a conversation with the speakers, as mentioned by one of the participants "(Cause) I need more time to process how to converse with her in the way she understands". All in all, participants were anxious whether effective communication was possible if they were unable to decipher the delivered messages.

3.3.2.2 Comparison between self and others.

The discrepancy in perceived language competence between self and other interlocutors could also lead to L2 anxiety. Participants experienced anxiety if they thought of themselves as incompetent language users or thought others to be more proficient language users, because they were worried about how their lower L2 competency would be regarded. The subsequent sub-sections will discuss how PCO and self-perceived competence contributed to the theme of comparison between self and others.

PCO. PCO was mentioned slightly more than self-perceived competence as the reason for one's L2 anxiety (see Table 13). It seemed common for the participants to assess language competence of the speakers when determining their L2 anxiety level, which involved gauging whether the speakers speak English as an L1 or observing the speakers' level of confidence and fluency while using English. One quote from the participants summarized the influence of PCO pretty well: "Yes. He can speak well and even more fluent than the previous people. This makes me very nervous because I may not listen clearly to what he says and might need him to repeat his words before I give my reply. This will obviously show that I am weak in speaking English and spoil my

image". The apprehension over communication difficulties could be one of the reasons why participants found speakers with higher perceived language competence to be anxiety-provoking, as illustrated in the quote "I think her English proficiency is higher than me and she might be using some words that I do not understand when we speak to each other". This anxiety may be caused by the fear that they won't be able to keep up with the discussion, understand complex languages used, or reply appropriately. Subject to this fear of negative evaluation, participants felt intimidated when interacting with speakers whom they perceived as more competent language users, particularly when they anticipated the possibility of making errors. Some of the relevant excerpts were "She can speak very well in English although she is Chinese, which will make me (feel) lack of confident, especially (I) will be more nervous if I make mistakes" and "Yes. I would be anxiously thinking if she would spot my grammar mistakes and inaccurate pronunciation".

Self-perceived competence. Participants commonly perceived their poor grammar and vocabulary size, non-native English status, and low frequency of English usage as indicators of a less competent English user. Anxiety arose when participants realised that they lacked the skills necessary to communicate successfully in an L2. Some examples of the excerpts were "I have limited vocabulary" and "…because my English is not my first language and I do not use it so frequently…".

3.3.2.3 Interlocutor-induced factors

This theme included factors associated with the speakers in the videos such as speakers' ethnic identity and their speaking tone or attitude.

Speakers' ethnic identity. Participants categorised White Caucasian speakers as an unfamiliar language/cultural group and were prone to associate this group of speakers to one of the English-speaking countries. This raised their anxiety when contemplating interactions with these speakers whom they perceived to be good English users. Some examples of the excerpts were: "… I feel slightly anxious conversing with him because he is obviously coming from a country with different cultural background from mine and I might not be able to fully understand his statements without full understanding of the cultures (in) his country" and "Yes, the fact that he is not Asian makes me feel anxious even though his first language is not English (same as me). His accent makes me feel nervous, I would think that he is from English country". In addition to this, participants in the current study who were mostly of Malaysian Chinese descent mentioned explicitly that they were not anxious towards speakers of similar ethnicity in the qualitative responses. The number of mentions that they were not anxious were considerably higher when the speakers were Chinese (133 mentions) and Korean (122 mentions) as compared to all other speakers (around 52-70 mentions).

Speakers' tone and attitude. The emotion and speech tone (e.g., friendliness and formality) that the speakers carried had an impact on participants' anxiety during an L2 engagement, as illustrated in the excerpt "She talks in a more formal way… (that made me anxious)". Interestingly, the language anxiety exhibited by the speakers might transfer to the participants as well, as shown in the excerpt "…Her own anxiety might influence me".

3.3.2.4 Individual Differences in Personality

The last theme was related to participants' personalities. A few participants also mentioned that they were more introverted in person, so they were not comfortable when asked to speak with a stranger. This was illustrated in the quote "I will feel a little bit nervous because speaking to a stranger is also a challenge". Although this theme occurred the least frequently (i.e., around 4% of total mentions), it was still a consistent theme that appeared throughout the qualitative feedback.

3.3.3 Influence of Speaker Group in PCO and L2 Anxiety Ratings

Noteworthily, participants seemed to perceive White Caucasian speakers as more competent English speakers and hence more anxiety-provoking than other speakers in the open-ended question. The qualitative finding was further tested through two repeated measures one-way ANOVAs. Congruent with the observations from the qualitative result, there was a significant effect of speaker group on participants' PCO rating in the repeated measures one-way ANOVA after Greenhouse-Geisser correction, $F(1.82, 349.25) = 140.37$, $p < .001$, $\eta_p^2 = 0.42$, 90% CI [0.36, 0.48]. White Caucasian speakers ($M = 7.17$, $SD = 1.17$) were perceived to have higher average PCO rating than the familiar/local speaker group ($M = 6.55$, $SD = 1.04$), $t(192) = 7.83$, $p < .001$, $d = 0.55$, 95% CI [0.37, 0.73] and the foreign speaker group ($M = 5.85$, $SD = 1.19$), $t(192) = 16.74$, $p < .001$, $d = 1.17$, 95% CI [0.95, 1.39] after Bonferroni correction. The familiar/local speaker group was also perceived to have higher PCO rating than the foreign speaker group after Bonferroni correction, $t(192) = 8.91$, $p < .001$, $d = 0.62$, 95% CI [0.44, 0.81].

Another repeated measures one-way ANOVA revealed a significant effect of speaker group on participants' L2 anxiety rating after Greenhouse-Geisser correction, $F(1.62, 311.34) = 44.33$, $p <.001$, $\eta_p^2 = 0.19$, 90% CI [0.12, 0.25]. The White Caucasian speakers ($M = 2.23$, $SD = 1.01$) were rated to be more anxiety-provoking than the familiar/local speaker group ($M = 1.73$, $SD = 0.70$), $t(192) = 8.44$, $p < .001$, $d = 0.60$, 95% CI [0.42, 0.79] and the foreign speaker group ($M = 1.76$, $SD = 0.76$), $t(192) = 7.83$, $p < .001$, $d = 0.56$, 95% CI [0.38, 0.75] after Bonferroni correction. There was, however, no significant difference between familiar/local and foreign speaker group after Bonferroni correction, $t(192) = -0.61$, $p = 1.00$, $d = -0.04$, 95% CI [-0.22, 0.13].

3.4 Discussion

The current study investigated how giving fabricated information about speakers' IELTS band scores could affect participants' perception about the speakers' English competence (i.e., PCO) and their associated L2 anxiety towards the speakers in an experimental design. To the author's knowledge, this was the first attempt to study the cause-and-effect relationship between PCO and L2 anxiety. The influence of deception on PCO ratings was first investigated. Results showed that only participants in the low IELTS score group were affected by the deception and gave significantly lower PCO rating to the same speakers than the control group. Several explanations were deduced for the semi-successful influence of deception. Firstly, Malaysia ESL speakers might have a realistic expectation of good English use performance due to the high exposure of English media materials and many years of English education. The benchmark set for good English use performance might apply to not just themselves but also to other English users whom they encountered. This could be a reason why they had

some reservations over the fabricated high IELTS scores given to the speakers. As a

result, a moderate band score (band 5.5) presented to the low IELTS score group might

appear to be more believable than an unrealistic close-to-perfect band score (band 8.5)

for the IELTS test outcome of the speakers. Secondly, most of the participants seemed

to struggle with the speakers' accents according to the qualitative responses. Past

research had shown that accents can influence listeners' attitudes towards the speakers

negatively (Sykes, 2011). As a result, participants might be more likely to form an

unfavourable judgment on the speakers' English proficiency level (who were all

EFL/ESL speakers with an accent). This could make the manipulation of PCO easier in

the direction of low English proficiency instead of high English proficiency. In short,

the hypothesis for the first research aim was partially supported as the deception only

worked for the low IELTS score group.

Even when participants' perception of the speakers' English proficiency (i.e.,

PCO) was successfully manipulated for the low IELTS scores group, their L2 anxiety

was not affected as they reported similar L2 anxiety level as the control group. In other

words, the second hypothesis concerning the influence of deception on L2 anxiety rating

was not supported. The second hypothesis was further refuted by the regression

findings, whereby PCO and the discrepancy between self-perceived competence and

PCO were not significant predictors of L2 anxiety. At first, it was speculated that the

lack of PCO effect on L2 anxiety could be due to the semi-successful experimental

manipulation of PCO which might have contaminated the potential relationship between

PCO and L2 anxiety. However, the results were the same when another regression test

was conducted with data of the control group only (i.e., with no information provided

about the IELTS band scores of the speakers), suggesting that the non-significant

relationships were not masked by the unsuccessful experimental manipulation.

According to Foss and Reitzel (1988), perceived language competence is a

relational perception that is susceptible to change depending on the frame of reference.

Comparing self-perceived competence with PCO is one of the many ways (and perhaps

the easiest way) for L2 users to gauge how confident or anxious they should be when

using the target L2. However, previous literature had shown that L2 anxiety only arises

when the L2 users expect strict evaluations from other speakers in a communicative

setting (Kobayashi, 1992; Kitano, 2001). Perhaps for PCO to take effect on L2 anxiety,

the experimental design should involve actual verbal interactions with the speakers. This

is because interactions, which often entail the evaluation component, are what make the

PCO a highly anxiety-provoking factor. The qualitative feedback of the current study

also highlighted the importance of PCO in L2 anxiety only if the participants were in a

communicative setting with the speakers where evaluation was involved. As no actual

conversation took place in the current experiment, participants might be rating how

anxious they felt completing the listening tasks instead of engaging in a two-way L2

communication with the speakers. Unlike Chun et al.'s (2017) study, which

demonstrated that low perceived competence of lecturers could elevate listening anxiety

among students, participants in the current study faced no adverse consequences (e.g.,

failing exams) for underperforming in the current experiment. Consequently, the low

PCO ratings of the speakers did not impact participants' anxiety, as they had nothing at

stake. However, the possibility that higher PCO could lead to increased L2 anxiety is not

refuted, as the attempt to manipulate high PCO was not successful. This aspect, however, requires further investigation.

Although the experimental deception did not influence PCO (except for the low IELTS score group) and L2 anxiety rating significantly, the regression results exhibited the robustness of positive relationship between self-perceived competence and L2 anxiety, which further supported Chapter 2's findings. Self-perceived competence has been a significant predictor of L2 anxiety in which the higher the self-perceived competence, the lower the L2 anxiety (Garcia de Blakeley et al., 2017; Jiang & Dewaele, 2020; Onwuegbuzie et al, 1999). Feelings of anxiety are usually caused by high levels of uncertainty. In an unpredictable situation, one might be inclined to rely on what they know best to make informed decision on how to act. Self-perceived competence, in this case, could function as a subconscious construct of confidence in handling the unfamiliar L2 use situation.

Other than perceived language competence, there were many factors of L2 anxiety identified from the thematic analysis, such as difficulty in comprehension (e.g., strong foreign accent, unusual speaking pace and apprehension over communication effectiveness), interlocutor-induced factors (e.g., speakers' ethnic identity, speaking tone and attitude) and individual difference in personality (e.g., lack of confidence and introversion). These factors are strongly related to whether a communication can be conducted effectively. Participants reported feeling more anxious if they perceived greater challenges to understand the message clearly which could interfere the communication process.

Interestingly, the Malaysian participants showed consistent assumptions or stereotypes that Hendrick and Emanuele (both who appear as White Caucasians) to be English L1 speakers or at least speakers with high English competence (see results in Section 3.3.3). This was portrayed clearly in one of the quotes: "He (Hendrick) is a Westerner, and it seems (like) English is his mother tongue". Furthermore, participants gave more PCO-related comments (e.g., other speakers are too good) towards White Caucasian speakers than speakers of other speaker group as the source of L2 anxiety (see Table 14). This stereotypical phenomenon could imply that the Malaysian participants shared a feeling of inferiority towards White Caucasian English speakers, even though these speakers were EFL or ESL speakers. Flores and Rosa (2015) termed the phenomenon as raciolinguistic ideology in which White Caucasian or Westerner speakers are treated as the rightful owners of English. White Caucasians were therefore perceived as more anxiety-provoking because they were seen as the "native" speakers of English with higher English mastery. This phenomenon seems to be particularly common in Southeast Asia, where post-colonialism has a long-lasting impact on the commerce, education, tourism, and sciences in many former British or American colonies of this region (Attanayake, 2020; Rao, 2019). The anxiety towards White Caucasian speakers could also arise due to the perception that White Caucasian speakers are more prestigious and superior because they are from the Western regions whom on average may be perceived with higher socioeconomic level (Dragojevic et al., 2018; García et al., 2022; Lan, 2011). It can be hard to deduce a person's socioeconomic status based on the limited information, but it is not unusual for Asians to assume Western

regions to be first-world regions (Dragojevic et al., 2018; García et al., 2022; Lan, 2011).

Although specific empirical studies of raciolinguistic ideology in the Malaysian context might be limited, the general findings on raciolinguistic ideologies phenomenon from countries in the Southeast Asia region (which might share similar context to Malaysia) can be applied, for instance in Singapore (e.g., Babcock, 2023a), Thailand (e.g., Ulla et al., 2024) and Indonesia (e.g., Sugiharto, 2022). Past research on language anxiety among Malaysian students often highlighted how interactions with *native* English speakers can be particularly anxiety-inducing due to the perceived prestige and authority associated with them (e.g., James et al., 2020; Kamaruddin et al., 2020; Liu & Chen, 2013). While the term "native English speaker" is quite ambiguous as it is not limited to White Caucasian, several qualitative studies had shown that Malaysians tend to associate native English speakers with White Caucasians from the UK or US (Lee, 2003; Ng & Diskin-Holdaway, 2023). On top of that, the current study found that participants reported significantly higher anxiety rating towards the White Caucasian speakers as compared to the other speakers. These appear as a preliminary support for the raciolinguistic ideology that might affect participants' L2 anxiety when interacting with a White Caucasian speaker.

In conclusion, despite the successful manipulation of lowering PCO with fabricated information, it did not affect the associated L2 anxiety. Instead, self-perceived competence was shown to be a consistent predictor of L2 anxiety in the current study. Participants' L2 anxiety seemed to vary depending on the types of interlocutors (e.g., speaker group) and conversational settings (e.g., whether an interaction is expected from

the conversation). The results indicated that L2 anxiety can be very context-dependent

and there is never a one-fit-all model. Because the participants did not participate in a

reciprocal conversation when rating their L2 anxiety, it may be too early to disregard the

impact of PCO in L2 anxiety. Intriguingly, participants seemed to feel more anxious if

they were to communicate with a White Caucasian as compared to other speaker groups.

However, it was not clear whether the anxiety was provoked by the White Caucasian

identity or other factors such as difficulty in understanding the spoken speech of the

White Caucasian speakers. To answer this, the next chapter examined the reasons why

White Caucasian speakers were rated to be more anxiety-provoking.

CHAPTER 4: INTERACTION BETWEEN PERCEIVED SPEECH PROPERTIES AND SPEAKER IDENTITY ON L2 ANXIETY OF MALAYSIANS

4.1 Introduction

The previous chapter found that Malaysia ESL speakers tend to perceive White

Caucasian speakers as more anxiety-provoking than speakers of other speaker group.

There were several possible explanations to this based on the qualitative findings.

Firstly, the Malaysia ESL speakers might feel anxious when they had difficulties

understanding speech with poor perceived speech properties (e.g., high accentedness,

low intelligibility, low comprehensibility and low familiarity). It could be that the

perceived speech properties of the White Caucasian speakers happened to be worse

(e.g., less comprehensible) than speakers from other speaker group, hence they were

rated as more anxiety-provoking.

Secondly, it could be due to the presumption that the White Caucasians are English L1 speakers. This racialized English conception is known as the raciolinguistic ideology which treats speakers of White Caucasian ethnicity as the rightful owners of English (Flores & Rosa, 2015). Numerous past research had demonstrated that L2 speakers experience a sense of inferiority and high level of anxiety while using English with the perceived "native" speakers (e.g., Garcia de Blakeley et al., 2017; Jugo, 2020; Kim, 2018; Woodrow, 2006).

Third, combining the prior two explanations, the Malaysia ESL speakers might perceive the White Caucasians as speakers with *favourable* perceived speech properties (e.g., low accentedness, high intelligibility, high comprehensibility and high familiarity), and other speaker group as having the opposite. This evaluation of speakers' speech properties based on their speaker identities is called reverse linguistic stereotyping (Kang & Rubin, 2009). Consequently, the White Caucasian speakers can be regarded as more competent and anxiety-provoking English speakers to the Malaysia ESL speakers.

These reasons were not mutually exclusive, and some could even co-exist. The current chapter would further explore whether some properties of the speech (e.g., unique accent or pronunciation that might affect intelligibility and comprehensibility of the speech) or the ethnic identity of these White Caucasian speakers contributed to the L2 anxiety reported by the Malaysia ESL speakers.

4.1.1 Association between Perceived Speech Properties and L2 Anxiety

There is plenty of evidence that showed that speakers' poor perceived speech properties (characterised by high accentedness, low intelligibility, low comprehensibility and low familiarity) could give rise to higher anxiety level among ESL speakers. The

following paragraphs will discuss the associations between the perceived speech

properties (e.g., accentedness, intelligibility, comprehensibility and familiarity) and L2

anxiety.

A person is more likely to speak other newly learnt languages with an L1 accent

after puberty (Piske et al., 2001; Scovel, 2000). The degree to which one's L2 speech is

influenced by his/her L1 is known as accentedness (Saito et al., 2016, p.8), and is

commonly evaluated in scalar ratings (see review from Thomson, 2018). Most studies

on accentedness focused on the accentedness of the *speakers*. L2 speakers are concerned

about how their speech accentedness are perceived by other interlocutors, because

speakers who speak in a strong accent are often tagged as incompetent L2 speakers who

have not mastered the target L2 (Baran-Łucarz, 2011, 2016; Tan et al., 2021; Tsang,

2022). Some studies even showed that fear of negative evaluation had been reported as a

more anxiety-provoking factor than actual communication difficulties posed by own

poor pronunciation (Coppinger & Sheridan, 2022; Price, 1991; Sadighi & Dastpak,

2017). However, communication difficulties would arise when other interlocutors

possess strong accents. In that case, perceived accentedness of other interlocutors, which

is the focus of the current study, could also lead to language anxiety in the *listeners*

(Cheung, 2013; Harding, 2008). Heavily accented speech can be anxiety-provoking

when it affects speech comprehension (Cheng, 2018; Edwards et al., 2018; Kim, 2008;

Munro & Derwing, 1999), especially for pronunciation of words with high functional

load (e.g., /l/ - /n/ phonemic contrast) that is critical in distinguishing many different

words (Munro & Derwing, 2006).

Nevertheless, a heavily accented speech can still be intelligible to the listeners (Derwing & Munro, 2009). Speech intelligibility concerns how accurate the speech can be decoded by the listeners. One way to measure speech intelligibility is to assess the accuracy of word recognition in an utterance (Kennedy & Trofimovich, 2008; Munro & Derwing, 1995). In past research, this was commonly measured through transcription tasks and sentence verification tasks (see review from Thomson, 2018). Clear utterances are essential for effective communication because words recognition comes before interpretation of the intended meaning of speech (Medina et al., 2016; Young, 1991). On this matter, L2 listeners' speech processing could be different and are often more cognitively demanding than the L1 listeners. During speech perception, L2 listeners tend to rely more heavily on bottom-up processing of phonological information to identify words (Jenkins, 2000), in comparison to L1 listeners who could contextualize heard message more strategically. L2 listeners tend to report higher anxiety level when they encounter speech that is hardly intelligible (Matsuura, 2007; Wilang & Singhasiri, 2017). For instance, Matsuura (2007) found that Japanese EFL students' anxiety (as measured by input, processing and output anxiety scales adapted from MacIntyre and Gardner, 1994) was significantly and negatively correlated with how many words they could correctly identify in a cloze dictation test (as a measure of perceived intelligibility).

While speech intelligibility concerns how accurately the speech can be recognised word by word, speech comprehensibility concerns the ease of understanding the intended meaning underlying a verbal message (Munro & Derwing, 1995). More often than not, it is the latter that determines whether a person truly understands the

conversation message (Janse & Adank, 2012). Comprehensibility of speech could be improved based on several dimensions such as lexical, phonological and grammatical accuracy (Saito et al., 2017; Trofimovich & Isaacs, 2012), coherence of speech content (Nagle et al., 2019) and speaker's expression and body language (Nagle et al., 2022). Measurement of comprehensibility can also be rather intuitive through the use of simple rating scales or processing time required to understand the intended message from other interlocutors (see review from Thomson, 2018). L2 listeners usually need more processing time and rely more on linguistic and extralinguistic cues to comprehend a verbal message as compared to the L1 listeners. Hence, L2 anxiety could be easily evoked when the comprehension processes are affected. For instance, Vogely (1998) found that 81% of the L2 students from his study reported feeling anxious when they had trouble with listening comprehension during the input (e.g., fast speaking pace, lack of clarity etc.) and processing (e.g., inappropriate strategies, lack of processing time etc.) stages. The lack of shared knowledge between the interlocutors could also pose problems to communication comprehensibility because conversations often carry localised elements (e.g., cultural values, norms, and customs) that are only familiar to speakers of the same English variety (Gumperz, 1983; Gumperz & Roberts, 1991; Jenkins, 2000; Meierkord, 2004). For example, the use of reference "banana" (referring to people of Chinese ethnicity who do not speak Chinese languages) will only be understood by Malaysians or Singaporeans who understand the word meaning in the local use setting (see Mohd Nasir, 2021 for more examples). Not knowing the nativized vocabularies used by other interlocutors could further increase conversation difficulty, thus in turn contribute to conversational anxiety.

L2 anxiety could be alleviated when L2 listeners become familiar to other interlocutors' speech patterns through interactions (Saito et al., 2018; Trofimovich et al., 2020). Speech familiarity, in this case, indicates the degree of experience exposure to the target English variety (Kennedy & Trofimovich, 2008). There are different ways to gain familiarity towards other varieties of spoken languages, such as sharing same language background with other interlocutors (also known as the interlanguage speech intelligibility benefit, see Bent & Bradlow, 2003) or having experience abroad with contact to the target language community (Carey et al., 2011). To measure speech familiarity, researchers collect information of related background characteristics (e.g., country of origin, experience abroad, previous exposure to target language etc.) to predict speech familiarity whereas others used a more direct approach — have raters to rate familiarity on a scalar rating scale (e.g., Bergeron & Trofimovich, 2017; Ockey & French, 2016). Interestingly, speech familiarity could be a type of rater bias that affects how one rates others' accented English speech (Winke et al., 2013), with familiar accents rated more leniently and understood better (Baese-Berk et al., 2020; Carey et al., 2011; Huang, 2013). Those who have the same L1 background as the listeners may be perceived as both highly familiar and highly accented; nonetheless, because of this familiarity, listeners may experience less anxiety while listening to these speakers. Being familiar with different English varieties can be advantageous because it improves expectations of specific acoustical or phonetics patterns heard from a speech. This reduces the processing cost in decoding words, making the L2 communication less effortful (Crowther et al., 2016; Khan, 2013) and less anxiety-provoking (Matsuda, 2003).

With the increased number of EFL and ESL speakers in this globalization era, recent literature has started to advocate the importance of embracing World Englishes (i.e., English in different varieties; Kirkpatrick, 2020; Tamimi Sa'd, 2018). The importance of intelligibility and comprehensibility of English speech is stressed over attaining a native-like accent (see discussion about Intelligibility and Nativeness Principles by Levis, 2020). Levis (2020) argued that intelligible and comprehensible English should be the ultimate goal for L2 speakers because attaining "native" English pronunciation is not only impractical rendering many qualified L2 teachers as deficient, but also unnecessary if L2 speakers are good at adapting to new unfamiliar accents (Saito et al., 2018; Trofimovich et al., 2020). The advocate of World Englishes has initiated a transformation in many's perceptions to accept the diversity of English varieties and calls for an equal status for every English variety and user. Unfortunately, the goal to treat every English user equally is difficult to achieve in reality because of the inevitable stereotypical evaluation based on one's accents, or the convergence of both speaker's identity and accent.

4.1.2 The Role of Speaker's Identity in L2 Anxiety — Raciolingusitic Ideology

Often, people make heuristic judgment about one's L1 through their ethnic identities. An interlocutor's ethnic identity information could be helpful as an extra-linguistic cue to prepare listeners for the incoming speech. This information, such as speakers' culture and accent, fills in the knowledge gap by providing the context of one's speech, thus enabling listeners to make better sense of the conversation. However, the association between ethnic identity and language competence comes with its downsides. According to Flores and Rosa (2015), the stigmatized conception of

racialized English, also known as raciolinguistic ideology, implies that when English is perceived to be owned by the white Caucasians, other speaker group are consequently linked to English deficiency regardless of their actual and objective English performance. Flores and Rosa (2015) illustrated the raciolinguistic ideology phenomenon through different educational case studies. Some examples include interviews with long-term English learners, heritage language learners, and Standard English learners about their struggles learning or using English — regardless of how hard they try to emulate the White speaking subjects, their speaking is still seen as inadequate by the White listening subjects. This raciolinguistic ideology leads many to assume intuitively that all white Caucasians are English L1 speakers whereas most Asians or non-Caucasians are EFL/ESL speakers (Comprendio & Savski, 2020; Kubota & Lin, 2006).

Raciolinguistic ideology is particularly prevalent in many EFL and ESL speaking nations such as Malaysia (Babcock, 2023b; Rajendram, 2022). One indication is the adoption of American and British English as the main teaching English varieties in their educational policy (Kirkpatrick & Liddicoat, 2017; Kumar Sah, 2018). This can lead to a stereotype that British and American individuals are the rightful owners of the language. Since White Caucasians are often associated with these two Western countries by local Malaysians (despite the diversity of their populations), this perception can contribute to the raciolinguistic ideology. Due to the uphold of "standard" English education, White Caucasian English teachers are often more highly sought after than local educators in English teaching, which is quite common in many regions of East Asia (Hu & Mckay, 2012; Rivers & Ross, 2013) and Southeast Asia (Ruecker & Ives,

2015). This leads to the native speaker fallacy or sometimes known as native speakerism

(Holliday, 2006), whereby the society commonly equates White Caucasian Western

English speakers as ideal English teachers (Phillipson, 1992). In Malaysia, English

proficiency of many English teachers is evaluated based on the Cambridge Proficiency

Test and Common European Framework of Reference since 2015. The rationale of such

practice is to evaluate the efficacy of English education based on British standards,

while translanguaging pedagogical practice (i.e., using multiple languages

interchangeably while teaching an FL/L2) is being regarded as a deficit approach

(Rajendram, 2022). In 2015, the Ministry of Education Malaysia even went to the extent

of promoting Native Speaker Mentoring Programme which encouraged the hiring of 360

teachers from different English L1 countries (The Star, 2015). All these findings showed

that Malaysia also embraces the raciolingusitic ideology and often practises this

ideology in its English education system.

The deeply rooted raciolinguistic ideology could be traced back to the historical

influence of colonization. Being one of the many colonies of British, Malaysia has

adopted the use of British English in many official settings since independence, and

English continues to be the second most frequently used language either academically or

among the urbanized population (Crystal, 2003). Interestingly, this racialised anxiety of

using English as an FL/L2 with White Caucasians might not the same as using any other

languages with the perceived L1 speaker group (e.g., using Mandarin with East Asian

Chinese). There is extensive research that showed this racialized English anxiety

towards White Caucasians (e.g., Attanayake, 2020; Comprendio & Savski, 2020;

Kubota & Lin, 2006; Rao, 2019). However, to my knowledge, there has not been any

study reporting such racialized language anxiety towards L1 speakers of other languages (e.g., White Caucasians speaking Chinese as an L2 with Chinese speakers in China; Ilnyckyj, 2010). Instead, according to the interview-based multiple case studies conducted by Ilnyckyj (2010), this group of FL/L2 speakers, who have stayed in China for at least 1 year, perceive a sense of privilege and feel more welcomed by the perceived L1 speaker group if they can speak their languages. This unique racialized English anxiety toward White Caucasian speakers may stem from various factors, including the global status of English and the perception that White Caucasians typically come from higher socioeconomic status countries (Dragojevic et al., 2018; García et al., 2022; Lan, 2011). With the rise of English as a global language, the post-colonization impact persists with many of its colonies (including Malaysia) still practising English in the international businesses, education, tourism, and science sectors (Attanayake, 2020; Rao, 2019). Since many consider the West as the destination of migration for better economic opportunities, often EFL and ESL speakers treat White Caucasians—who are perceived to originate from these Western areas with higher socioeconomic status—as more prestigious and superior speakers (Dragojevic et al., 2018; García et al., 2022; Lan, 2011). Subsequently, the raciolinguistic ideology can have a significant impact on how White Caucasian English speakers are perceived as more competent English speakers and more anxiety-provoking in Malaysia.

4.1.3 Interaction between Raciolinguistic Ideology and Perceived Speech properties — Reverse Linguistic Stereotyping

The raciolinguistic ideology supported the observation of why White Caucasian speakers could be more anxiety-provoking, induced by their ethnic identity alone.

However, it appears that the raciolinguistic ideology could also affect how one evaluates others' perceived speech properties, which might further contribute to the higher anxiety rating towards the White Caucasian speakers. This is known as the reverse linguistic stereotyping (Kang & Rubin, 2009), whereby a speaker's group membership can distort how one's perceived speech properties (particularly related to accentedness, intelligibility, and comprehensibility) are evaluated.

To study reverse linguistic stereotyping, visual face cues of either Asian or White Caucasian were often used as a prime before participants were asked to evaluate the speech (Babel & Russell, 2015; Gnevsheva, 2018; Kang & Rubin, 2009; Rubin, 1992, 2012; Rubin & Smith, 1990; Yi et al., 2013, 2014). Seeing faces in the audiovisual stimuli (as opposed to just hearing the speech only) could help one to comprehend and transcribe accented speech better. In addition to seeing lip movements and facial expressions that aids the comprehension of speech (Mcgowan, 2015; Yi et al., 2013, 2014), seeing the speaker's ethnic identity helps to reduce the neurocognitive load of grammatical processing for accented speech (e.g., Grey et al., 2020).

The reverse linguistic stereotyping leads many English L1 listeners to perceive an English speech to be more accented, less intelligible and harder to comprehend when Asian faces are shown in comparison to White Caucasian faces (Babel & Russell, 2015; Gnevsheva, 2018; Kang & Rubin, 2009; Rubin, 1992, 2012; Rubin & Smith, 1990; Yi et al., 2013, 2014). For example, Rubin (1992) found that students scored lower comprehension score and reported a non-existent accent when listening to a recording of the American English speech with the Asian photo as compared to the White Caucasian photo. To investigate how speaker's ethnicity could contribute to speech processing of

the listeners, Babel and Russell (2015) conducted a comprehensive experiment which involved two priming conditions (speaker faces and fixation crosses) and two speaker ethnicities (Chinese Canadians and White Canadians). In the face-priming condition, there was an apparent intelligibility cost with less words correctly transcribed for sentences produced by the Chinese Canadians than the White Canadians. Moreover, there was a drop in perceived accentedness rating when the faces of White Canadians were presented, but no difference in perceived accentedness rating for the Chinese Canadian faces presented.

Reverse linguistic stereotyping can lead to the stigmatization of the speakers' perceived speech properties (e.g., intelligibility, comprehensibility and accentedness) based on their ethnic identity alone, with 13–23% of variance explained across the spectrum of studies (see Kang & Rubin, 2014). Past literature also suggested that there was a tendency to invest less effort willingly in understanding speech from interlocutors who are perceived as L2 speakers (Lindemann, 2002; Lippi-Green, 1994). For example, Lindemann (2002) observed that the English L1 speakers were more likely to avoid interacting with L2 speakers in a collaboration task, especially when they felt more superior than the L2 speakers. This stereotype is detrimental to the L2 speakers and often makes them feel more anxious about how their language competence is being evaluated.

While most reverse linguistic stereotyping studies mentioned above primarily involved English L1 speakers, many L2 speakers also seemed to internalise and reinforce the reverse linguistic stereotyping by rating speakers who speak the same English variety as themselves to be more accented, less intelligible and less

comprehensible than a "standard" English speaker (Lindemann et al., 2014; Park, 2009; Talmy, 2010). For instance, Park (2009) discovered that Koreans perceived entertainers who pronounce English in a "hyper-Koreanized" way to be embarrassingly funny and amusing in popular television shows, because these entertainers were presumed to speak poor English. Talmy (2010) also found that local ESL students in Hawaii, who have stayed in the country for a considerably amount of time, would make fun of other more recent immigrants by articulating English in an exaggerated and stereotypical way, with an intention to create power distance between them and the immigrants. These results showed that reverse linguistic stereotyping can be quite common among the L2 speakers, even when they are the victims of the stereotype.

It is, however, unclear whether the reverse linguistic stereotyping affects Malaysia ESL speakers' English use experience to the same extent. There is a chance for the local multilingual and multicultural environment to mitigate the effect of reverse linguistic stereotyping. When the encounter of a diverse range of speaker and English variety is common in everyday life, ethnic identity cue poses less significance to induce a change in one's language attitude as it is hard to determine a person's language competence based on the ethnic identity cue alone (Eisenchlas & Michael, 2019). Some also believe that individuals who live in an ethnically diverse environment would become more tolerant of the diverse variety of English accents and their speakers (Dewaele & McCloskey, 2015). In addition, speakers from a multi-ethnic environment (e.g., Malaysia ESL speakers) are more inclined to accept and value their localized English variety (and perhaps their own speaker group) more compared to other groups of English speakers who live in a mono-ethnic environment (e.g., Japanese EFL

speakers; Ahmed et al., 2014; Tokumoto & Shibata, 2011). When one believes that his

or her English accent is a legitimate English variety, the effect of reverse linguistic

stereotyping on L2 anxiety might reduce.

4.1.4 The Current Study

To provide more insights into why White Caucasian speakers were perceived as

more competent English speakers and more anxiety-provoking than other speaker

groups in Chapter 3, the current study set out to examine the influence of perceived

speech properties, raciolinguistic ideology, and reverse linguistic stereotyping on L2

anxiety of Malaysia ESL speakers. Extending on a typical reverse linguistic stereotyping

experimental design, participants were presented with either video or auditory clips of a

short speech and were later asked to rate the speakers' perceived speech properties and

their associated anxiety towards the speakers. Same video stimuli were used as the

previous chapter, but the visual information for the auditory stimuli was removed. The

video stimuli should provide explicit information about one's ethnic identity. On the

other hand, the auditory stimuli could also provide some levels of ambiguous ethnic

identity information of speakers through accents. However, given that most speakers are

not skilled at identifying origin of accents (Lindemann, 2003; Scales et al., 2006; Yook

& Lindemann, 2012; Zhang & Hu, 2008), minimal or limited ethnic identity cues were

expected from the auditory stimuli which served the purpose of masking the visual

ethnic identity information.

There were three research aims in the current study. The first aim was to

examine to what extent did the perceived speech properties predict the L2 anxiety

ratings given to the speakers in the stimuli. As the qualitative findings from the previous

chapter suggested that poor perceived speech properties (e.g., heavily accented and incomprehensible speech) increased participants' L2 anxiety, it was hypothesised that higher accentedness, lower comprehensibility, lower intelligibility and lower familiarity of the stimuli would predict higher L2 anxiety experienced by the participants.

The second aim was to investigate whether the presence (in a video group) or absence (in an audio group) of the speaker identity cue (i.e., White Caucasian, Malaysian-familiar and less familiar speaker groups) affected the evaluation of perceived speech properties (i.e., comprehensibility, intelligibility, accentedness and familiarity). Taking into account of the different familiarity levels towards the speakers, the three speaker groups comprised of two White Caucasians (i.e., German and Italian), two local/familiar speakers (aka Malaysian-familiar speakers, i.e., Chinese and Indian), and two relatively foreign speakers (aka less familiar speakers, i.e., Korean and Turkish). When explicit speaker identity cues were available in the video group, Malaysia ESL speakers were expected to show a reverse linguistic stereotyping bias, whereby the White Caucasian speakers would be rated to have better perceived speech properties (e.g., higher comprehensibility, higher intelligibility and lower accentedness) as compared to other speaker groups (Babel & Russell, 2015; Gnevsheva, 2018; Kang & Rubin, 2009; Rubin, 1992, 2012; Rubin & Smith, 1990; Yi et al., 2013, 2014). This stereotyping effect should be smaller or not present when the speakers' identity was not known in the audio group.

The third aim was to examine how anxious L2 speakers felt towards the speakers from different speaker groups (i.e., White Caucasian, Malaysian-familiar and less familiar speaker groups) between video and audio groups. Consistent with Chapter 3's

finding (see Section 3.3.3), it was hypothesised that White Caucasian speakers would be rated as more anxiety-provoking than other speaker groups, particularly in the video group when the speaker identity cue was salient, since they were often treated as English L1 speakers (Flores & Rosa, 2015).

The three research hypotheses are stated as below:

H1: There will be a significant positive relationship between perceived accentedness and L2 anxiety, but negative relationships between perceived intelligibility, comprehensibility, and familiar with L2 anxiety.

H2: When explicit speaker identity cues are available in the video group, Malaysia ESL speakers are expected to rate the White Caucasian speakers as having better perceived speech properties (e.g., higher comprehensibility, higher intelligibility and lower accentedness) as compared to other speaker groups. This stereotyping effect should be smaller or not present when the speakers' identity is not known in the audio group.

H3: When explicit speaker identity cues are available in the video group, Malaysia ESL speakers are expected to rate the White Caucasian speakers as more anxiety-provoking than other speaker groups. This effect should be smaller or not present when the speakers' identity is not known in the audio group.

4.2 Method

4.2.1 Design

The first research aim about the relationship between perceived speech properties and L2 anxiety was examined using a regression design, whereby the four

perceived speech properties (i.e., accentedness rating, comprehensibility rating, intelligibility score and familiarity rating) were examined as predictors of participants' L2 anxiety rating towards the speakers.

The second research aim about the impact of raciolinguistic ideology and reverse linguistic stereotyping on perceived speech properties was examined through a mixed factorial experimental design. There were two independent variables. The between-subject variable was the type of stimuli cue with two levels — video or audio group. Participants in the video group watched all stimuli as videos, whereas participants in the audio group listened to all stimuli as audio. The within-subject variable was the speaker group with three levels — White Caucasian, Malaysian-familiar and less familiar speaker groups. There were four dependent variables which were the perceived speech properties of the speakers (i.e., accentedness rating, comprehensibility rating, intelligibility score and familiarity rating).

The third research aim about the impact of raciolinguistic ideology and reverse linguistic stereotyping on L2 anxiety was also examined through a mixed factorial experimental design. The two independent variables were the same as the ones in the second research aim. There was, however, only one dependent variable which was participants' L2 anxiety rating towards the speakers.

4.2.2 Participants

According to the G-power analysis, a minimum of 68 participants were needed for two-ways mixed design ANCOVA with power = .80, alpha = .05, numerator = 2, number of groups = 6, number of covariates = 1 (i.e., self-perceived ESL competence), and medium effect size ($f = 0.39$ based on Kang and Rubin, 2014). A total of 208

Malaysia ESL participants (134 females and 74 males) were recruited through convenience sampling. Note that these participants were not the same participants in Chapter 2 and 3. They were randomly allocated into video and audio groups (see Table 15 for descriptive statistics of each group). Participants aged between 18 to 53 (M = 22.38, SD = 3.86). They all speak different L1s such as Mandarin (n = 141), Malay (n = 48), Tamil (n = 11), Cantonese (n = 7) and Iban (n = 1). These participants had not stayed in any English-speaking countries for more than one year. Overall, they perceived themselves as somewhat moderate ESL speakers (M = 5.25, SD = 1.84, refer to the IELTS band score table in Appendix E). The difference in self-perceived ESL competence between video and audio groups would be reported in the result section (see Section 4.3).

Table 15

Descriptive information about participant's number, mean age, gender, and average self-perceived ESL competence in video and audio groups (standard deviation in brackets).

Stimuli Cue	Video (n = 104)	Audio (n = 104)
Age	21.24 (2.01)	23.52 (4.82)
Gender	74 Females, 30 Males	60 Females, 44 Males
Self-perceived ESL competence	6.11 (1.38)	4.38 (1.85)

Note. Self-perceived ESL competence was evaluated on the scale of IELTS band score 1–9.

4.2.3 Materials

Video/Audio Stimuli. The same video stimuli in Chapter 3 were used in this study. The auditory stimuli were converted from the video to mp3 format through an online converter. The stimuli consisted of speakers from different nationalities (i.e., Italian, German, Chinese, Indian, Turkish, Korean) taking an IELTS speaking test, and they were further categorised into White Caucasian (i.e., Italian and German), Malaysian-familiar (i.e., Chinese and Indian) and less familiar (i.e., Turkish and Korean) speaker groups. All of them did not speak English as L1 and were given an IELTS band score of 7 in the actual IELTS speaking test.

Cloze Tests. Six cloze tests were designed based on the speech of the stimuli. The cloze test was a short passage of around 55–68 words with six missing blanks to be filled in (see Appendix F). The accuracy of the cloze tests was later computed and converted to percentage (0–100%) as a measure of speakers' intelligibility.

4.2.4 Procedure

This study was administered as an online questionnaire on Qualtrics during the Covid pandemic. Participants were first asked about their background information, i.e., age, gender, L1, nationality, duration of experience abroad (i.e., never, several days, several weeks, several months, one year and above) and self-perceived ESL competence (refer to IELTS band score table in Appendix E) before proceeding to the actual experiment.

The actual experiment consisted of one practice trial and six real trials which were presented in a random order. Depending on the video or audio group allocated, participants were presented either a video or audio stimulus, followed by a cloze test and

four self-rated questions for each trial. Participants could repeat the video/audio only once to control the exposure frequency. After watching or listening to the video/audio stimulus, participants had to complete a cloze test with six missing blanks (see Appendix F). After the cloze test, participants were asked to rate the (a) perceived accentedness of the speakers in the video/audio stimulus from *not accented at all* (1) to *extremely accented* (9), (b) perceived comprehensibility of the speakers in the video/audio stimulus from *difficult to understand* (1) to *easy to understand* (9), (c) perceived familiarity of the speakers in the video/audio stimulus from *not familiar at all* (1) to *extremely familiar* (9), and (d) associated anxiety towards the speakers in the video/audio stimuli if they were to communicate with the speakers in English from *not anxious at all* (1) to *extremely anxious* (5). Participants had to complete the cloze test and all speech ratings for one speaker in one trial before proceeding to the next trial.

The ideal experimental setting in which all participants were under the same controlled environment with the same hearing devices was not possible due to the movement restriction during the pandemic lockdown. Therefore, participants were advised to wear earphones for the experiment to minimise the extraneous influence of background noise. The whole questionnaire took around 25 minutes to complete.

4.3 Results

One hierarchical regression was conducted to examine how perceived speech properties (i.e., intelligibility scores, comprehensibility ratings, familiarity ratings and accentedness ratings) predicted L2 anxiety. Two mixed-design ANCOVAs were also conducted to examine the differences in (a) perceived speech properties and (b) L2 anxiety rating given towards the White Caucasian, Malaysian-familiar and less familiar

speakers between video and audio groups. Based on Schneider et al.'s (2015) advice on mixed-design ANCOVA, an ANCOVA would be used to examine the between-subject effect and interaction effect, whereas an ANOVA would be used to examine the within-subject effect.

By random occurrence, participants in the video group reported higher self-perceived ESL competence than participants in the audio group according to the between-subject t-test conducted, $t(206) = 7.62$, $p < .001$, $d = 1.06$, 95% CI [0.77, 1.35]. As self-perceived ESL competence was found to correlate with other variables collected in this study such as participants' average ratings of L2 anxiety ($r = -.62$, $p < .001$), speech comprehensibility ($r = .55$, $p < .001$), accentedness ($r = .35$, $p < .001$), familiarity ($r = .42$, $p < .001$) and intelligibility score ($r = .59$, $p < .001$), it was included as a control or covariate in the subsequent analyses to account for possible confounding effect.

4.3.1 Relationships between Perceived Speech Properties and L2 Anxiety

A hierarchical multiple regression was carried out to examine how perceived speech properties predicted L2 anxiety. L2 anxiety rating was entered as the dependent variable; self-perceived ESL competence was entered as a control in the null model, and all the perceived speech properties (i.e., intelligibility score, comprehensibility rating, familiarity rating and accentedness rating) were entered as the predictor variables in model 1. For the null model, self-perceived ESL competence accounted for 38.5% of variance in L2 anxiety, $F(1, 206) = 128.77$, $p < .001$, adj. $R^2 = .38$. Intelligibility score, comprehensibility rating, familiarity rating and accentedness rating were later added in model 1, which accounted for an additional 23.4% of the variance in L2 anxiety rating,

F change (4, 202), = 30.98, *p* < .001. In total, self-perceived ESL competence,

intelligibility score, comprehensibility rating, familiarity rating and accentedness rating

accounted for 61.9% of the variance in L2 anxiety rating, $F(4, 202) = 65.53$, $p < .001$,

adj. $R^2 = .61$.

Of the four perceived speech properties, only comprehensibility and

accentedness ratings were significant in predicting L2 anxiety in the final model (see

Table 16 for the beta values of the predictors). There was a moderate, negative partial

correlation between comprehensibility rating and L2 anxiety rating, $r(202) = -.52$, *p*

< .001, and a moderate, positive partial correlation between accentedness rating and L2

anxiety rating, $r(202) = .34$, $p < .001$. The final model showed that L2 anxiety equals to

4.90 – (0.34*comprehensibility rating) – (0.24* self-perceived ESL competence) +

(0.16*accentedness rating).

Table 16

Predictors for the hierarchical multiple regression.

Predictors	Beta	95% CI		β	*t*	*p*
		LL	*UL*			
Null model						
Self-report IELTS score	-.36	-.42	.29	-.62	-11.35	< .001
Model 1						
Self-perceived ESL competence	-.24	-.31	-.17	-.42	-7.22	< .001
Comprehensibility rating	-.34	-.42	-.26	-.58	-8.61	< .001
Accentedness rating	.16	.10	.22	.25	5.12	< .001
Familiarity rating	.06	-.02	.14	.10	1.56	.12
Intelligibility score	-.0008	-.007	.005	-.02	-0.27	.78

4.3.2 Differences in Perceived Speech Properties

The differences in perceived speech properties (i.e., comprehensibility rating, intelligibility score, accentedness rating and familiarity rating) between stimuli cue groups (i.e., video vs audio) across the three speaker groups (i.e., White Caucasian, Malaysian-familiar and less familiar) were examined in multiple 2×3 mixed design

ANCOVAs. There was a significant between-subject effect of stimuli cue on

accentedness and comprehensibility ratings (see Table 17 for the breakdown of

differences between stimuli cues). Speakers were rated more accented and less

comprehensible in the video group than the audio group.

Table 17

Comparison of perceived speech properties between video and audio groups with

estimates of means and standard deviations.

Speech properties	Video		Audio		$F(1, 205)$	η_p^2	90% CI	
	M	*SE*	*M*	*SE*			LL	UL
Comprehensibility	5.00	0.16	5.50	0.16	4.60*	0.02	0.0009	0.07
Intelligibility	75.14	1.73	73.02	1.73	0.67	0.003	0	0.03
Accentedness	6.87	0.16	5.76	0.16	22.44**	0.10	0.04	0.17
Familiarity	4.98	0.15	4.68	0.15	1.78	0.009	0	0.04

Note. Self-perceived ESL competence ratings were centered and evaluated as a covariate

with a value of -0.0048. Comprehensibility, accentedness and familiarity ratings were

evaluated in the scale of 1–9. Intelligibility score was calculated in the percentage of 0–

100%.

p < .05. **p* < .001

There was also a significant within-subject effect of speaker group on perceived

speech properties (see Table 18 for the breakdown of differences across speaker

groups). Further post-hoc t-tests with Bonferroni correction showed that participants

rated Malaysian-familiar speakers to be the most comprehensible (*p*s ≤ .001) and most

familiar (*p*s < .001), whereas less familiar speakers to be the most intelligible based on

the cloze test result ($ps < .001$). The post-hoc t-test results for White Caucasian speakers were more complicated: they were rated to be less accented ($p = .04$), less comprehensible ($p < .001$), less familiar ($p < .001$), but similarly intelligible ($p = 1.00$) as the Malaysian-familiar speakers; they were rated similarly accented ($p = .35$), similarly comprehensible ($p = .16$), similarly familiar ($p = .11$), but less intelligible ($p < .001$) than the less familiar speakers.

Table 18

Comparison of perceived speech properties across the three speaker groups with

estimates of means and standard deviations.

Speech properties	White Caucasian		Malaysian-familiar		Less familiar		$F(2, 412)$	η_p^2	90% CI	
	M	*SD*	*M*	*SD*	*M*	*SD*			LL	UL
Comprehensibility	4.98	0.15	5.57	0.13	5.19	0.14	15.03**	0.07	0.03	0.11
Intelligibility	72.40	1.69	72.32	1.27	77.52	1.38	19.57**	0.09	0.05	0.13
Accentedness	6.17	0.14	6.44	0.10	6.33	0.13	3.46*	0.02	0.0007	0.04
Familiarity	4.28	0.14	5.69	0.11	4.52	0.13	77.22**	0.27	0.21	0.33

Note. Comprehensibility, accentedness and familiarity ratings were evaluated in the scale of 1–9. Intelligibility score was calculated in the percentage of 0–100%.

*$p < .05$. **$p < .001$

There was no significant interaction effect between the stimuli cue and speaker group for comprehensibility rating, $F(2, 410) = 0.52$, $p = .59$, $\eta_p^2 = .003$, 90% CI [0, 0.01], intelligibility score, $F(2, 410) = 1.09$, $p = .34$, $\eta_p^2 = .005$, 90% CI [0, 0.02] and familiarity rating, $F(2, 410) = 1.16$, $p = .32$, $\eta_p^2 = .006$, 90% CI [0, 0.02].

There was, however, a significant interaction effect between the stimuli cue and speaker group for accentedness rating, $F(2, 410) = 6.81$, $p = .001$, $\eta_p^2 = .03$, 90% CI [0.008, 0.06]. Comparing the three speaker groups in the video group, there was no significant difference in the accentedness rating across different speaker groups (ps > .21). In the audio group, participants rated Malaysian-familiar speech to be more accented than White Caucasian ($p < .001$) and less familiar ($p = .003$) speech. There was no difference in the accentedness rating between White Caucasian and less familiar speech ($p = 1.00$). Comparing video and audio groups for all speaker groups, participants generally rated speakers in the video group to be significantly more accented than the audio group (ps ≤ .007, see Figure 2 for illustration). In summary, the interaction results suggested that Malaysian-familiar speech was perceived to be more accented than the speech of other speaker groups in the audio group. Participants in the video group, however, rated the speech of all speaker groups to be more accented than participants in the audio group.

Figure 2

Interaction effect between stimuli cue and speaker group on accentedness rating.
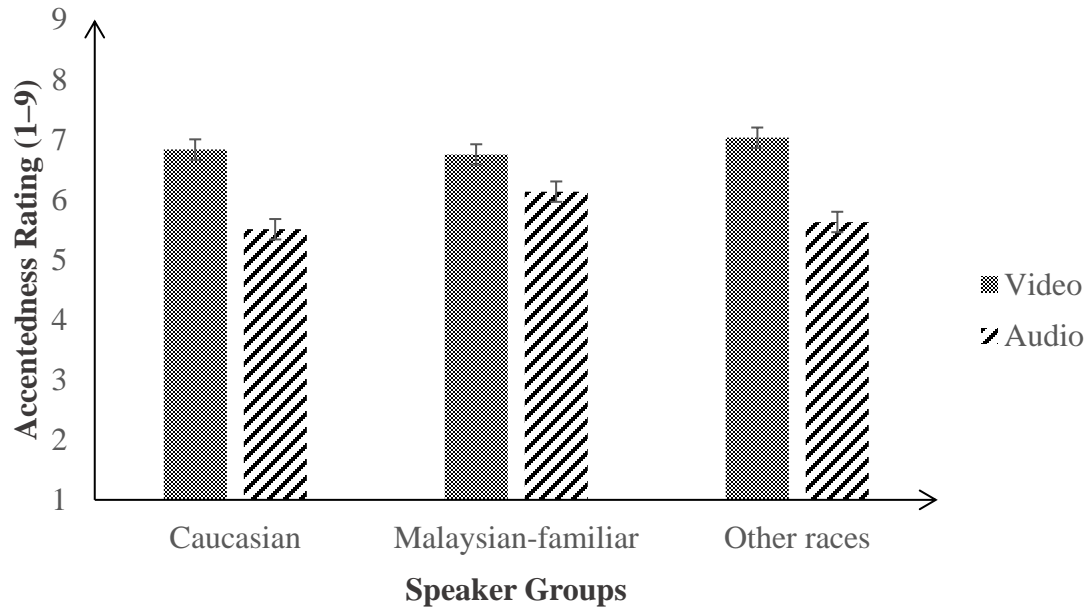
Note. Self-perceived ESL competence rating was centered and evaluated as a covariate with a value of -0.0048.

4.3.3 Differences in L2 Anxiety

Another 2×3 mixed design ANCOVA was conducted to examine the effect of stimuli cue and speaker group on L2 anxiety rating. The between-subject effect of stimuli cues on L2 anxiety was not significant, $F(1, 205) = 3.51$, $p = .06$, $\eta_p^2 = .02$, 90% CI [0, 0.06]. There was, however, a significant within-subject effect of speaker group in inducing L2 anxiety, $F(2, 414) = 35.29$, $p < .001$, $\eta_p^2 = .15$, 90% CI [0.09, 0.20]. On average, White Caucasian speakers ($M = 3.31$, $SD = 1.16$) were rated to be significantly more anxiety-provoking than less familiar speakers ($M = 3.11$, $SD = 1.13$, $p < .001$) and Malaysian-familiar speakers ($M = 2.89$, $SD = 1.12$, $p < .001$). Less familiar speakers

were also rated to be significantly more anxiety-provoking than Malaysian-familiar speakers ($p < .001$).

There was also a significant interaction effect between stimuli cue and speaker group on L2 anxiety, $F(2, 410) = 11.33$, $p < .001$, $\eta_p^2 = .05$, 90% CI [0.02, 0.09]. Comparing the three speaker groups in video and audio group separately, participants rated White Caucasian speakers to be the most-anxiety-provoking, followed by less familiar and lastly Malaysian-familiar speakers in the video group ($ps < .001$); there was no significant difference in L2 anxiety rating across the speaker groups in the audio group ($ps > .13$). Comparing video and audio groups for each speaker group, White Caucasian speakers were perceived to be more anxiety-provoking in the video group as compared to the audio group ($p < .001$), but the difference between video and audio groups was not observed for the Malaysian-familiar ($p = .96$) and less familiar ($p = .14$) speakers (see Figure 3 for illustration). In summary, the interaction results suggested that participants' anxiety was affected by different speaker identity cues only when the speaker identity cues were apparent in the video group. Participants reported higher anxiety level in the video group than the audio group towards White Caucasian speakers only.

Figure 3

Interaction effect between stimuli cue and speaker group on L2 anxiety rating.
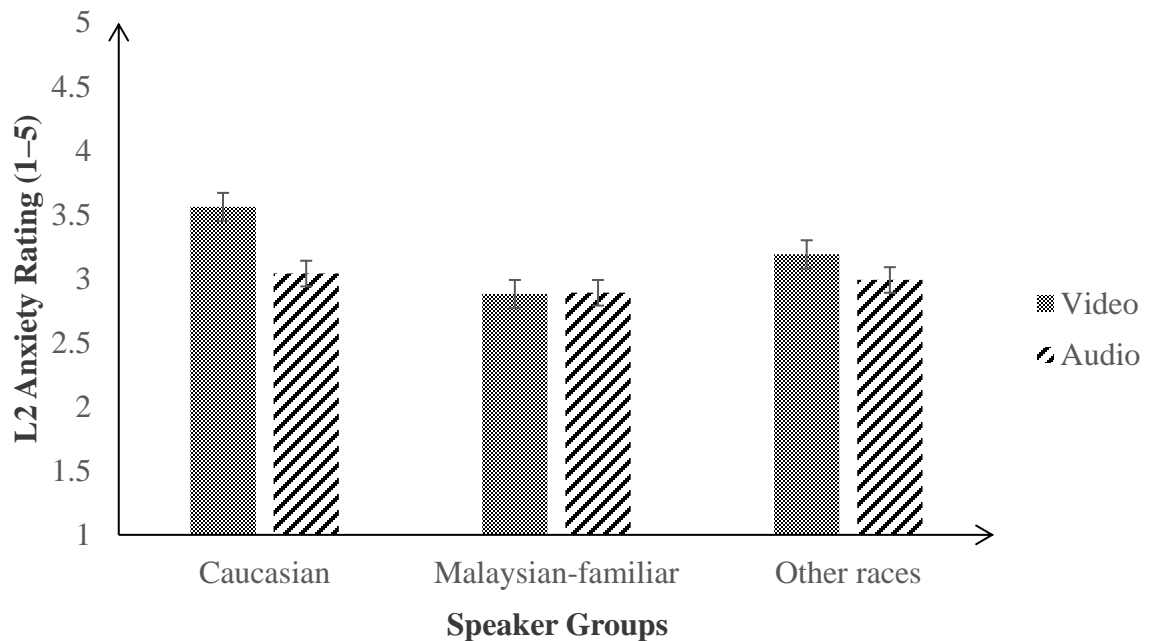
Note. Self-perceived competence rating was centered and evaluated as a covariate with a value of -0.000008.

4.4 Discussion

This chapter's work was largely motivated by the findings in Chapter 3, in which White Caucasian speakers were rated as more anxiety-provoking as compared to other speaker groups. The discrepancy was hypothesised to be due to poor perceived speech properties, raciolinguistic ideology or/and reverse linguistic stereotyping. These possible factors were then examined in this chapter using an experimental design that was inspired by past studies designed to investigate reverse linguistic stereotyping (Babel & Russell, 2015; Gnevsheva, 2018; Kang & Rubin, 2009; Rubin, 1992, 2012; Rubin & Smith, 1990; Yi et al., 2013, 2014). Prior research on reverse linguistic stereotyping

typically examined how English L1 speakers would perceive the same audio when it was paired with two different faces (i.e., Asian and White Caucasian) in a matched guise design. The current study hoped to provide further insights about the impact of the stereotype among Malaysia ESL speakers, who live in a multilingual and multi-ethnic environment where English is not the common L1. The current study expanded on previous reverse linguistic stereotyping experimental designs by including face stimuli other than just Asian and White Caucasian, taking into account the familiarity element of these speakers in the Malaysia context (e.g., Malaysian-familiar, White Caucasian, and less familiar speaker groups). In addition, the current study investigated how the stereotype influenced L2 anxiety, a phenomenon that was traditionally studied through the use of questionnaires or interviews.

The relationship between perceived speech properties and L2 anxiety was first discussed to address their influence on participants' L2 anxiety. The results showed that the perceived speech properties could account for around 23.4% of the variance in L2 anxiety after controlling for participants' self-perceived ESL competence. Only perceived accentedness and comprehensibility ratings were shown to be significant predictors of participants' reported L2 anxiety, whereby higher accentedness and lower comprehensibility predicted higher L2 anxiety. The perceived comprehensibility and accentedness of a speech are important for L2 speakers to gain a sense of control and lower their L2 anxiety. Heavily accented and incomprehensible speech could trigger a negative stereotype and feelings of insecurity regarding speakers' language capability, as the listeners require more effort to understand the speech (Cheung, 2013; Cheng, 2018; Edwards et al., 2018; Kim, 2008; Munro & Derwing, 1999). Coherent with the

qualitative findings of the previous chapter, the current results supported that speakers could be perceived as more anxiety-provoking if their speech was perceived to be more accented and less comprehensible. On the other hand, familiarity towards the English variety (i.e., speech familiarity) and whether the speech utterance can be clearly recognised (i.e., speech intelligibility) did not help to reduce participants' anxiety when listening to the accented speech. The benefit of being familiar with a certain English variety could be negligible when the L2 speech is perceived to be highly comprehensible (Kang et al., 2019). Knowing every word in a speech also does not always make one feel less nervous because there is still a chance that they may not get the accurate intended meaning (Janse & Adank, 2012). The results revealed speech accentedness and comprehensibility to be better predictors of L2 anxiety, suggesting some influence of poor perceived speech properties on participants' L2 anxiety.

Notably, speakers were rated more accented and less comprehensible in the video group than the audio group. The difference in both accentedness and comprehensibility ratings could only be due to the additional information present in the video and not audio group. Information like the test-taking scenarios (e.g., test-taking environment) and speakers' effort in explaining through overt body language might have made participants believe that the speakers were ESL speakers with certain degree of accents, therefore exacerbating the perceived accentedness rating directed towards the speakers. Meanwhile, there were wide individual differences in terms of whether the video stimuli were helpful or distracting in enhancing speech comprehensibility (see Ockey, 2007). In contrast to past literature which suggested that seeing faces enhances speech comprehensibility, the visual cues present in the video stimuli (e.g., lip

movement, facial expressions, and body language) might compete for participants'

attentional resources when the participants were processing the audio speech for the

cloze test simultaneously. Consequently, the increase in cognitive load might reduce the

perceived speech comprehensibility.

It was not surprising that the Malaysia ESL speakers rated Malaysian-familiar

speech as the most familiar and comprehensible L2 speech. According to the

Department of Statistics Malaysia (2022), Malaysia's population is mainly made up of

Malays and the indigenous groups (70%), Chinese (22.7%), Indians (6.6%) and other

races (0.7%). Given that English is commonly used as a lingua franca by the Malaysian

Chinese and Indians in the urban cities of Malaysia (Campbell, 2018; Pillai & Ong,

2018), there are a lot of practice and exposure opportunities to the two English varieties

in the immediate living environment. Hence, Chinese and Indian English varieties heard

from the stimuli were not something foreign to the Malaysia ESL speakers. Intriguingly,

participants found Malaysian-familiar speech to be more accented than the speech of

other speaker groups in the audio group only (see Figure 2). This result was interesting

because the speech that was the most familiar to the participants was also rated to be the

most accented, although all speech stimuli came from EFL/ESL speakers that spoke

English with a certain degree of accent. The participants tended to perceive the English

speech that they were familiar with as more accented (similar to other studies like

Lindemann et al., 2014; Park, 2009; Talmy, 2010), possibly because they were able to

recognise the differences in linguistic pronunciation between the familiar and "standard"

English varieties more easily. They rated Malaysian-familiar voices as having a stronger

accent, simply because they were more familiar with the speech's phonology and it was

part of their in-group language variety (Yu et al., 2021). As a result, the perceived

accentedness rating of the Malaysian-familiar speech was further accentuated as

compared to other less familiar speech.

While Malaysian-familiar speech was more accented than other speaker groups

in the audio group, participants rated all speaker groups to be more accented in the video

group than the audio group. The results only supported the reverse linguistic

stereotyping effect partially. Coherent with the reverse linguistic stereotyping

hypothesis, Malaysian-familiar and less familiar speech were rated to be more accented

when visual information was available. However, participants also perceived White

Caucasian speakers to be more accented in the video group than the audio group,

contrary to the direction of reverse linguistic stereotyping found in many past studies

(Babel & Russell, 2015; Gnevsheva, 2018; Kang & Rubin, 2009; Rubin, 1992, 2012;

Rubin & Smith, 1990; Yi et al., 2013, 2014; Zheng & Samuel, 2017). Note that previous

studies tended to examine reverse linguistic stereotyping in a matched guise design by

presenting White Caucasian and Asian faces with the same English L1 speech. Different

from the matched guise design used in the past studies, the current study presented

actual L2 speech from the speakers themselves, with video and audio groups to mask the

visual speaker identity information only. The accents present in the actual L2 speech

might have given away the L2 speaker identity of the speakers, which reduced the

reverse linguistic stereotyping effect. With all considered, the reverse linguistic

stereotyping was less likely the reason for participants' anxiety towards the White

Caucasian speakers in both Chapter 3 and the current study.

Although clear reverse linguistic stereotyping was not observed among the Malaysia ESL speakers, showing White Caucasian identity is provoking enough to induce higher L2 anxiety among the Malaysian ESL speakers. Consistent with the raciolinguistic ideology (Flores & Rosa, 2015) and Chapter 3's findings, simply seeing the White Caucasian identity of speakers could have misled participants to believe that the speakers were proficient English speakers coming from an English-speaking country. This would lead to feeling greater pressure from using English with the White Caucasian speakers. Note that the difference in L2 anxiety across the three speaker groups was only observed in the video group, indicating that speaker identity information needs to be visually available to pose an effect on L2 anxiety. When participants were oblivious about the speakers' identity in the audio group, they gave similar anxiety ratings towards the three speaker groups. Participants might be able to retrieve some other social or linguistic information from the auditory speech, such as the speakers' age, gender, L2 accents and proficiency. However, the lack of difference in L2 anxiety ratings across speaker group suggested that the subtle information was not sufficient to induce any changes in participants' L2 anxiety rating. Importantly, the current findings also illustrated that participants were not able to identify the origin or type of English varieties based on the auditory speech heard (Lindemann, 2003; Scales et al., 2006; Yook & Lindemann, 2012; Zhang & Hu, 2008). At least, the information was not salient enough to induce any changes in the anxiety reported.

It is hard to pinpoint exactly what are the main reasons behind but based on the studies conducted in Chapter 4, raciolinguistic ideology as a possible explanation is at least not refuted (meaning it is still an acceptable theory). To show that raciolinguistic

ideology is not a possible explanation, participants would be expected to show no significant difference in their anxiety level between audio and video group towards the Caucasian speakers. However, the video group participants did report significantly higher anxiety than the audio group participants towards the Caucasian speakers only, despite all speaker groups having similar level of English proficiency. This supports the raciolinguistic ideology theory as a more viable explanation, rather than attributing the phenomenon to other linguistic factors like greater mastery of English. The negative impact of raciolinguistic ideology on L2 anxiety experience of Malaysia ESL speakers is something worthy of attention. Ethnic identity information is a strong primary cue that speakers commonly use to deduce the English variety spoken by other interlocutors in a conversation. However, this raciolinguistic ideology might lead to biases in which White Caucasians are more favoured than other speaker groups in educational and work settings, especially when the use of English is involved. It is also concerning that L2 speakers would feel more anxious while interacting with a White Caucasian speaker in English, despite that he/she might not even be an English L1 speaker!

In summary, low comprehensibility and high accentedness of the speakers were shown to be detrimental to L2 anxiety of the L2 listeners. Malaysia ESL speakers tended to perceive their spoken English variety as more accented than other English varieties, and they perceived all speech to be more accented when visual speaker identity cues were present. There was no clear sign of reverse linguistic stereotyping, as participants did not rate the speech more comprehensible, more intelligible and less accented from seeing the faces of White Caucasian. Regardless, raciolinguistic ideology seemed to be a prevalent phenomenon among the Malaysia ESL speakers, as they reported higher

anxiety rating towards the White Caucasian speakers as compared to other speaker groups in the video group specifically. By investigating whether having the visual speaker identity information affected the speech perception and L2 anxiety rating, the results were valuable to enhance the current understanding of how poor perceived speech properties and raciolinguistic ideology play a role in the L2 anxiety of ESL speakers from a multi-ethnic environment. The findings indicate that in order to reduce L2 anxiety of Malaysia ESL speakers, it is necessary to address the pervasive raciolinguistic ideology and how they could cope with low perceived speech characteristics (particularly accentedness and comprehensibility). The upcoming chapter would examine how multiple accent exposure could help to enhance understanding of accented L2 speech and reduce L2 anxiety in an intervention study.

CHAPTER 5: EFFECT OF MULTIPLE ENGLISH ACCENT TRAINING ON SPEECH PERCEPTION AND L2 ANXIETY

5.1 Introduction

The previous chapters had demonstrated the prevalence of raciolinguistic ideology among Malaysia ESL speakers, in which White Caucasian speakers were seen as more competent and more anxiety-provoking English speakers than other speaker groups. Speakers with higher accentedness and lower comprehensibility could also lead to higher anxiety among the L2 listeners. These results exhibited the negative impact of raciolinguistic ideology and poor perceived speech accent properties on L2 anxiety. One way to increase their awareness about other English varieties is to expose and familiarize them to different English varieties (Deterding, 2005), such as through multiple accent exposure training. Multiple accent exposure training was shown to be

effective in improving speech perception (e.g., Baese-Berk et al, 2013; Bieber & Gordon-Salant, 2017; Potter & Saffran, 2017). By increasing the perceived comprehensibility of accented L2 speech through multiple accent exposure, L2 anxiety is expected to decrease. The current chapter therefore set to examine the effectiveness of a multiple accent exposure training in enhancing speech perception (i.e., comprehensibility, intelligibility and familiarity) and reducing L2 anxiety, as opposed to the single accent exposure training.

5.1.1 Monocentric (Nativeness Principle) VS Pluricentric (Intelligibility Principle) Approaches in English Teaching.

It can be detrimental to one's language confidence to believe that a language belongs to a certain race and that other races are thus at a disadvantage when using the target language. The raciolinguitic ideology is mainly determined by the socio-cultural value practiced in the community during English acquisition and communication. It is easily spread through the implementation of a monocentric approach in English teaching (Kirkpatrick & Liddicoat, 2017; Kumar Sah, 2018). A monocentric approach strongly supports the Nativeness Principle that emphasizes "native" pronunciation with the use of Standard English variety (e.g., British or American English) over other English varieties (Levis, 2005, 2020). This approach is deeply rooted in many societies and has been the goal of English teaching for many years, because it is believed to ensure authenticity and universality of vocabulary, grammar and pronunciation used in communication (see Woolard, 2008). The monocentric approach had encouraged much research on English pronunciation (e.g., accent reduction training) to bloom, which was found to be effective in reducing L2 anxiety (e.g., Shams, 2006).

However, it is unrealistic to attain such an approach in an ESL environment as this requires constant contact with the "native speaking" environment, resources and teachers. Pursuing a "native-like" accent is also not natural in an ESL environment when the "native-like" accent deviates from the existing norm which involves the use of Colloquial English in the immediate speaking environment (Kung & Fang, 2019; Sung, 2018). This could impede effective communication and can sometimes be seen as showing off. The adoption of a monocentric approach also seems counterintuitive, given that the number of ESL speakers are rising rapidly and even surpasses the number of "native" speakers (Eberhard et al, 2022). As a result, the monocentric approach has invited a lot of debates regarding how it downgrades the uniqueness of other English varieties (see Maftoon & Esfandiari, 2013). More and more researchers have been advocating the importance of a pluricentric approach in English teaching (i.e., English as a lingua franca or ELF) that views each English variety as a valid and legitimate language variety (Jenkins, 2006; Kachru, 1992; Kirkpatrick, 2008 etc.).

A pluricentric approach supports the Intelligibility Principle which deems the presence of L1 phonological features in L2 speech acceptable, as long as it does not sacrifice speech comprehensibility and intelligibility significantly (Levis, 2005; 2020). Different initiatives had been taken to support the pluricentric approach in English teaching, such as the explicit (e.g., giving explicit instructions about ESL features) and implicit (e.g., exposing students to different English varieties) listening trainings (Hu et al., 2022). Other initiatives were also taken to promote the pluricentric approach, for instance by incorporating diverse accents in listening assessments, because it reflects the

actual multidialectal English use in contemporary societies (Abeywickrama 2013;

Ockey & French, 2016).

5.1.2 Challenges and Benefits to Adopt a Pluricentric Approach in English Teaching.

The shift to pluricentric approach from the long-dominant monocentric approach

calls for a radical change in the pedagogical practices (e.g., methodology, materials, and

assessment) and social attitudes towards English (e.g., the country's English education

policy and status of English in the local community; Xie, 2014). The radical shift,

however, comes with its complications. Despite some positive attitudes towards a

pluricentric approach in English teaching (e.g., Charpentier-Jiménez, 2019), most ESL

learners still hold a predominantly negative attitude towards this approach (Boonsuk &

Fang, 2022; Sung, 2016). A number of factors, including a preference for "native"

pronunciation, the desire to prevent confusion from multiple English varieties, and the

idea that the pluricentric method has little practical utility, may contribute to the

negative attitude towards the pluricentric approach (Sung, 2016; Xie, 2014). These

issues would be covered in more detail in the consecutive paragraphs, together with how

they would be resolved, to give a strong argument in support of a pluricentric approach

rather than a monocentric one.

First, many still think that it is more important to focus on the production of

standard English pronunciation because speaking reflects their language performance

more directly. Most past literature tended to focus on pronunciation trainings when

comparing monocentric and pluricentric approaches to teaching English (see review by

Vančová, 2019). It is, however, unrealistic to attain native-like pronunciation through

speech production training alone (Derwing & Munro, 2009). An effective

communication requires efforts from both speakers and listeners (Baese-Berk et al., 2020; Kang et al., 2015). It is insufficient to just provide pronunciation training to the L2 speakers when the listeners still judge and "hear" what they expect to hear regardless of the actual speech performance (see past reverse linguistic stereotyping research, e.g., Rubin, 2012). Therefore, a perceptual training through multiple accent exposure should be involved in promoting more effective communication.

Second, many want to avoid possible interference from being exposed to multiple English varieties that can cause confusion and inconsistency in their English pronunciation. However, exposure to multiple accents in speech perception training plays a big role in accurate speech production, as increased exposure leads to better pronunciation (Foote et al., 2016; Sakai & Moorman, 2018). L2 speakers are capable of learning the systematic variability across different accented speech through perceptual learning (Norris et al., 2003; Saito et al., 2019). Subsequently, getting more familiar with the different accents could help to moderate the impact of accents on speech comprehension, as listeners learn to recognise the phonological pronunciation of the words in each accent.

Third, the pluricentric approach is perceived to have a low practical value, especially when one only needs a short time to get accustomed to the different accents. Speakers might show a processing cost at first when encountering a foreign accented English which is different from their own L1s, but that cost can be attenuated after a brief exposure to as short as 1 to 2 sentences of the speech (Clarke & Garrett, 2004; Cristia et al., 2012; Norris et al, 2003; Vaughn, 2019), through different coping strategies such as repetition, repair, and confirmation checks (Matsumoto, 2011).

However, on the same line of argument, exposure to various English varieties makes it easier for speakers to adjust to the rapidly changing and globally interconnected world than it would be to acquire a "native" accent. Past studies (Cheng, 2018; Cheung, 2013; Edwards et al., 2018; Harding, 2008; Kim, 2008; Munro & Derwing, 1999) and Chapter 4's findings had shown that heavily accented speech can be detrimental to one's L2 anxiety. It is therefore crucial to get listeners familiarised with different available accents through multiple accent exposure to alleviate listeners' L2 anxiety while communicating with diverse English speakers.

A pluricentric approach to teaching English can be more beneficial than a monocentric one if the aforementioned issues are adequately addressed. Among the pluricentric interventions that aimed to increase comprehension of accented English, a meta-analytic review (Hu et al., 2022) revealed that implicit (e.g., exposing students to different English varieties) listening trainings were more effective than explicit (e.g., giving explicit instructions about ESL features) listening trainings in improving speech comprehension. Exposure to a variety of English speech varieties increases familiarity, intelligibility, and comprehensibility towards different varieties of English speech, making intercultural communication more effective (e.g., Baese-Berk et al, 2013; Bieber & Gordon-Salant, 2017; Staples et al., 2014; Mering, 2022). The multiple accent exposure training effect was also shown to be generalizable, as listeners learned to adapt to novel talkers who were not part of the training sets (Bradlow & Bent, 2003; Baese-Berk et al, 2013; Bieber & Gordon-Salant, 2017).

5.1.3 Relationship between Multiple Accent Exposure Training and L2 Anxiety

Multiple accent exposure can be seen as the first step to break the rigid view of classifying a country's English status based on Kachru's (1992) three concentric circles (see Section 1.3). It helps to cultivate a more tolerant and open attitude towards the existence and use of different English varieties (e.g., Amorós-Negre et al., 2021; Saito & Shintani, 2016), and allows one to interact with fewer stereotypes and misunderstandings (Dahan et al, 2008; Skoruppa & Peperkamp, 2011). When the ESL users become more aware of the existence of different English varieties and learn that there is no single ideal English variety (i.e., "native" English variety), they start to embrace their new identities as legitimate English users of the bigger community. Consequently, they learn to let go of their unrealistic expectation of achieving "native-like" English accents and performance, which is a root cause for many's L2 anxiety. Ayuthaya and Sitthitikul's (2016) dissertation study showed a good example of how a pluricentric approach in English teaching can help to reduce language anxiety in an EFL classroom setting. By incorporating a pluricentric approach (e.g., exposing speakers to English of different varieties through videos and invited guests) in the curriculum across 17 weeks, Thai tertiary students learned to let go of unrealistic goals of attaining a native-like accent as the only way to be proficient English users. This helped to boost their language confidence and self-esteem of using their own English variety to communicate. Exposure to multiple English varieties, in this case, has broadened the students' linguistic horizon and made them realise the diversity of English varieties that can co-exist.

Multiple accent exposure training could help to reduce perceived speech intelligibility and comprehensibility challenges that are found to be highly associated with L2 anxiety. When other interlocutors are perceived as less intelligible or less comprehensible, L2 speakers expect themselves to need more time to process and understand the verbal content, and this could be anxiety-provoking especially during an L2 conversation where spontaneous responses are expected. Many studies had found significant negative relationships between intelligibility of other interlocutors and speaker's L2 anxiety (Matsuura, 2007; Wilang & Singhasiri, 2017), and between comprehensibility of other interlocutors and speakers' L2 anxiety (Chan & Wu, 2004; Vogely, 1998). Consistent with past research findings, the findings from Chapter 4 showed that perceived speech comprehensibility predicted L2 anxiety negatively among the Malaysia ESL speakers (regardless of actual speech intelligibility), suggesting that subjective perception of speech comprehensibility is a prominent factor of Malaysia ESL speakers' L2 anxiety.

While plenty of research had been done on investigating the effects of multiple accent training on speech intelligibility and comprehensibility (e.g., Baese-Berk et al, 2013; Bieber & Gordon-Salant, 2017; Potter & Saffran, 2017), not many studies had examined the direct impact of multiple accent exposure training on language anxiety, except Derwing et al. (2002)'s study. Derwing et al.'s (2002) study showed that the listener training interventions (i.e., cross-cultural awareness training and giving explicit linguistic instruction) elevated listeners' confidence when using English in an English as lingua franca context. However, there was no significant gain in perceived speech comprehensibility by giving explicit linguistic training. Given that implicit listening

training (e.g., exposing students to different English varieties) was found to be more
effective than explicit listening training (e.g., giving explicit instructions about ESL
features) in improving speech comprehensibility (Hu et al., 2022), the current chapter
was designed to investigate the training benefits of implicit listening training (e.g.,
multiple accent exposure) on L2 speech perception and L2 anxiety of Malaysia ESL
speakers.

5.1.4 The Current Chapter

With all things considered, the current chapter was interested to explore the
potential psychological benefits (particularly related to L2 anxiety reduction) that the
multiple accent exposure training could bring for the Malaysia ESL speakers. The
benefits could be built on two main foundations. Firstly, the multiple accent exposure
training was shown to be effective in weakening the feelings of inferiority towards
"native" speakers, as one becomes more aware of the presence of multiple English
varieties and realise there is no single ideal English variety (Ayuthaya & Sitthitikul,
2016). Secondly, multiple accent exposure training was shown to be effective in
enhancing one's ability to recognise and understand other interlocutors' speech (e.g.,
Baese-Berk et al, 2013; Bieber & Gordon-Salant, 2017; Hu et al., 2022; Potter &
Saffran, 2017), which could help to reduce L2 anxiety.

This chapter reported a series of three carefully designed experiments to examine
the effectives of multiple accent training on enhancing speech perception and reducing
L2 anxiety. Note that the current chapter only used audio and no audiovisual stimuli,
unlike the previous chapter. This was because the focus was on improving speech
perception and avoiding possible distractions from audiovisual stimuli, similar to

previous interventions studies that utilised audio stimuli for their training materials (e.g., Baese-Berk et al, 2013; Bieber & Gordon-Salant, 2017; Hu et al., 2022; Potter & Saffran, 2017).

The first study compared the effects of single and multiple accent trainings on perceived speech-related variables (i.e., comprehensibility, intelligibility, and familiarity) and L2 anxiety (e.g., state anxiety and ASSELF ratings). The inclusion of state anxiety measure in the current chapter allowed direct measurement of anxiety level caused by the encounter of various accented English speech instead of the generalised L2 use scenarios in ASSELF. The single accent group was exposed to one type of English variety only (i.e., American English) during the speech perception training, whereas the multiple accents group was exposed to five different English varieties (i.e., Vietnamese, Turkish, Brazilian Portuguese, Korean and American English). It should be noted that to mimic the multiple accent exposure training described in the preceding literature, the training in this chapter employed more English varieties than the ones used previously. Participants' ratings on the speech-related variables and L2 anxiety were compared between pre-test, post-test same accent and post-test novel accent to examine the training effects (for more details see Section 5.2.1).

While it was expected that both single and multiple accents trainings would increase (or at least maintain) speech perception in the post-test, participants showed a deteriorated performance in speech perception (i.e., with lower comprehensibility, intelligibility and familiarity) and increased L2 anxiety for the post-test same accent speaker. It was uncertain whether the training effect was too small and had been masked by higher difficulty level of the post-test stimuli (e.g., speaker and sentence differences).

Subsequently, Study 2 (see Section 5.3) and Study 3 (see Section 5.4) were conducted to address whether these factors impacted on the effectiveness of intervention speaker.

Given that a fair comparison on the effectiveness of training could only be made when the pre-test and post-test stimuli were comparable (e.g., same speaker and same accent), the second study replicated Study 1 on another group of Malaysia ESL speakers. However, this time the stimuli used in post-test were from the same speaker used in pre-test. A potentially easier novel speaker (with lower accentedness as evaluated by the researchers) was also included in the post-test to examine whether similar pattern of negative training effect could be observed when the higher difficulty level of post-test speaker was accounted (for more details see Section 5.3.1).

As participants consistently showed deteriorated performance in speech perception (i.e., lower comprehensibility, intelligibility and familiarity) for the post-test sentences (i.e., sentences 17–32) as compared to the pre-test sentences (i.e., sentences 1–16), the third study examined another possible confounding factor which was the higher difficulty level of post-test sentences used. This was done by comparing the intelligibility score, comprehensibility rating and state anxiety rating between pre-test (i.e., sentences 1–16) and post-test (i.e., sentences 17–32) sentences. The comparison was made between the pre- and post-test sentences produced by the same speaker without participants going through any training.

5.2 Study 1: Evaluating Effectiveness of Single and Multiple Accent Trainings

Study 1 aimed to examine the effectiveness of multiple accent exposure training (as compared to a single accent exposure training) on improving speech-related variables (i.e., comprehensibility, intelligibility, and familiarity) and reducing one's L2

anxiety (e.g., state anxiety and ASSELF ratings) among the Malaysia ESL speakers. Previous literature had provided ample evidence about the benefits of multiple accent exposure in enhancing the recognition and understanding of different accented speech (e.g., Baese-Berk et al, 2013; Bieber & Gordon-Salant, 2017; Staples et al., 2014; Mering, 2022). If the training benefits of multiple accent exposure training could be replicated, this would provide supporting evidence to a pluricentric English teaching approach in Malaysia, which is also a unique advantage of the country considering the high accessibility of multiple English varieties in the ESL environment.

The design of this experiment was inspired by one of the multiple accent exposure training studies by Baese-Berk et al. (2013). Baese-Berk et al.'s (2013) study provided an evidence-based training plan with clear replicable instructions. Their multiple accent training involved speech of speakers from a variety of different language families (e.g., Mon-Khmer, Turkic, Romance, Koreanic and Indo-European respectively), so that the training materials resembled diversity of English varieties in the World English paradigm and to ensure systematic variability of different English accents was presented to the participants. The training improved recognition of accented speech that was included in the training (i.e., different speakers with the same accent) and not included in the training (i.e., novel accent). Additionally, their study necessitated a control group with no foreign accent (i.e., "native" male speakers of American English), in which this study would term as single accent group. This allowed comparison of effectiveness of a pluricentric approach to be made with the monocentric approach that relies on one "native" English model.

Extending on Baese-Berk et al.'s (2013) study, the current study adopted similar multiple accent exposure training design and extended the investigation of the training impacts on several speech-related (i.e., comprehensibility, intelligibility, and familiarity) and L2 anxiety (e.g., state anxiety and ASSELF ratings) variables. Overall, it was hypothesised that both single and multiple accent training groups would show an improvement in the speech-related variables and a decrease in L2 anxiety. However, participants who received the multiple accents training were hypothesised to perceive the auditory speech to be more comprehensible, more intelligible and more familiar in the post-test, as compared to participants who received the single accent training (Baese-Berk et al, 2013; Bieber & Gordon-Salant, 2017; Hu et al., 2022; Potter & Saffran, 2017). Consequently, participants who received the multiple accents training were expected to report lower state anxiety rating and lower ASSELF rating in the post-test as compared to participants who received single accent training (Ayuthaya & Sitthitikul, 2016; Derwing et al., 2002). The training effect was expected to be generalized to both same-accent-novel-speaker (i.e., post-test same accent) and novel-accent-novel-speaker (i.e., post-test novel accent; Baese-Berk et al, 2013; Bieber & Gordon-Salant, 2017; Bradlow & Bent, 2003).

The three research hypotheses are summarised as below:

H1: Both single and multiple accent groups will show improvement in the speech-related variables from pre-test to post-test same accent and post-test novel accent after the training. Participants in the multiple accent group will perform better in the speech-related variables (i.e., higher comprehensibility, higher intelligibility, and higher familiarity) than the single accent group.

H2: Both single and multiple accent groups will report lower state anxiety level from pre-test to post-test same accent and post-test novel accent after the training. Participants in the multiple accent group will report lower state anxiety level than the single accent group.

H3: Both single and multiple accent groups will report lower ASSELF anxiety level from pre-test to post-test. Participants in the multiple accent group will report lower ASSELF anxiety level than the single accent group.

5.2.1 Method

5.2.1.1 Design

The experiment adopted a mixed design and had two independent variables. The between-subject independent variable was the number of English variety exposure with two levels: single and multiple accents exposure. The single accent group was exposed to one type of English variety only (i.e., American English) during the speech perception training, whereas the multiple accents group was exposed to five different English varieties (i.e., Vietnamese, Turkish, Brazilian Portuguese, Korean and American English).

The within-subject independent variable was the stages of intervention with three levels: pre-test, post-test same accent and post-test novel accent. In the pre-test, participants were required to evaluate the speech-related variables and report state anxiety towards the pre-test speaker (i.e., Spanish-accented speaker A/SPA A). Then, participants were exposed to the single or multiple accent exposure training depending on the groups that they were allocated to. After that, they were asked to evaluate the speech-related variables and report state anxiety towards the post-test same accent

speaker (a different speaker who shares the same accent as the pre-test speaker aka

Spanish-accented speaker B/SPA B) and post-test novel accent speaker (a different

speaker with a novel accent that was not used in the pre-test and training aka Japanese-

accented speaker/JAP).

There were five dependent variables measured in the experiment which were the

perceived speech comprehensibility, perceived speech familiarity, intelligibility score,

participants' state anxiety and ASSELF (for more details about the scales used, see

Section 5.2.1.5). The perceived speech comprehensibility, perceived speech familiarity,

state anxiety and ASSELF were self-reported ratings, whereas the measure of

intelligibility was operationalised through participants' sentence transcription score. A

high intelligibility score indicates higher proportion of words correctly transcribed from

the sentences.

5.2.1.2 Participants

According to the G power analysis, at least 104 participants were needed for a

mixed design ANOVA to be conducted with a numerator = 2, number of groups = 6,

power of .80, alpha of .05 and a medium effect size (Cohen's f = .31 based on Hu et al.,

2022). In the current study, a total of 105 participants (22 males and 83 females) were

recruited through purposive sampling. All of them were Malaysia ESL speakers and did

not stay in any English-speaking countries for more than one year. Their age was

between 18 and 53 (M = 21.71, SD = 4.06). They speak different L1s such as Mandarin

(n = 79), Cantonese (n = 4), Hakka (n = 1), Malay (n = 12), Hindi (n = 1) and Tamil (n =

2); some claimed to have no clear dominant L1 (n = 4) while the remaining chose not to

provide any information about their L1 (n = 2). Importantly, none of the participants

reported English as their L1. Participants were randomly divided into single and

multiple accent exposure groups (for descriptive statistics of each group see Table 19).

The difference in self-perceived ESL competence and frequency of ESL usage between

single and multiple accent exposure groups would be reported in the result section (see

Section 5.2.2).

Table 19

Descriptive information about participants' gender, mean age, average self-perceived

ESL competence and average frequency of ESL usage based on their accent exposure

groups (standard deviation in brackets).

	Single ($n = 51$)	**Multiple ($n = 54$)**
Age	21.71 (2.51)	21.72 (5.15)
Gender	9 males, 42 females	13 males, 41 females
Self-perceived ESL competence	6.37 (1.23)	6.20 (1.35)
Frequency of ESL usage	43.00 (23.43)	44.46 (19.81)

Note. Self-perceived ESL competence was evaluated in the scale of IELTS band score

1–9. Frequency of ESL usage was evaluated in the percentage scale of 0–100%.

5.2.1.3 Materials

Training and Test Sentence Stimuli. Sentences from the "Hearing in Noise Test

1" sentence list were used for the training stage, whereas sentences from the "Hearing in

Noise Test 2" sentence list were used for the pre- and post-test stages (Soli & Wong,

2008; Vermiglio, 2008; see Appendix G for the lists of sentences). The HINT sentences

were used because they provide short declarative sentences that are suitable for the

training. From the "Hearing in Noise Test 1" sentence list, sentences 1–16 were used for

exposure training day 1, whereas sentences 17–32 were used for exposure training day 2. From the "Hearing in Noise Test 2" sentence list, sentences 1–16 were used for pre-test speech, whereas sentences 17–32 were used for the post-test same accent speech (i.e., SPA B) and sentences 33–48 were used for the post-test novel accent speech (i.e., JAP). Different sentences were used in different stages so that participants could not guess the unintelligible or incomprehensible words from previously exposed sentences. Each sentence contains five to eight words (e.g., The boy is running).

Training and Test Speech Stimuli. The audio recordings used in this experiment were obtained from the Archive of L1 and L2 Scripted and Spontaneous Transcripts and Recording (ALLSSTAR) Corpus (Bradlow, n.d), and were normalized at around 70 dB amplitude using Audacity. The choice of this corpus was motivated by its inclusion of comprehensive speaker information such as speakers' English academic background and proficiency, which enabled speaker details to be carefully matched and controlled for the conducted experiments. Spanish-accented speaker number 36 (SPA A) was chosen as the pre-test speaker whereas both Spanish-accented speaker number 135 (SPA B as the same accent condition) and Japanese-accented speaker number 13 (JAP as the novel accent condition) were chosen as the post-test speakers (see Section 5.2.1.4 for a comparison of the stimuli in terms of their suitability). Multiple speakers were also chosen for the single and multiple accent exposure trainings (see Appendix H for more details about the speakers). For a summary, all speakers of the audio stimuli were males aged between 19 to 29 years old ($M = 23$, $SD = 2.55$). These speakers did not speak English as their L1s and had an English proficiency score between 53 and 62 ($M = 58$, $SD = 2.89$) in the overall Versant Test (i.e., an automated English test developed by

Pearson). The Versant Test posited them as intermediate to upper-intermediate English users (i.e., B1–B2 level) based on the Common European Framework of Reference for Languages.

ASSELF Questionnaire. The ASSELF questionnaire (Wilang & Singhasiri, 2017) was also administered to measure participants' general anxiety in everyday English use communicative scenarios (see Section 2.1.1.2 for more details).

5.2.1.4 Pilot test

Before conducting the actual study, a pilot test was conducted to investigate the perceived comprehensibility rating and intelligibility scores across the pre-test (i.e., sentences 1–16 produced by SPA A), post-test same accent (i.e., sentences 17–32 produced by SPA B) and post-test novel accent (i.e., sentences 33–48 produced by JAP) stimuli. This was to ensure that the speech stimuli used between pre-test and post-test were uniform in their perceived difficulty, so that any improvement observed could be attributed to the accent exposure trainings instead of the difference in stimuli difficulty.

A total of 16 participants were recruited through convenience sampling. The pre-test, post-test same accent and post-test novel accent sentence stimuli were divided into two blocks randomly with a short break between the two blocks. Each sentence would play automatically once for an average of 2s and disappear. Participants had to transcribe what they heard and rate the comprehensibility of each sentence on the same page of for each trial, before they could proceed to the next trial. The average intelligibility score and comprehensibility rating were later computed for pre-test, post-test same accent and post-test novel accent speech. Two one-way repeated measures

ANOVAs were then conducted to compare the (a) perceived comprehensibility ratings and (b) intelligibility scores across the pre-test, post-test same accent and post-test novel accent speech.

The one-way repeated measures ANOVA showed significant difference in perceived comprehensibility rating across the pre-test, post-test same accent and post-test novel accent stimuli (see Figure 4), $F(2, 30) = 6.47$, $p = .005$, $\eta_p^2 = .30$, 90% CI [0.07, 0.46]. Further post-hoc t-tests with Bonferroni correction revealed that the post-test same accent speech was less comprehensible than the post-test novel accent speech, $t(30) = -3.15$, $p = .02$, $d = -1.23$, 95% CI [-2.25, -0.21]. However, there was no significant difference in perceived comprehensibility rating between the pre-test and post-test same accent speech, $t(30) = 1.96$, $p = .21$, $d = 0.61$, 95% CI [-0.29, 1.51], and between the pre-test and post-test novel accent speech, $t(30) = -1.95$, $p = .21$, $d = -0.62$, 95% CI [-1.52, 0.28].

Figure 4

Pilot test result of comprehensibility rating.
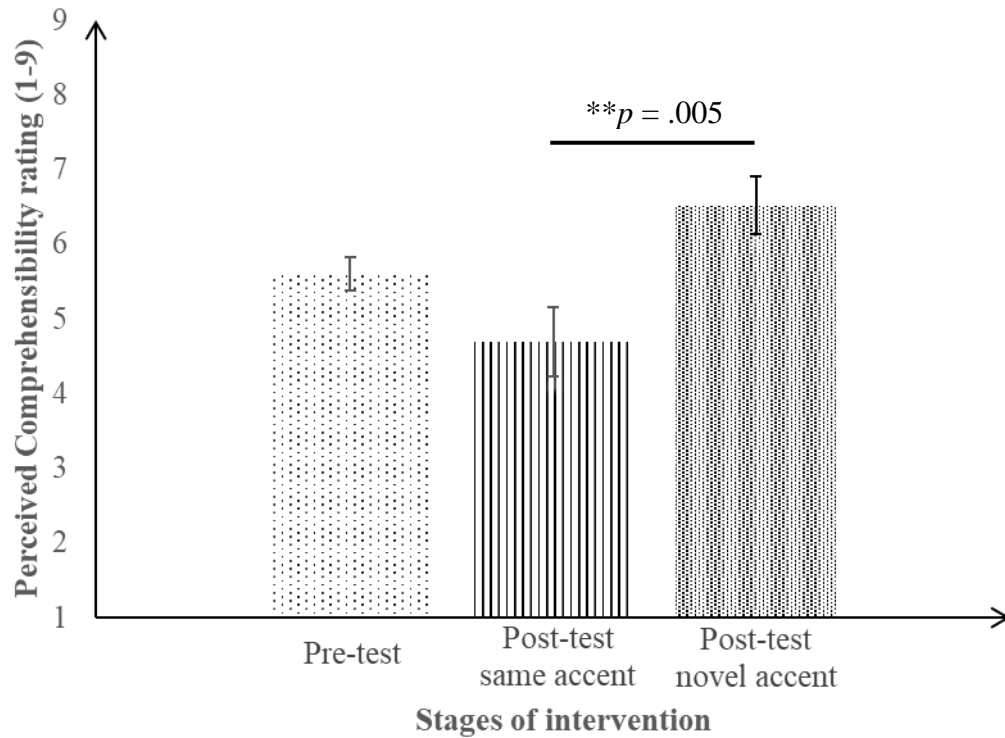
Similarly, another one-way repeated measures ANOVA showed significant

difference in intelligibility score across the three stimuli (see Figure 5), $F(2, 30) = 6.36$,

$p = .005$, $\eta_p^2 = .30$, 90% CI [0.06, 0.45]. Further post hoc t-tests with Bonferroni

correction showed that the post-test same accent speech was less comprehensible than

the post-test novel accent speech, $t(30) = -3.21$, $p = .02$, $d = -1.16$, 95% CI [-2.13, -

0.19]. However, there was no significant difference in intelligibility score between the

pre-test and post-test same accent speech, $t(30) = 1.96$, $p = .20$, $d = 0.72$, 95% CI [-0.16,

1.60], and between the pre-test and post-test novel accent speech, $t(30) = -1.78$, $p = .29$,

$d = -0.44$, 95% CI [-1.28, 0.40].

Figure 5

Pilot test result of intelligibility score.
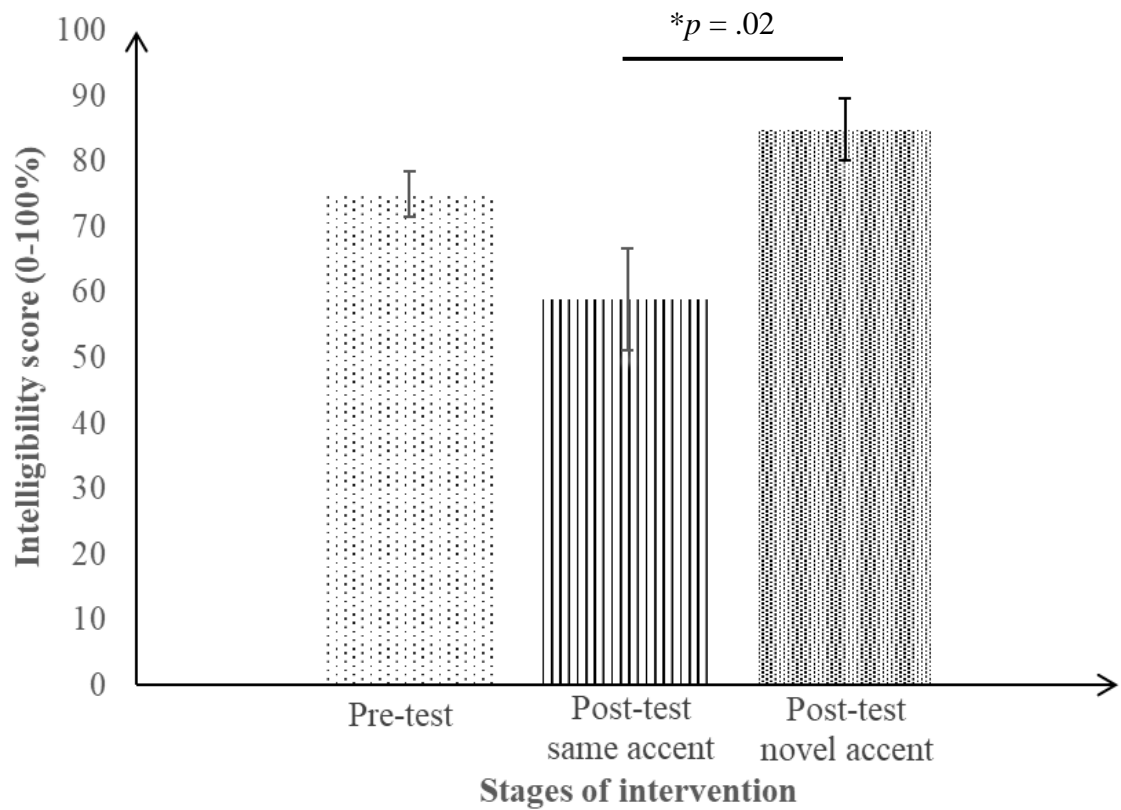
The pilot test results suggested that both pre-test and post-test stimuli were similar in terms of their perceptual difficulty level. Nevertheless, it was important to make sure that the presentation of post-test stimuli was counterbalanced when presented to the participants, to remove any order effect on speech evaluation and anxiety rating that was caused by being presented with either the easier (i.e., novel accent) or harder (i.e., same accent) post-test stimuli first.

5.2.1.5 Procedure

This intervention study was administered online through Qualtrics. The whole study spanned across 10 days. On the first day, participants provided their language background information (i.e., age, gender, L1, nationality, duration of experience abroad in any English-speaking countries, self-perceived ESL competence, frequency of ESL usage and email) and completed the ASSELF questionnaire. One week later, participants who fulfilled the criteria (i.e., Malaysia ESL speaker with less than one year of abroad experience in any English-speaking countries) were contacted through emails to take part in the intervention study. The intervention was divided into three stages (i.e., pre-test, training and post-test) which would be further discussed in the following paragraphs.

In the pre-test stage, participants first started with the sentence transcription task before proceeding to the evaluation task. For each trial of the sentence transcription task, participants were shown an auditory clip that was played automatically once before disappearing. Participants had to type in what they heard in the spaces provided before they could press the "next" button to proceed to the next trial. There were 3 practice trials and 16 actual trials spoken by the same speaker (i.e., SPA A) in the sentence transcription task of the pre-test stage. After the sentence transcription task, participants had to rate the comprehensibility, familiarity and state anxiety directed to SPA A speaker on the same page for the evaluation task. Using similar rating scales as Derwing and Munro (2005), participants were asked to rate (a) comprehensibility of the speaker's speech in bipolar scales from *difficult to understand* (1) to *easy to understand* (9), (b) familiarity towards the speaker's speech in unipolar scales from *not familiar at all* (1) to

extremely familiar (9), and (c) state anxiety rating towards the speaker in unipolar scales

from *not anxious at all* (1) to *extremely anxious* (5). The intelligibility score towards the

pre-test speaker (i.e., SPA A) was calculated by averaging the accuracy of word

recognition (in percentage) of all sentences in the pre-test stage (similar to Derwing &

Munro, 2005). The pre-test stage took roughly 5–10 minutes to complete.

After the pre-test, participants received their first exposure training on the same

day, and their second exposure training in the following day. During the exposure

training, participants only had to complete the sentence transcription task in which they

were asked to transcribe 80 sentences. The same 16 sentences were repeated in five

speaker blocks, summing up to 80 sentences. The 16 sentences used were different

between exposure training day 1 and day 2 (see Section 5.2.1.3 for the sentence stimuli

used for exposure training day 1 and day 2). The five speaker blocks presented five

different speakers in a fixed sequence. For instance, in the single accent exposure group,

the speech stimuli of five different speakers of American English variety were presented

in the order of American speaker A, American speaker B, American speaker C,

American speaker D and American speaker E; in the multiple accent exposure group,

the speech stimuli were presented in the order of American speaker A, Brazilian

Portuguese speaker, Korean speaker, Turkish speaker, and Vietnamese speaker. All the

speech stimuli were, however, randomised within each block. Participants could take a

break between the blocks. One exposure training took roughly 30–40 minutes to

complete.

The post-test was the last day of intervention. Similar to the pre-test stage,

participants had to complete the sentence transcription task and evaluation task. In the

sentence transcription task of the post-test stage, there were 3 practice trials and 32 actual trials (16 trials each for SPA B and JAP speaker block). Participants were asked to transcribe 16 sentences/trials from one speaker block before evaluating the overall comprehensibility, familiarity and state anxiety directed towards the speaker. As suggested by the pilot test result (see Section 5.2.1.4), the SPA B and JAP speaker blocks were presented in a counterbalanced order, in which half of the participants transcribed and rated SPA B first before JAP speaker block, while the other half did vice versa. All sentences were randomised within each block. At the end of the experiment, participants completed the ASSELF questionnaire again. The post-test stage took roughly 15–20 minutes to complete. RM10 was given to compensate their participation. A summary of the intervention timeline is illustrated in Table 20.

Table 20

Timeline of Study 1.

Day	Stage	Task	Number of questions	Sentence list	Sentence numbering
Day 1	Recruitment	Language background	8	N/A	All
		ASSELF	15	N/A	All
Day 8	Pre-test	Sentence transcription + Evaluation	16	HINT 2	SPA A: Sentences 1–16
	Exposure training 1	Sentence transcription	80	HINT 1	Sentences 1–16 $\times$ 5 blocks
Day 9	Exposure training 2	Sentence transcription	80	HINT 1	Sentences 17–32 $\times$ 5 blocks
Day 10	Post-test	Sentence transcription + Evaluation	32	HINT 2	SPA B: Sentences 17–32 JAP: Sentences 33–48
		ASSELF	15	N/A	All

5.2.2 Results

Initially, there were a total of 182 participants, but 77 did not complete all sessions, resulting in 105 participants being included in the final analyses. There was no significant difference between the single and multiple accent exposure groups in their average self-perceived ESL competence ratings, $t(103) = 0.67$, $p = .51$, $d = 0.13$, 95% CI [-0.25, 0.51] and frequency of ESL usage, $t(103) = -0.35$, $p = .73$, $d = -0.07$, 95% CI [-0.45, 0.32]. Therefore, no further action was taken to control for these variables.

Four separate 3 (stages of intervention: pre-test, post-test same accent, post-test novel accent) $\times$ 2 (exposure group: single and multiple accents) mixed design ANOVAs were conducted to examine effects of single and multiple accent exposure on participants' (a) comprehensibility rating, (b) intelligibility scores, (c) familiarity rating, and (d) state anxiety rating respectively. A 2 (stages of intervention: pre-test and post-test) $\times$ 2 (exposure group: single and multiple accents) mixed design ANOVA was also conducted to examine the effects of single and multiple accent groups on ASSELF rating reported in pre-test and post-test. The ANOVA was followed by multiple post-hoc t-tests comparing individual items of ASSELF between pre-test and post-test to identify situations in which the exposure training had helped to alleviate the anxiety feeling.

5.2.2.1 Speech-related Variables

A main effect of stages of intervention was found on the comprehensibility rating after Greenhouse-Geisser correction, $F(1.70, 174.92) = 148.01$, $p < .001$, $\eta_p^2 = .59$, 90% CI [0.51, 0.65]. Compared to the pre-test speech (i.e., SPA A), participants rated higher comprehensibility for the post-test novel accent (i.e., JAP), $t(103) = 3.41$, p

= .002, d = 0.40, 95% CI [0.11, 0.69], but lower for the post-test same accent (i.e., SPA

B), $t(103)$ = -12.90, p < .001, d = -1.50, 95% CI [-1.88, -1.13], after Bonferroni

correction (see Figure 6). Participants also rated higher comprehensibility for JAP than

SPA B, $t(103)$ = 16.31, p < .001, d = 1.90, 95% CI [1.48, 2.33] after Bonferroni

correction. There was no significant exposure group effect, $F(1, 103)$ = 0.23, p = .64, η_p^2

= .002, 90% CI [0, 0.04] and no interaction effect between stages of intervention and

exposure group, $F(1.70, 174.92)$ = 0.19, p = .79, η_p^2 = .002, 90% CI [0, 0.02] on the

comprehensibility rating.

Figure 6

Comprehensibility rating before and after intervention.
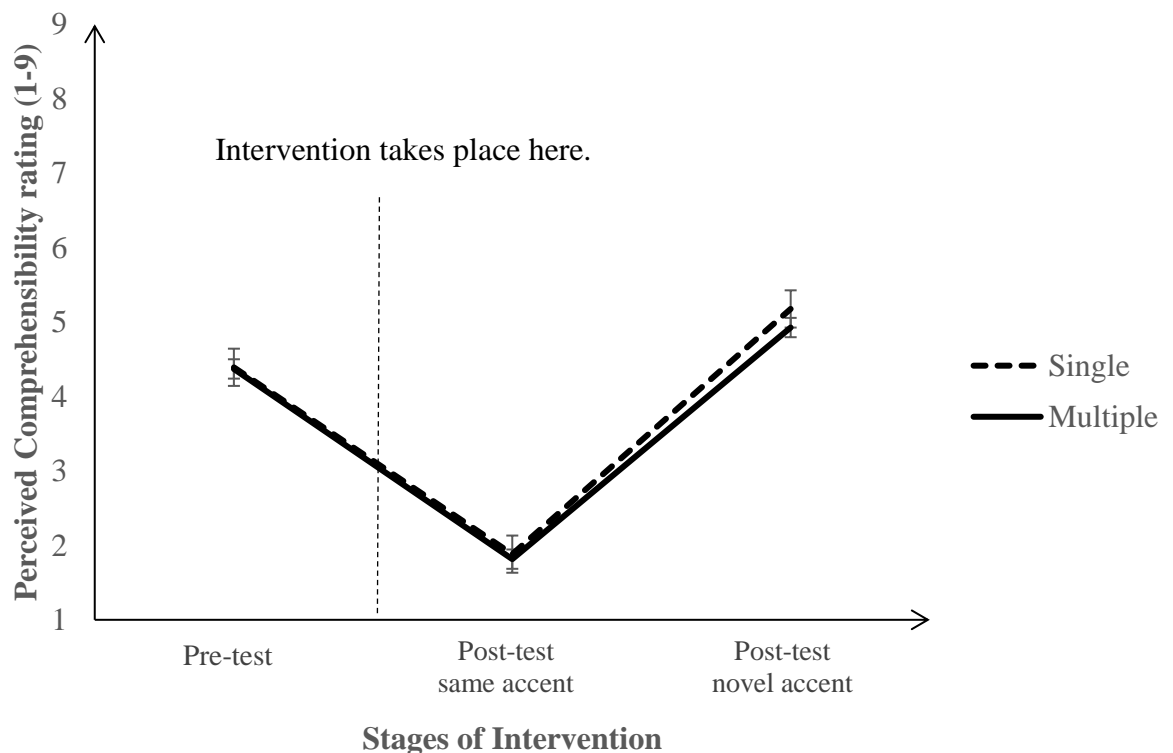
Similarly, a main effect of stages of intervention was found on the intelligibility

score after Greenhouse-Geisser correction, $F(1.85, 190.37)$ = 318.44, p < .001, η_p^2 = .76,

90% CI [0.71, 0.79]. Compared to the pre-test speech (i.e., SPA A), participants scored

higher in the sentence transcription task for the post-test novel accent (i.e., JAP), $t(103)$

$= 11.93$, $p < .001$, $d = 1.19$, 95% CI [0.88, 1.50] but lower for the post-test same accent

(i.e., SPA B), $t(103) = -13.29$, $p < .001$, $d = -1.33$, 95% CI [-1.65, -1.00] after

Bonferroni correction (see Figure 7). Participants also scored higher in the sentence

transcription task for JAP than SPA B, $t(103) = 25.22$, $p < .001$, $d = 2.52$, 95% CI [2.03,

3.00] after Bonferroni correction. There was no significant exposure group effect, $F(1,$

$103) = 1.46$, $p = .23$, $\eta_p^2 = .01$, 90% CI [0, 0.07] and no interaction effect between stages

of intervention and exposure group, $F(1.85, 190.37) = 1.79$, $p = .17$, $\eta_p^2 = .02$, 90% CI

[0, 0.05] on the intelligibility score.

Figure 7

Intelligibility scores before and after intervention.
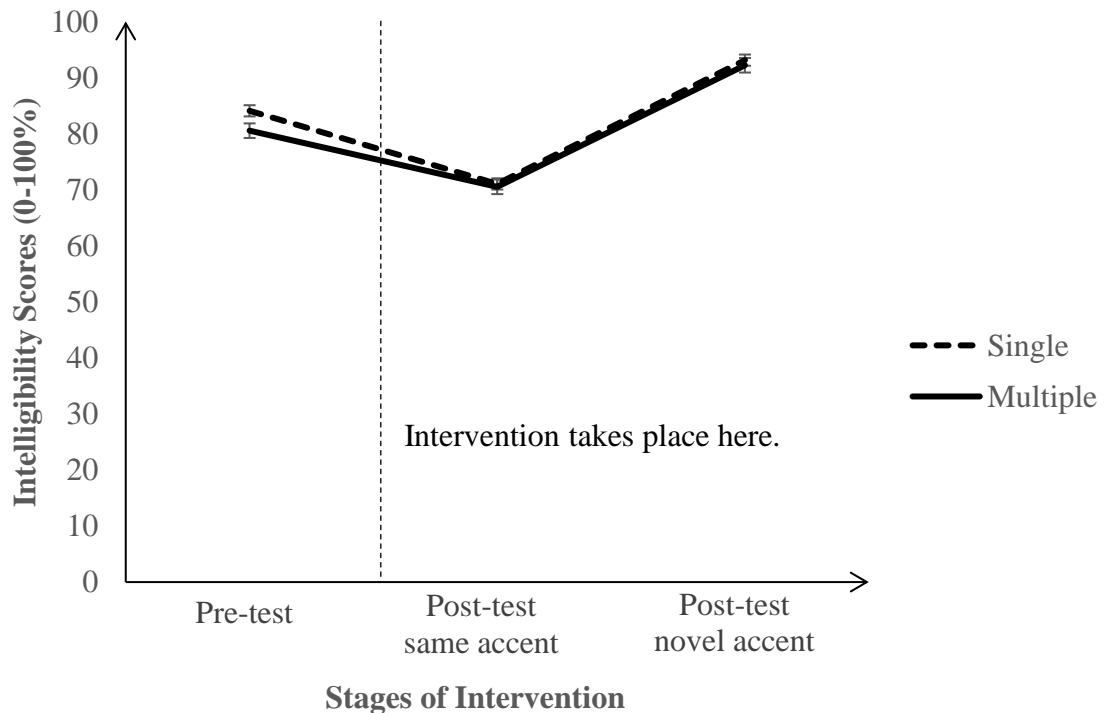
There was also a significant main effect of stages of intervention on the familiarity rating after Greenhouse-Geisser correction, $F(1.83, 188.80) = 99.19$, $p < .001$, $\eta_p^2 = .49$, 90% CI [0.41, 0.55]. Compared to the pre-test speech (i.e., SPA A), participants rated higher familiarity for the post-test novel accent (i.e., JAP), $t(103) = 2.56$, $p = .03$, $d = 0.26$, 95% CI [0.01, 0.51], but lower for the post-test same accent (i.e., SPA B), $t(103) = -10.72$, $p < .001$, $d = -1.09$, 95% CI [-1.40, -0.78] after Bonferroni correction (see Figure 8). Participants also rated higher familiarity for JAP than SPA B, $t(103) = 13.28$, $p < .001$, $d = 1.35$, 95% CI [1.02, 1.68] after Bonferroni correction. There was no significant exposure group effect, $F(1, 103) = 0.14$, $p = .71$, $\eta_p^2 = .001$, 90% CI [0, 0.03] and no interaction effect between stages of intervention and exposure group, $F(1.83, 188.80) = 0.66$, $p = .50$, $\eta_p^2 = .006$, 90% CI [0, 0.03] on the familiarity rating.

Figure 8

Familiarity rating before and after intervention.
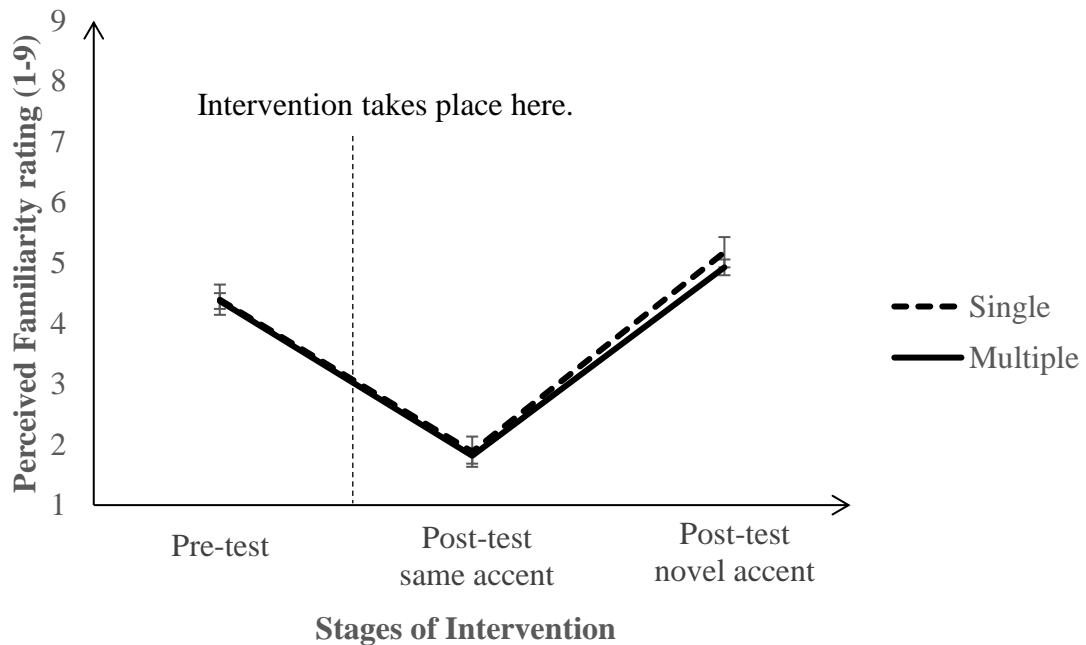
5.2.2.2 L2 Anxiety

There was a significant main effect of stages of intervention on the state anxiety rating, $F(2, 206) = 71.08$, $p < .001$, $\eta_p^2 = .41$, 90% CI [0.32, 0.48]. Compared to the pre-test speech (i.e., SPA A), participants rated lower state anxiety towards the post-test novel accent (i.e., JAP), $t(103) = -3.51$, $p = .002$, $d = -0.35$, 95% CI [-0.60, -0.10] but higher for the post-test same accent (i.e., SPA B), $t(103) = 8.12$, $p < .001$, $d = 0.81$, 95% CI [0.53, 1.08] after Bonferroni correction (see Figure 9). Participants also rated lower state anxiety towards JAP than SPA B, $t(103) = -11.62$, $p < .001$, $d = -1.16$, 95% CI [-1.47, -0.85] after Bonferroni correction. There was no significant exposure group effect, $F(1, 103) = 0.37$, $p = .55$, $\eta_p^2 = .004$, 90% CI [0, 0.05] and no interaction effect between stages of intervention and exposure group, $F(2, 206) = 1.07$, $p = .34$, $\eta_p^2 = .01$, 90% CI [0, 0.04] on the state anxiety rating.

Figure 9

State anxiety rating before and after intervention.
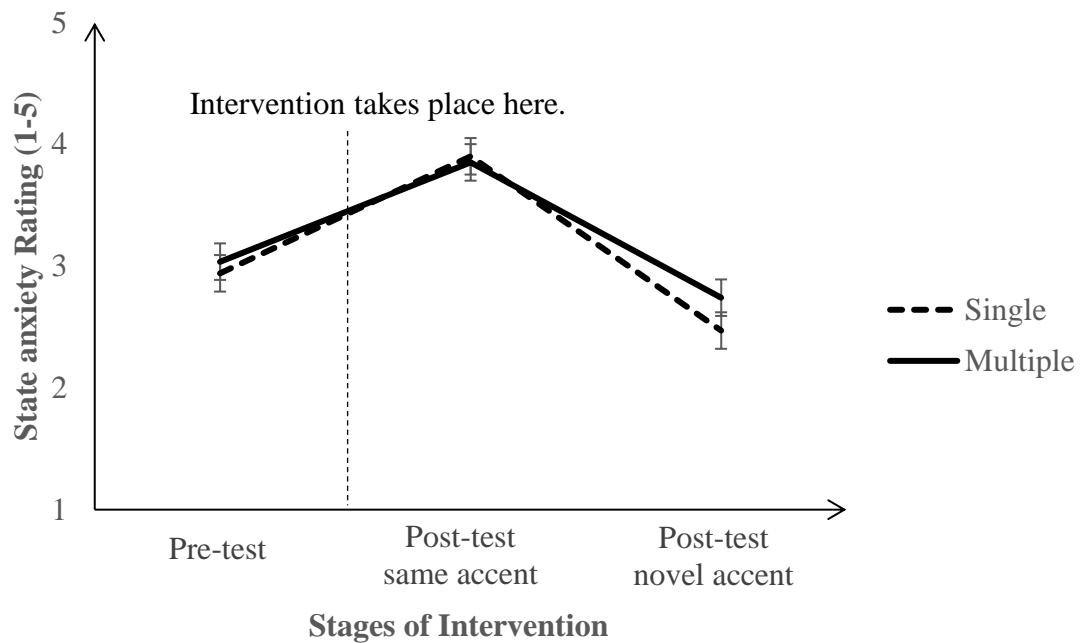
Finally, there was a significant main effect of stages of intervention on the

ASSELF rating, $F(1, 103) = 4.59$, $p = .04$, $\eta_p^2 = .04$, 90% CI [0.002, 0.12]. Compared to

the pre-test stage, participants rated higher ASSELF rating in the post-test after

Bonferroni correction, $t(103) = 2.14$, $p = .04$, $d = 0.15$, 95% CI [0.01, 0.30] (see Figure

10). Further post-hoc repeated measures t-tests showed that participants rated high

anxiety for items related to unfamiliar accents and communication-related difficulties

(e.g., not familiar with interlocutors' words and accents, apprehension over own accent

and when the person seems unwilling to communicate) after the training (see Table 21).

There was no significant exposure group effect, $F(1, 103) = 0.38$, $p = .54$, $\eta_p^2 = .004$,

90% CI [0, 0.05] and no interaction effect between stages of intervention and exposure

group, $F(1, 103) = 0.12$, $p = .73$, $\eta_p^2 = .001$, 90% CI [0, 0.03] on the ASSELF rating.

Figure 10

ASSELF rating before and after intervention.
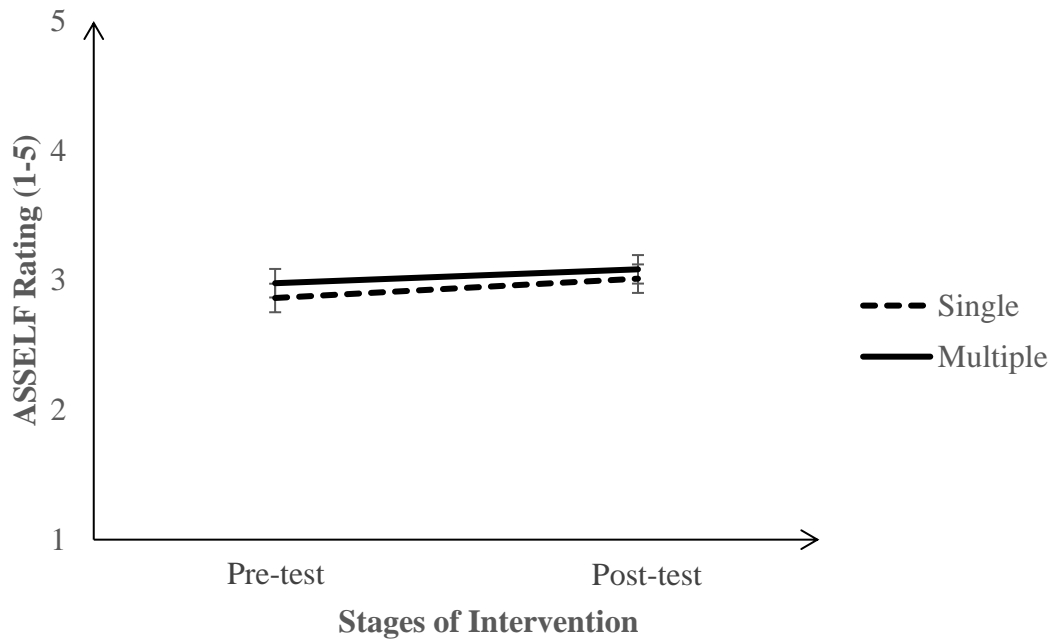
Table 21

Significant pre- and post-test comparisons of ASSELF items with estimates of means and standard deviations.

ASSELF items	Pre-test		Post-test		$t(104)$	d	95% CI	
	M	*SD*	*M*	*SD*			LL	UL
Q3: Not familiar with interlocutors' words/phrases	2.93	1.16	3.19	1.14	2.67*	0.26	0.06	0.45
Q5: When the person seems unwilling to communicate	2.75	1.17	3.11	1.26	2.97*	0.29	0.09	0.48
Q9: My accent is difficult to understand	2.64	1.09	2.91	1.14	2.23*	0.22	0.02	0.41
Q12: Not familiar with others' accent	2.93	1.26	3.21	1.21	2.17*	0.21	0.02	0.41

$*p < .05$

5.2.3 Discussion

The current study aimed to compare the effectiveness of single and multiple accent exposure trainings on speech-related variables (i.e., comprehensibility, intelligibility, and familiarity) and L2 anxiety (e.g., state anxiety and ASSELF ratings). Overall, the results showed that participants from the single and multiple accent exposure groups did not differ in their perception of the speech properties (i.e., comprehensibility, intelligibility, and familiarity) after receiving the trainings, indicating that both groups showed similar trend of development in their speech perception after the trainings. Both trainings had significantly improved speech perception (i.e.,

comprehensibility, intelligibility, and familiarity) from pre-test to post-test novel accent

(i.e., JAP). In comparison to the pre-test speech (i.e., SPA A), the post-test novel accent

speech (i.e., JAP) was more comprehensible, more intelligible and more familiar after

both trainings. The result showed that the exposure training effects, regardless of

whether it was single or multiple accents could be generalised to a different accent that

was not included in the training. However, in comparison to the pre-test speech (i.e.,

SPA A), the post-test same accent speech (i.e., SPA B) was rated by participants to be

less comprehensible, less intelligible and less familiar after both trainings. The

deterioration in speech perception for SPA B was surprising and unexpected, because

the result not only contradicted the positive training effect observed for speaker JAP, but

also opposed the positive exposure training effects reported in past literature (e.g.,

Baese-Berk et al, 2013; Bieber & Gordon-Salant, 2017; Potter & Saffran, 2017).

It may be worth noting that the outcomes of the trainings (i.e., positive for JAP

and negative for SPA B) closely mirrored the pattern observed in the pilot test (see

Section 5.2.1.4). Without the exposure trainings, the pilot test participants already

showed a trend of finding the post-test same accent speaker (i.e., SPA B) to be less

comprehensible and intelligible than the pre-test speaker (i.e., SPA A), whereas post-test

novel speaker (i.e., JAP) to be more comprehensible and intelligible than the pre-test

speaker. The replicated pattern of pilot test results in Study 1 might simply become

more pronounced with a larger sample, suggesting the absence of any discernible

training effect regardless of whether it was positive in JAP or negative in SPA B.

One might also argue that the trainings should improve speech perception, but

the effect observed for post-test same accent speaker was small and possibly masked by

other factors arising from the differences in stimuli used between pre-test and post-test. For instance, the unexpected negative training effect observed could be due to the use of less comprehensible/intelligible post-test same accent *speaker*. This was supported when participants consistently rated post-test same accent speaker (i.e., SPA B) to be harder to comprehend and less intelligible than the pre-test speaker (i.e., SPA A) in both the pilot test and Study 1. Another possible issue could be the use of less comprehensible/intelligible post-test same accent *sentences*. This was supported when participants consistently rated post-test sentences (i.e., sentences 17–32) to be harder to comprehend and less intelligible than the pre-test sentences (i.e., sentences 1–16) in both the pilot test and Study 1. To examine whether the *speaker* and *sentence* differences contributed to the unexpected negative training effect observed for SPA B, follow-up investigations were necessary. These investigations will be reported in Study 2 (see Section 5.3) and Study 3 (see Section 5.4) respectively.

Participants from the single and multiple accent exposure groups also did not differ in L2 anxiety (as measured by state anxiety and ASSELF ratings) after receiving the trainings. Both single and multiple accent exposure trainings increased the state anxiety rating for post-test same accent (i.e., SPA B), and reduced the state anxiety rating for post-test novel accent (i.e., JAP). The increase in state anxiety towards SPA B was, again, surprising and unexpected, as opposed to what was observed of JAP. The trend of state anxiety result seemed to replicate the speech perception findings, in which the lower the speech-related variables (i.e., comprehensibility rating, intelligibility score and familiarity rating), the higher the state anxiety rating. When the speech was perceived to be difficult to understand, the state anxiety increased accordingly. This

perhaps explained why participants rated higher state anxiety towards SPA B than JAP, despite that the exposure training was expected to reduce anxiety. Considering that the post-test same accent speech was rated to be more challenging than the pre-test, it was possible that it led to higher state anxiety towards SPA B. That being said, the stimuli differences (e.g., speaker and sentence differences) between pre-test and post-test should be addressed before further inferences could be made on the effects of exposure trainings on state anxiety of Malaysia ESL speakers.

When ASSELF items were further analysed between pre-test and post-test, participants found unfamiliar accents and communication-related difficulties (e.g., not familiar with interlocutors' words and accents, apprehension over own accent and when the other interlocutor seems unwilling to communicate) to be more anxiety-provoking after the trainings. These ASSELF items mainly fell under the sub-categories of *interlocutor-induced difficulties* (e.g., worrying about the possible communication difficulties that would be induced by other interlocutors' questionings and responses) and *language decoding difficulties* (e.g., concerning about their linguistic abilities to interpret and understand the different accented English). Noteworthily, the trainings had increased Malaysia ESL speakers' concerns of language decoding difficulties which were not rated to be particularly anxiety-provoking in the previous chapters. Perhaps the exposure trainings might have made one recognizes their shortcomings in understanding accented English speech, therefore resulting in greater concern about *language decoding difficulties* after the trainings.

In summary, the results showed that there was no significant difference between the single and multiple accent exposure trainings with their effects on Malaysia ESL

speakers' speech perception (i.e., comprehensibility, intelligibility, and familiarity) and

L2 anxiety (e.g., state anxiety rating, ASSELF rating). While the speech perception (i.e.,

comprehensibility, intelligibility, and familiarity) was enhanced and the state anxiety

rating was reduced from pre-test to post-test novel accent, the opposite direction was

observed from pre-test to post-test same accent in which the speech perception

deteriorated and state anxiety rating increased. The next two studies were conducted to

investigate the potential explanations (i.e., speaker and sentence differences) behind the

unexpected negative exposure training effect observed for SPA B.

5.3 Study 2: Impact of Speaker Differences

The negative exposure training effect observed in Study 1 could be due to the

speaker differences between pre-test and post-test. Speaker differences here mainly refer

to the accent and pronunciation variations of the speakers, in which some might have

better enunciation than the other although they might share similar L1 background and

speak the same variety of English (Matsumoto, 2011). It might be difficult for

participants to apply what they had learned from the exposure trainings, if the post-test

same accent speaker (i.e., SPA B) possessed stronger strength of accent than the pre-test

speaker (i.e., SPA A). This could result in the negative training effect observed for SPA

B with more negative speech-related evaluation and higher L2 anxiety ratings.

Therefore, the current study sought to address the issue by testing the effects of the same

exposure trainings with the use of (a) the same pre-test speaker and (b) a potentially

easier same accent speaker as the post-test speakers.

To allow a direct comparison of the training effects to be made without any

speaker differences between pre-test and post-test, Study 1 was conducted again with

the same pre-test speaker in the post-test (i.e., SPA A2). If the trainings improved speech perception (e.g., intelligibility, comprehensibility and familiarity) and reduced L2 anxiety after using the same pre-test speaker in the post-test, the negative training effect in Study 1 could be attributed to speaker differences between pre-test and post-test stimuli. However, if the same detrimental training effects were found, speaker differences as the explanation of the negative training effect could be ruled out.

Nevertheless, with the use of speech stimuli from the same speaker in pre- and post-test (i.e., SPA A), any improvement observed in the post-test could still be attributed to practice effect. Therefore, the current study also included speech stimuli produced by a third speaker who spoke English in the same Spanish accent as the post-test stimuli. This third Spanish English speaker was named as SPA C in this study. This speaker was perceived to be potentially easier with weaker L1 accent in his English speech as judged by the researchers involved. If the trainings improved speech perception (e.g., intelligibility, comprehensibility and familiarity) and reduced L2 anxiety towards the potentially easier post-test speaker as expected of any typical intervention or training, the negative training effects observed in Study 1 could be attributed to the higher difficulty level of the post-test speaker used. In contrary, if the same negative training effect was still observed with this alleged less accented and potentially more intelligible and comprehensible SPA C, this suggested that the exposure trainings could bring in negative impact on speech perception and L2 anxiety which would be further discussed.

Study 2 replicated the same training plan as Study 1 with different post-test stimuli: (a) same speaker as the pre-test stimuli (i.e., post-test same speaker aka SPA

A2) and (b) a potentially easier speaker with the same accent as the pre-test stimuli (i.e.,

post-test novel speaker aka SPA C). Similar to Study 1's hypotheses, both single and

multiple accent training groups would show an improvement in the speech-related

variables (i.e., comprehensibility, intelligibility, and familiarity) and a decrease in L2

anxiety. Participants who received the multiple accents training was also hypothesised to

understand the speech better with higher ratings and scores for the speech-related

variables (i.e., comprehensibility, intelligibility, and familiarity) in the post-test, as

compared to participants who received the single accent training. Consecutively,

participants who received the multiple accents training were hypothesised to report

lower state anxiety rating and lower ASSELF rating in the post-test as compared to

participants who received the single accent training.

The three research hypotheses were summarised as below:

H1: Both single and multiple accent groups will show improvement in the

speech-related variables from pre-test to post-test same accent and post-test novel accent

after the training. Participants in the multiple accent group will perform better in the

speech-related variables (i.e., higher comprehensibility, higher intelligibility, and higher

familiarity) than the single accent group.

H2: Both single and multiple accent groups will report lower state anxiety level

from pre-test to post-test same accent and post-test novel accent after the training.

Participants in the multiple accent group will report lower state anxiety level than the

single accent group.

H3: Both single and multiple accent groups will report lower ASSELF anxiety level from pre-test to post-test. Participants in the multiple accent group will report lower ASSELF anxiety level than the single accent group.

5.3.1 Method

5.3.1.1 Design

Similar to Study 1 (see Section 5.2.1.1), this was a mixed design with two independent variables. The within-subject independent variable was the stages of intervention with three levels: pre-test, post-test same speaker and post-test novel speaker. The pre-test speaker remained the same (i.e., SPA A). Different from Study 1 that examined generalization of training effects across same and novel accents in the post-test, the current study only examined generalization of training effect across different speakers who shared the same accent: (a) post-test same speaker (same speaker as the pre-test stimuli, termed as SPA A2 in this study) and (b) post-test novel speaker (a potentially easier speaker with the same accent, termed as SPA C in this study).

The between-subject variable and dependent variables were similar to Study 1. The between-subject independent variable was the number of English variety exposure during training with two levels: single (i.e., American English) and multiple (i.e., Vietnamese, Turkish, Brazilian Portuguese, Korean and American English) accents exposure. There were five dependent variables which were the perceived speech comprehensibility, perceived speech familiarity, intelligibility score, state anxiety rating and ASSELF rating. All dependent variables were self-reported ratings except intelligibility measure which was operationalised through the scores of sentence transcription task.

5.3.1.2 Participants

A total of 104 participants (21 males and 83 females) were recruited through purposive sampling. This group of participants was not the same group of participants in Study 1. All of them were Malaysia ESL speakers who did not stay in any English-speaking countries for more than one year. Their age ranged between 18 and 35 ($M =$ 22.51, $SD =$ 3.44). All participants reported to speak different L1s, such as Mandarin (n = 69), Cantonese ($n =$ 4), Hokkien ($n =$ 1), Malay ($n =$ 26), Tamil ($n =$ 3) and Kadazan ($n =$ 1). Participants were divided randomly into single and multiple accent exposure groups (for descriptive statistics of each group see Table 22). The difference in self-perceived ESL competence and frequency of ESL usage between single and multiple accent exposure groups would be reported in the result section (see Section 5.3.2).

Table 22

Descriptive information about participant's number, mean age, gender, average self-perceived ESL competence and average frequency of ESL usage based on the accent exposure groups (standard deviation in brackets).

	Single ($n =$ 52)	Multiple ($n =$ 52)
Age	22.60 (3.53)	22.42 (3.39)
Gender	10 males, 42 females	11 males, 41 females
Self-perceived ESL competence	6.33 (1.06)	5.98 (1.46)
Frequency of ESL usage	44.71 (21.71)	47.23 (23.31)

Note. Self-perceived ESL competence was evaluated in the scale of IELTS band score 1–9. Frequency of ESL usage was evaluated in the percentage scale of 0–100%.

5.3.1.3 Materials

Similar to Study 1, the same sentence stimuli and ASSELF questionnaire were used in the current study (refer to Section 5.2.1.3). However, different post-test speech stimuli were used in the current study. Speech stimuli from the pre-test speaker were used to assess training effects in the post-test (i.e., SPA A2), replacing the post-test same accent speaker (i.e., SPA B) in Study 1. Another potentially easier novel speaker (i.e., Spanish-accented speaker number 134 aka SPA C) was included as the second post-test speaker (for more details about the speaker see Appendix H), replacing the post-test novel accent speaker (i.e., JAP) in Study 1.

5.3.1.4 Pilot test

A pilot test was conducted to compare speech comprehensibility and intelligibility between SPA A and SPA C using the same 16 sentences of the post-test novel accent speech in Study 1 (i.e., sentences 33–48). This comparison was important to show that the difficulty level of post-test novel speaker (i.e., SPA C) did not differ much from the pre-test or post-test same speaker (i.e., SPA A) in the current study, to assess the generalizability of training effect across novel speaker.

A total of 16 Malaysia ESL speakers were recruited through convenience sampling. The pilot test participants were asked to complete the sentence transcription task for the 16 sentences. Each sentence was played automatically once before it disappeared. After hearing a sentence, participants had to transcribe what they heard and rate the comprehensibility of that sentence on the same page in one trial, before they could proceed to the next trial. Sentences were divided into two blocks (i.e., sentences 33–40 and sentences 41–48). Half of the participants transcribed the first sentence block

in SPA A speech before the other sentence block in SPA C speech, whereas the other half participants did vice versa. The speakers' speech was counterbalanced to ensure that participants heard all sentences in both SPA A and SPA C speech while avoiding the sequence effect. All sentences were randomised within each sentence block and were only transcribed once. The average intelligibility score and comprehensibility rating were later computed for pre-test/post-test same speaker (aka SPA A) and post-test novel speaker (aka SPA C) speech.

The repeated measures t-tests showed no significant difference in perceived comprehensibility rating, $t(15) = -2.02$, $p = .06$, $d = -0.51$, 95% CI [-1.02, 0.02], and intelligibility score, $t(15) = -2.10$, $p = .05$, $d = -0.52$, 95% CI [-1.04, 0.01] between SPA A (M of comprehensibility ratings = 4.40, $SD = 1.22$; M of intelligibility scores = 68.13, $SD = 22.72$) and SPA C (M of comprehensibility ratings = 4.76, $SD = 1.00$; M of intelligibility scores = 76.56, $SD = 18.41$) speech. The non-significant results indicated that SPA C is an appropriate post-test speaker, possessing a similar difficulty level to the pre-test speaker SPA A, thus allowing comparable comparison between pre- and post-test performance to observe any training effect.

5.3.1.5 Procedure

Similar to Study 1, participants completed the whole online intervention study in the span of 10 days (see Section 5.2.1.5). On the first day, participants provided their language background information and completed the ASSELF questionnaire. One week later, participants who fulfilled the criteria (i.e., Malaysia ESL speaker with less than one year of abroad experience in any English-speaking countries) were contacted through emails to take part in the intervention study. The intervention was divided into

three stages which included the pre-test, training and post-test stages. In the pre-test

stage, participants completed the sentence transcription task and evaluation task. After

the pre-test, participants received their first exposure training on the same day, and their

second exposure training in the following day. During the exposure training, participants

only had to complete the sentence transcription task. The post-test was the last day of

intervention. Similar to the pre-test stage, participants had to complete the sentence

transcription task and evaluation task. In contrast to Study 1, different speech stimuli

were employed in the post-test stage of the sentence transcription task. SPA A2 and

SPA C were used in place of SPA B and JAP in Study 1 respectively. The changes made

for Study 2 were summarised and boldened in Table 23 below. Participants were given

RM10 as compensation of their participation.

Table 23

Timeline of Study 2

Day	Stage	Task	Number of questions	Sentence list	Sentence numbering
Day 1	Recruitment	Language background	8	N/A	All
		ASSELF	15	N/A	All
Day 8	Pre-test	Sentence transcription + Evaluation	16	HINT 2	SPA A: Sentences 1–16
	Exposure training 1	Sentence transcription	80	HINT 1	Sentences 1–16 × 5 blocks
Day 9	Exposure training 2	Sentence transcription	80	HINT 1	Sentences 17–32 × 5 blocks
Day 10	Post-test	Sentence transcription + Evaluation	32	HINT 2	**SPA A2**: Sentences 17–32 **SPA C**: Sentences 33–48
		ASSELF	15	N/A	All

5.3.2 Results

Initially, there were a total of 117 participants, but 13 dropped out resulting in 104 participants being included in the final analyses. There was no significant difference between the single and multiple accent exposure groups in their self-perceived ESL competence ratings, $t(102) = 1.38$, $p = .17$, $d = 0.27$, 95% CI [-0.12, 0.66], and frequency of ESL usage, $t(102) = -0.57$, $p = .57$, $d = -0.11$, 95% CI [-0.50, 0.27]. Therefore, no further action was taken to control for these variables.

Four 3 (stages of intervention: pre-test, post-test same speaker, post-test novel speaker) $\times$ 2 (exposure group: single and multiple accents) mixed design ANOVAs were conducted to examine effects of single and multiple accent exposure on participants' (a) comprehensibility rating, (b) intelligibility score, (c) familiarity rating, and (d) state anxiety rating respectively. A 2 (stages of intervention: pre-test and post-test) $\times$ 2 (exposure group: single and multiple accents) mixed design ANOVA was also conducted to examine effects of single and multiple accent exposure on ASSELF rating reported in pre-test and post-test. The ANOVA was followed by multiple post-hoc t-tests comparing the individual items of ASSELF between pre-test and post-test to identify situations in which the exposure trainings had helped to alleviate the anxiety feeling.

5.3.2.1 Speech-related Variables

There was a significant main effect of stages of intervention on comprehensibility rating after Greenhouse-Geisser correction, $F(1.78, 181.27) = 45.99$, $p < .001$, $\eta_p^2 = .31$, 90% CI [0.22, 0.39]. Compared to pre-test (i.e., SPA A), participants rated lower comprehensibility for the same speaker in the post-test (i.e., SPA A2), $t(102)$

= -8.90, $p < .001$, $d = -1.06$, 95% CI [-1.38, -0.74] and post-test novel speaker (i.e., SPA

C), $t(102) = -5.29$, $p < .001$, $d = -0.64$, 95% CI [-0.93, -0.35] after Bonferroni

corrections (see Figure 11). Participants also rated lower comprehensibility for SPA A2

than SPA C after Bonferroni correction, $t(102) = -4.67$, $p < .001$, $d = -0.42$, 95% CI [-

0.69, -0.14]. There was, however, no main effect of exposure group, $F(1, 102) = 0.36$, p

= .55, η_p^2 = .003, 90% CI [0, 0.05] and no interaction effect between stages of

intervention and exposure group, $F(1.78, 181.27) = 0.23$, $p = .77$, $\eta_p^2 = .002$, 90% CI [0,

0.02] on comprehensibility rating.

Figure 11

Comprehensibility rating before and after intervention.
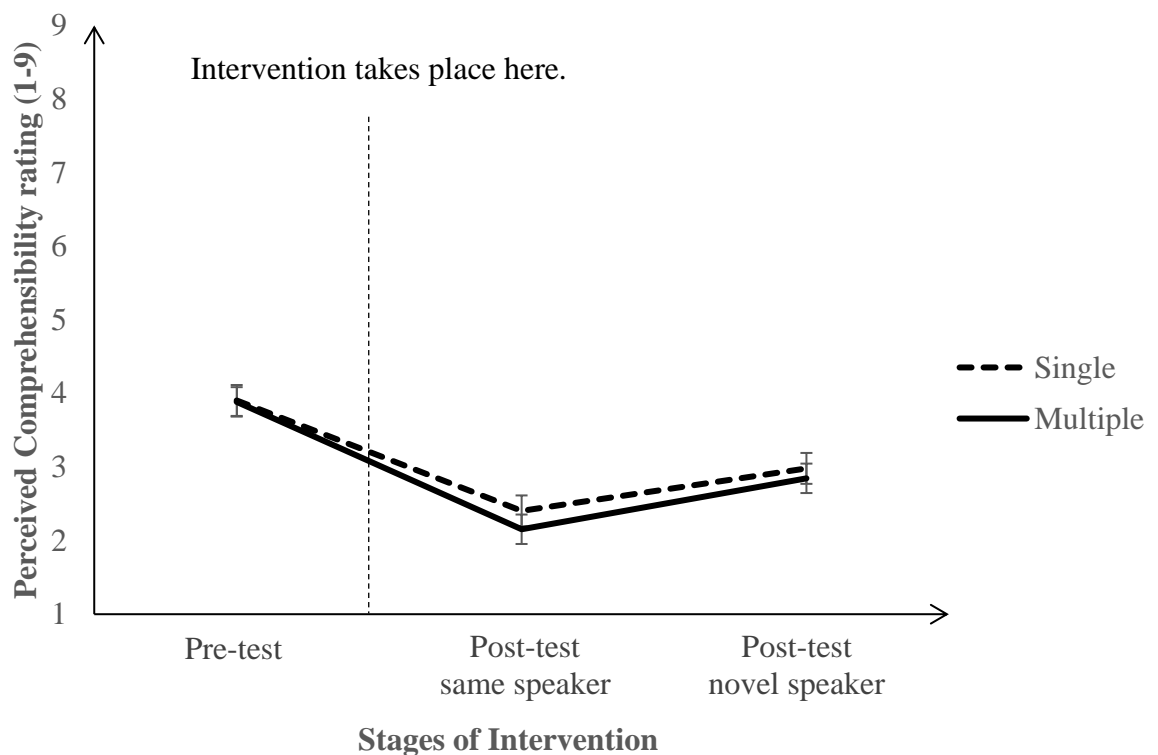
There was a significant main effect of stages of intervention on intelligibility score after Greenhouse-Geisser correction, $F(2, 204) = 58.89$, $p < .001$, $\eta_p^2 = .37$, 90% CI [0.28, 0.44]. Compared to the pre-test speaker (i.e., SPA A), participants scored lower in the sentence transcription task for post-test same speaker (i.e., SPA A2), $t(102) = -9.36$, $p < .001$, $d = 0.83$, 95% CI [-1.08, -0.58], but no difference with the post-test novel speaker (i.e., SPA C), $t(102) = -0.42$, $p = 1.00$, $d = -0.04$, 95% CI [-0.25, 0.17] (see Figure 12). Participants also scored lower in the sentence transcription task for SPA A2 than SPA C, $t(102) = -9.68$, $p < .001$, $d = -0.79$, 95% CI [-1.04, -0.54]. There was no main effect of exposure group $F(1, 102) = 0.002$, $p = .97$, $\eta_p^2 = .00002$, 90% CI [0, 0] and no interaction effect between stages of intervention and exposure group, $F(2, 204) = 0.61$, $p = .55$, $\eta_p^2 = .006$, 90% CI [0, 0.03] on intelligibility score.

Figure 12

Intelligibility score before and after intervention.

There was a significant effect of stages of intervention on familiarity rating after Greenhouse-Geisser correction, $F(1.76, 179.75) = 9.55$, $p < .001$, $\eta_p^2 = .09$, 90% CI [0.03, 0.15]. Compared to the pre-test speaker (i.e., SPA A), participants found the post-test same speaker (i.e., SPA A2), $t(102) = -3.77$, $d = -0.43$, 95% CI [-0.68, -0.18], $p < .001$ and the post-test novel speaker (i.e., SPA C), $t(102) = -2.82$, $d = -0.28$, 95% CI [-0.52, -0.04], $p = .02$ to be less familiar after Bonferroni corrections (see Figure 13). There was no significant difference in the familiarity rating between SPA A2 and SPA C, $t(102) = -1.81$, $p = 0.22$, $d = -0.15$, 95% CI [-0.39, 0.09]. There was also no significant exposure group effect, $F(1, 102) = 1.36$, $p = .25$, $\eta_p^2 = .01$, 90% CI [0, 0.07] and no interaction effect between stages of intervention and exposure group, $F(1.76, 179.75) = 0.24$, $p = .76$, $\eta_p^2 = .002$, 90% CI [0, 0.02] on familiarity rating.
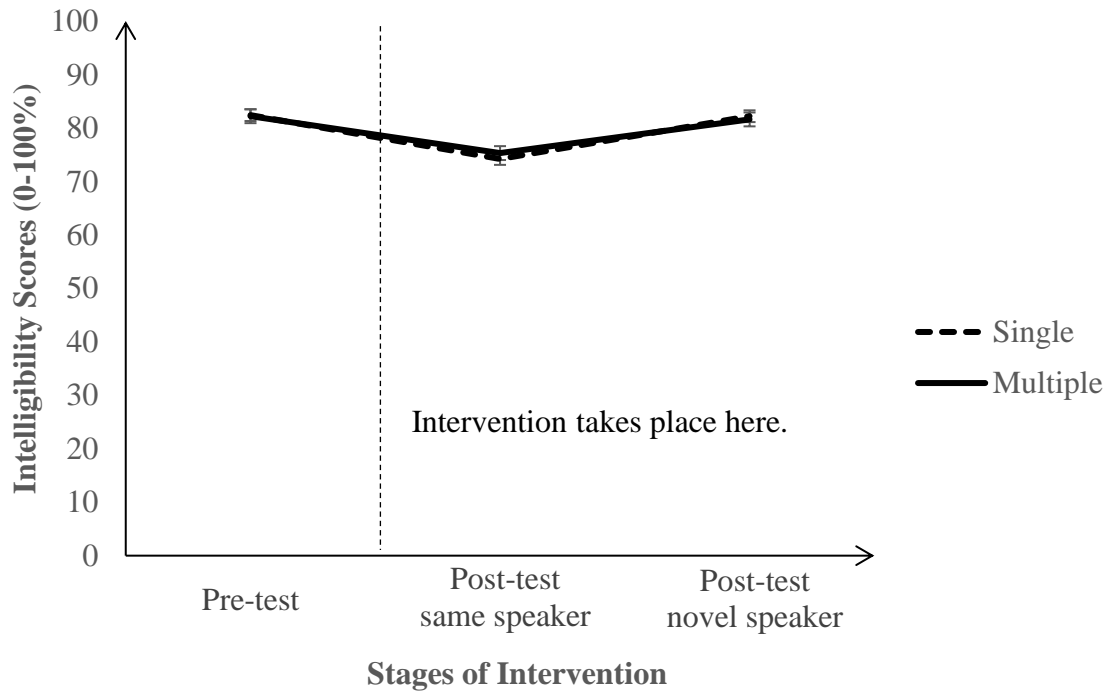
Figure 13

Familiarity rating before and after intervention.
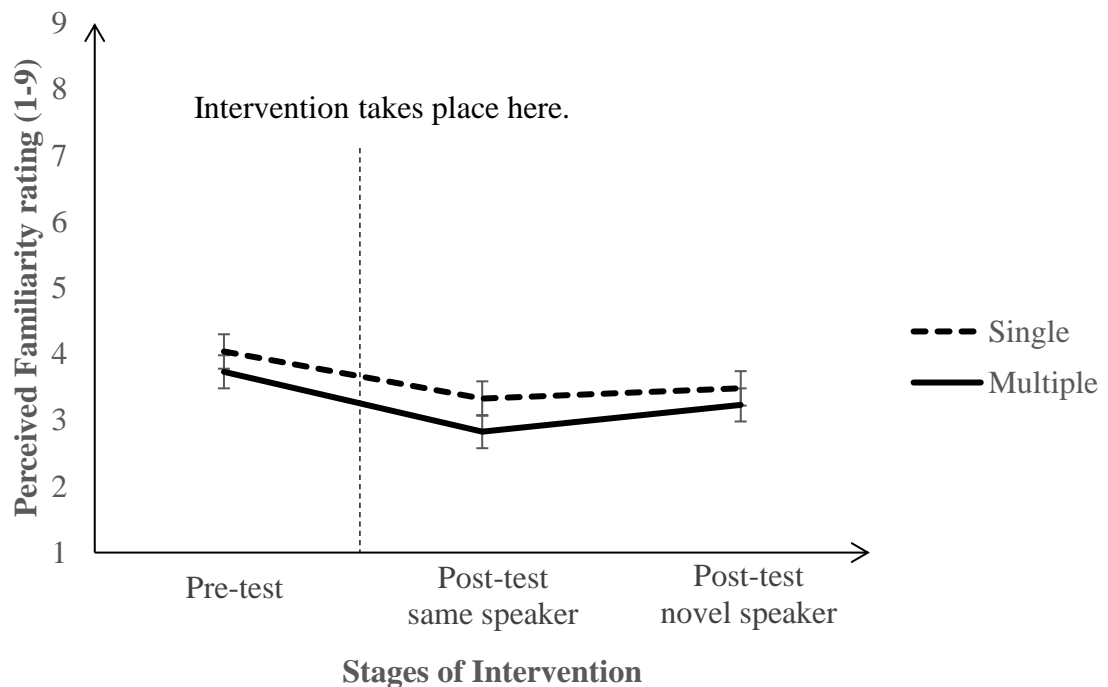
5.3.2.2 L2 Anxiety

There was a significant main effect of stages of intervention on state anxiety

rating after Greenhouse-Geisser correction, $F(1.82, 185.96) = 14.43$, $p < .001$, $\eta_p^2 = .12$,

90% CI [0.06, 0.19]. Compared to the pre-test speaker (i.e., SPA A), participants rated

higher state anxiety towards the post-test same speaker (i.e., SPA A2), $t(102) = 4.98$, p

$< .001$, $d = 0.40$, 95% CI [0.21, 0.60], but no difference with the post-test novel speaker

(i.e., SPA C), $t(102) = 2.38$, $p = .06$, $d = 0.20$, 95% CI [0.01, 0.38] after Bonferroni

corrections. Participants also rated higher state anxiety for SPA A2 as compared to SPA

C, $t(102) = 3.30$, $p = .004$, $d = 0.21$, 95% CI [0.02, 0.39]. There was no significant

exposure group effect, $F(1, 102) = 1.64e^{-29}$, $p = 1.00$, $\eta_p^2 = 1.61e^{-31}$, 90% CI [0, 0] on

state anxiety rating.

Interestingly, there was a significant interaction effect between stages of

intervention and exposure group on state anxiety rating after Greenhouse-Geisser

correction (see Figure 14), $F(1.82, 185.96) = 3.53$, $p = .04$, $\eta_p^2 = .03$, 90% CI [0.001,

0.08]. After Bonferroni correction, further post hoc t-tests revealed that within the single

accent exposure group, participants were more anxious listening to post-test same

speaker (i.e., SPA A2), $t(102) = 4.96$, $p < .001$, $d = 0.53$, 95% CI [0.19, 0.86] and post-

test novel speaker (i.e., SPA C), $t(102) = 3.72$, $p = .004$, $d = 0.40$, 95% CI [0.07, 0.72] as

compared to the pre-test speaker (i.e., SPA A). Within the multiple accent training

group, there was no significant difference in state anxiety rating across pre-test, post-test

same speaker and post-test novel speaker (ps $> .14$). For each stage of intervention (i.e.,

pre-test, post-test same speaker and post-test novel speaker), there was no significant

difference in state anxiety rating between single and multiple accent exposure groups (*ps*

= 1.00).

Figure 14

State anxiety rating before and after intervention.
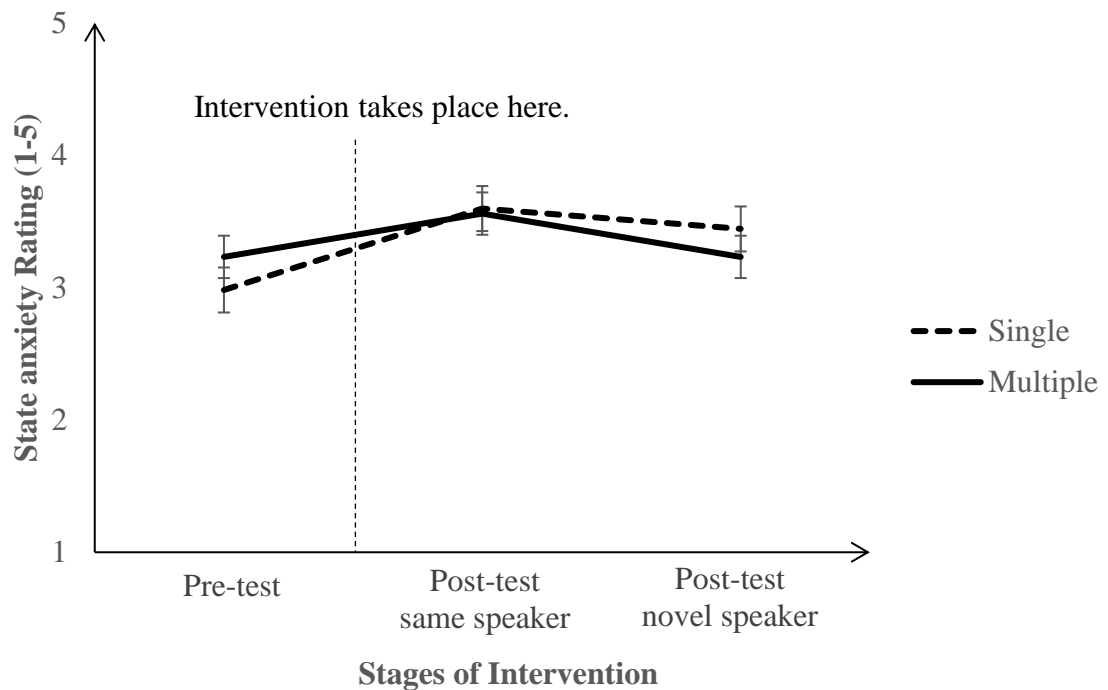
There was a significant effect of stages of intervention on ASSELF rating, $F(1,$

$102) = 7.49$, $p = .007$, $\eta_p^2 = .07$, 90% CI [0.01, 0.16]. Participants rated higher ASSELF

rating in the post-test than the pre-test after Bonferroni correction, $t(102) = 2.75$, p

= .007, $d = 0.34$, 95% CI [0.09, 0.59] (see Figure 15). In particular, post-hoc repeated

measures t-tests revealed that participants were more anxious for items related to

communication difficulties and unfamiliar accents after the training (see Table 24).

There was no significant exposure group effect, $F(1, 102) = 0.47$, $p = .50$, $\eta_p^2 = .005$,

90% CI [0, 0.05] and no interaction effect between stages of intervention and exposure

group, $F(1, 102) = 0.003$, $p = .96$, $\eta_p^2 = 3.01e^{-5}$, 90% CI [0, 0] on ASSELF rating.

Figure 15

ASSELF rating before and after intervention.
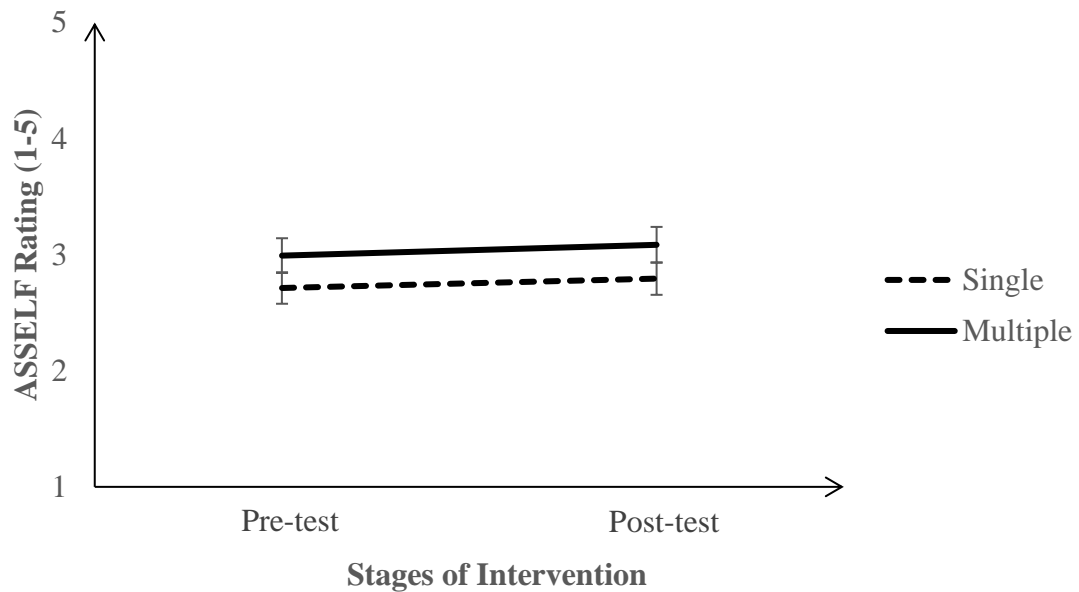
Table 24

Significant pre- and post-test comparisons of ASSELF items with estimates of means and standard deviations.

ASSELF items	Pre-test		Post-test		$t(103)$	d	95% CI	
	M	SD	M	SD			LL	UL
Q1: When I don't know the answer	2.65	0.99	2.97	1.10	-2.19*	-0.22	-0.41	-0.02
Q5: When the person seems unwilling to communicate	2.89	1.18	3.26	1.22	-2.10*	-0.21	-0.40	-0.01
Q8: cannot decode interlocutor's words/phrases	2.76	0.97	3.14	1.12	-2.56*	-0.25	-0.45	-0.06

Q9: my accent is difficult to understand	2.61	1.15	3.13	1.22	-2.98*	-0.29	-0.49	-0.10
Q12: not familiar with others' accent	2.62	1.06	3.09	1.13	-3.20*	-0.31	-0.51	-0.12
Q15: more than two interlocutors	2.13	1.17	2.50	1.17	-2.30*	-0.23	-0.42	-0.03

*p < .05

5.3.3 Discussion

The current study aimed to examine speaker differences to explain the negative training effect observed for SPA B in Study 1. To examine the direct training effect on speech perception, speech stimuli from the same pre-test speaker was used as the post-test stimuli (i.e., SPA A2). To investigate whether the unobserved exposure training effect in Study 1 was masked by greater difficulty level of the post-test stimuli posed by the less comprehensible and intelligible SPA B, a potentially easier speaker with the same accent as the pre-test (i.e., SPA C) was also included as one of the post-test stimuli. The two post-test speakers (SPA A2 and SPA C) were examined separately in the following paragraphs. The effects of single and multiple accent exposure on speech-related variables (comprehensibility, intelligibility, and familiarity) were first discussed, followed by the discussion of the effects of single and multiple accent exposure on L2 anxiety (i.e., state anxiety and ASSELF ratings).

Participants from the single and multiple accent exposure groups, again, did not differ in their ratings for the speech-rated variables (i.e., comprehensibility, intelligibility, and familiarity) after receiving the trainings. Instead, both exposure trainings had significantly deteriorated speech perception (i.e., comprehensibility,

intelligibility, and familiarity) for the post-test same speaker. In comparison to the pre-test speaker (i.e., SPA A), the post-test same speaker (i.e., SPA A2) was rated by participants to be less comprehensible, less intelligible and less familiar after training. Since a negative training effect was still observed when the same pre-test speaker was used in the post-test, this result ruled out the possibility that the speaker differences between pre-test (i.e., SPA A) and post-test (i.e., SPA B) in Study 1 may account for the negative training effect observed.

In addition, both exposure groups showed a deterioration in speech comprehensibility for the potentially easier post-test speaker. Participants in both exposure groups found the post-test novel speaker (i.e., SPA C) to be less comprehensible than the pre-test speaker (i.e., SPA A), although both were similarly intelligible and familiar. With the use of a potentially easier post-test speaker, the negative training effect on speech comprehensibility was still observed. This result ruled out the possibility that greater difficulty level of the post-test speaker (i.e., SPA B) in Study 1 might account for the negative training effect observed. Both the findings of SPA A2 and SPA C seemed to suggest that speaker difference and higher difficulty level of the post-test speaker cannot explain the negative training effect observed in Study 1.

Interestingly, there was an interaction effect between exposure groups and stages of intervention on the state anxiety rating in the current study. Participants from the single accent exposure group showed higher state anxiety towards post-test same speaker (i.e., SPA A2) and post-test novel speaker (i.e., SPA C) as compared to the pre-test speaker (i.e., SPA A). The higher state anxiety rating seemed to correspond to the lower perceived speech comprehensibility of the auditory speech in the post-test.

However, when participants were exposed to multiple accent exposure, they did not differ in state anxiety across pre-test, post-test same speaker and post-test novel speaker. This result suggested that multiple accent exposure could be helpful in maintaining one's state anxiety at a baseline level as the pre-test. The result was congruent with Derwing's (2002) study which showed that multiple accent exposure training could still help listeners to compose themselves despite no significant gain in perceived speech comprehensibility. Note that this significant interaction effect was only found in the current study and not in the previous study, possibly because the post-test stimuli in the current study were the same or potentially easier than the pre-test stimuli. It is important to make sure that the training challenges are not too difficult but still stimulating enough for the L2 speakers to develop their L2 skills (Vygotsky, 1978), so that they suffer minimal influence from L2 anxiety.

When ASSELF items were further analysed between pre-test and post-test, participants from both exposure training groups still found communication-related difficulties and unfamiliar accents (e.g., not familiar with interlocutors' accents and words, apprehension over own accent, uncertainty about the answers, when the person seems unwilling to communicate, and when there are more than two interlocutors) to be more anxiety-provoking after the trainings. These findings were consistent with Study 1 and suggested that the exposure trainings increased participants awareness of their shortcomings in understanding accented English speech, therefore resulting in higher ASSELF rating after the trainings.

In summary, speaker differences between pre-test and post-test did not explain the negative training effect observed for SPA B in Study 1, as the same negative training

effect on speech perception (particularly speech comprehension) was still observed for

the same pre-test speaker (i.e., SPA A2) and a potentially easier speaker (i.e., SPA C) in

the post-test. Despite no significant gain in speech perception from the exposure

trainings, participants from the multiple accent exposure group seemed to be able to

retain their state anxiety level towards post-test speakers which were not too difficult or

foreign. This warranted the psychological buffer provided by the multiple accent

exposure against L2 anxiety. There was however another unexamined factor that could

contribute to the negative training effect observed, such as the consistent lower speech

perception rated towards the same post-test sentences (i.e., sentences 17–32) as

compared to the pre-test sentences (i.e., sentences 1–16). It is therefore essential to test

whether sentence difficulty could help explain the negative effects of exposure trainings

on speech perception of Malaysia ESL speakers.

5.4 Study 3: Impact of Sentence Differences

Both Study 1 and Study 2 seemed to show that the sentences used in post-test for

SPA B and SPA A2 (i.e., sentences 17–32) were consistently perceived to have lower

speech comprehensibility, intelligibility and familiarity in comparison to the pre-test

(i.e., sentences 1-16). The current study aimed to examine the impact of task difficulty

resulted from the different sentences used between pre-test and post-test.

Sentences used for the speech stimuli could vary in their sentence length, audio

amplitude, sentence structure, word frequency etc. To minimize any systematic

differences between the speech stimuli sets used at different stages of the intervention,

all sentences used in Study 1 and Study 2 had been meticulously selected from the

Hearing in Noise Test sentence lists. For instance, they were all declarative sentences,

with sentence length controlled within 5 to 8 words and audio normalised at 70 dB

amplitude (see Section 5.2.1.3). The sentence difference here mainly refers to the

difference in word frequency between pre-test (i.e., sentences 1-16) and post-test (i.e.,

sentences 17–32) sentences. Some of the words in the post-test sentences were not

commonly used. For instance, in the sentence "The milk is in a pitcher.", the word

"pitcher" was constantly mistaken as another similar word "picture" by the participants

in Study 1 and Study 2. According to van Heuven et al. (2014), "picture" (count =

26944, Zipf = 5.13) is a more common word that has higher word frequency than

"pitcher" (count = 159, Zipf = 2.90). If the sentences 17–32 used less frequent words,

they would often be misinterpreted and resulted in lower intelligibility score. These

misinterpreted words could sometimes make the sentences harder to comprehend (e.g.,

"He's washing his face with soap" could be misinterpreted as "He's washing his face

with *soup*", which might confuse the participants), resulting in lower perceived

comprehensibility rating. As a result, the lower intelligibility score and lower perceived

comprehensibility rating might lead to the negative training effects observed for SPA B

in Study 1 and SPA A2 in Study 2.

To examine the sentence differences between pre-test (i.e., sentences 1–16) and

post-test (i.e., sentences 17–32), the intelligibility and comprehensibility of the pre-test

and post-test sentences were compared in this study with the following conditions. First,

pre-test and post-test sentences should be compared without any training to ensure that

the difference in intelligibility and comprehensibility of the sentences were not affected

by any exposure intervention. Second, all sentences should be produced by the same

speaker (e.g., SPA A) to control for speaker's vocal and speech variability, allowing the

examination of the difficulty level posed by the sentences themselves. Third, perceived comprehensibility rating should be obtained for each sentence included to provide a more accurate perceived comprehensibility rating for each individual sentence. In Study 1 and Study 2, evaluation of comprehensibility was obtained after participants transcribed all sentences in a block. This design evaluated comprehensibility of speaker as a whole. In such design, participants were prone to many biases (e.g., recency bias, primacy bias, negativity bias etc.) which could cause them to over-exacerbate the incomprehensibility of the sentences. Therefore, in addition to the overall comprehensibility rating towards speaker block that was used in the previous two studies, the average comprehensibility rating of sentences should be computed and compared between pre- and post-test sentences.

   If the post-test sentences (i.e., sentences 17–32) were found to be less intelligible, less comprehensible and more anxiety-provoking than the pre-test sentences (i.e., sentences 1–16), the negative training effects observed for SPA B in Study 1 and SPA A2 in Study 2 could be attributed to the greater difficulty level of the post-test sentences used. Familiarity rating was not studied in the current study because the evaluation was directed to the same speaker.

   The four research hypotheses are summarised as below:

   H1: The average intelligibility score of post-test sentences (i.e., sentences 17–32) will be lower than the pre-test sentences (i.e., sentences 1–16).

   H2: The overall comprehensibility rating of post-test sentences (i.e., sentences 17–32) will be lower than the pre-test sentences (i.e., sentences 1–16).

H3: The average comprehensibility rating of post-test sentences (i.e., sentences 17–32) will be lower than the pre-test sentences (i.e., sentences 1–16).

H4: The state anxiety rating of post-test sentences (i.e., sentences 17–32) will be higher than the pre-test sentences (i.e., sentences 1–16).

5.4.1 Method

5.4.1.1 Design

The experiment adopted a within-subject design. The independent variable was the sentence stimuli used for the two stages of intervention (i.e., pre-test: sentences 1–16 and post-test: sentences 17–32). The four dependent variables were the average intelligibility scores (operationalised through the scores of sentence transcription task), the overall comprehensibility rating towards speaker block, the average comprehensibility rating of sentences and the state anxiety rating towards speaker block.

5.4.1.2 Participants

For a G power analysis of paired sample t-test, $d = 1.06$ (based on effect size in Study 2), alpha = 0.05, power = 0.8, the minimal sample size required was 10. A total of 32 participants (4 males and 28 females) were recruited through purposive sampling. This group of participants did not take part in any of the previous studies. All of them were Malaysia ESL speakers and did not stay in any English-speaking countries for more than one year. Their age ranged between 18 and 44 ($M = 23.66$, $SD = 4.26$). They speak different L1s such as Mandarin ($n = 12$), Malay ($n = 12$), Tamil ($n = 2$), Cantonese ($n = 1$), Hokkien ($n = 1$) and Urdu ($n = 1$), while the remaining three chose not to disclose their L1s. On average, they perceived themselves as competent ESL

users with an average IELTS band score of 5.56 (*SD* = 1.39) and used ESL 39.16% (*SD*

= 23.00, range = 0–100%) of the time in daily life.

5.4.1.3 Materials

All sentences were obtained from the "Hearing in Noise Test 2" (Soli & Wong,

2008; Vermiglio, 2008) and were produced by the same Spanish speaker — SPA A.

Similar to Study 1 and Study 2, sentences 1–16 were used as the pre-test sentences

whereas sentences 17–32 were used as the post-test sentences. These two sets of

sentences were composed of different words (see Appendix G), with the primary

distinction likely being word frequency.

5.4.1.4 Procedure

The current study was administered online through Qualtrics. Participants first

had to provide language background information about themselves (i.e., age, gender, L1,

nationality, duration of experience abroad in any English-speaking countries, self-

perceived ESL competence and frequency of ESL usage). Participants would then be led

to the sentence transcription task. There was a total of 35 sentences including 3 practice

trials and 32 actual trials spoken by the same speaker (i.e., SPA A). These 32 sentences

were divided into two blocks (i.e., sentences 1–16 and 17–32) and were presented to

participants in a counterbalanced order. Half of the participants transcribed and rated

one block first before the other block, while the other half did vice versa. Within each

block, the sentences were presented in a random order.

For each trial/sentence, participants were shown an auditory clip that was played

automatically once before disappearing. Participants had to type in what they heard in

the spaces provided and rate the comprehensibility speech in bipolar scales from *difficult*

to understand (1) to *easy to understand* (9), before they could press the "next" button to

proceed to the next trial. At the end of each block, participants had to rate the

comprehensibility speech directed towards the speaker in bipolar scales again from

difficult to understand (1) to *easy to understand* (9) and state anxiety rating towards the

speaker in unipolar scales from *not anxious at all* (1) to *extremely anxious* (5). No

compensation was given for participation in the current study. A summary of Study 3

timeline was illustrated in Figure 16.

Figure 16

Timeline of Study 3.
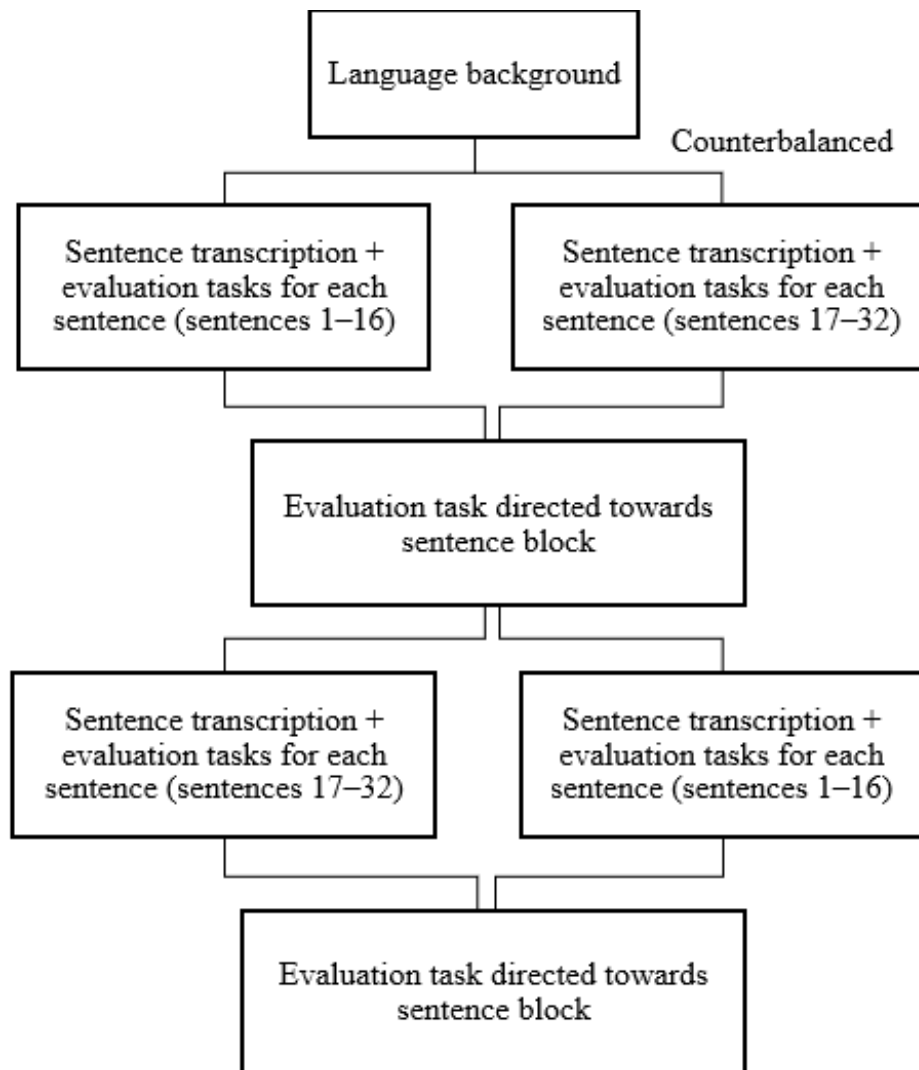
5.4.2 Results

Four repeated measures t-tests were conducted to compare the (a) average intelligibility score, (b) overall comprehensibility rating towards speaker block, (c) average comprehensibility rating of sentences and (d) state anxiety rating towards speaker block between pre-test (i.e., sentences 1–16) and post-test (i.e., sentences 17–32) sentences. In comparison to the pre-test sentences, participants obtained lower intelligibility scores for the post-test sentences. There was, however, no significant difference in the (a) overall comprehensibility rating towards speaker block, (b) average comprehensibility rating of sentences and (c) state anxiety rating towards speaker block between the pre- and post-test sentences (see Table 25 for the statistical results).

Table 25

Comparison of average intelligibility score, overall comprehensibility rating, average comprehensibility rating and state anxiety rating between pre- and post-test sentences with estimates of means and standard deviations.

Measures	Pre-test		Post-test		$t(31)$	d	95% CI	
	M	*SE*	*M*	*SE*			LL	UL
Intelligibility	75.54	12.59	68.46	10.62	-4.18*	-0.74	-1.13	-0.34
Overall COM	4.16	1.76	3.91	2.13	-0.90	-0.16	-0.51	0.19
Average COM	5.43	1.65	5.11	1.44	-1.94	-0.34	-0.70	0.02
State anxiety	3.59	1.19	3.66	1.13	0.42	0.07	-0.27	0.42

Note. COM = Comprehensibility. Intelligibility score was calculated in the percentage of 0–100%. Overall and average ccomprehensibility ratings were evaluated in the scale of 1–9. State anxiety rating was evaluated in the scale of 1–5.

*p < .001

5.4.3 Discussion

To examine the task difficulty resulting from different sentences used between pre-test (i.e., sentences 1–16) and post-test (i.e., sentences 17–32), the current study compared the average intelligibility score, overall comprehensibility rating towards speaker block and average comprehensibility rating of sentences between pre-test and post-test sentences using the same speaker (i.e., SPA A) without any training. Participants scored lower in the objective transcription tasks for the post-test sentences as compared to the pre-test sentences, suggesting that the words from the post-test sentences were harder to be recognised accurately than the words from the pre-test sentences. However, the overall and average comprehensibility ratings between the pre-test and post-test sentences did not differ significantly, suggesting that sentences in both stages of intervention were perceived to be equally difficult regardless of whether they are on individual level or overall impression. More importantly, the state anxiety rating directed towards both pre- and post-test sentences seemed to be on equal level too. The results showed that although post-test sentences were harder to recognise than the pre-test sentences, their perceived difficulty level was similar and did not affect participants' associated anxiety towards the sentences. Hence, sentence difference between pre-test and post-test could only explain the negative training effect in intelligibility scores, but does not help explain the negative training effects observed for comprehensibility in the post-test SPA B of Study 1 and SPA A2 of Study 2.

5.5 General Discussion

Past studies had shown that multiple accent exposure could help to increase speech perception of various accented English speech, making intercultural

communication more effective (e.g., Baese-Berk et al, 2013; Bieber & Gordon-Salant,

2017; Staples et al., 2014; Mering, 2022). The current chapter investigated how those

who had easier access to the multiple accent exposure in a rich language and cultural

contact environment, such as the Malaysia ESL speakers, could benefit both

linguistically and psychologically from such exposure training.

As multiple accent exposure provides more practise opportunities to recognise

the systematic variability across different accented speech implicitly through perceptual

learning (Norris et al., 2003; Saito et al., 2019), participants who received the multiple

accent exposure training were expected to show a greater gain in speech perception (i.e.,

comprehensibility, intelligibility, and familiarity) and a greater reduction in L2 anxiety

as compared to those who received the single accent exposure training. Contrary to the

hypothesis, the single and multiple accent exposure groups did not differ in speech

perception improvement after the trainings in both Study 1 and Study 2. Although most

of the Malaysia ESL speakers speak the same Malaysian English variety, many still

retain the phonological features of their L1s (e.g., Malay, Mandarin, Tamil etc.) when

speaking English. Besides, according to the International Organization for Migration

(2023), Malaysians are also exposed to various English accents from Indonesia,

Bangladesh, Nepal and Myanmar due to the large number of foreign workers and

immigrants that move to Malaysia (which constituted around 8.2% of the total

population in Malaysia). As a result, participants from the current study could be used to

being exposed to the different English varieties in their daily life, hence the multiple

accents exposure intervention might not have an advantage in improving their speech

perception and alleviate their subsequent language anxiety experience. The result was

different from the cited past studies which often involved English L1 speakers from predominantly English-speaking countries as their target participants. This group of speakers, who did not have the same ESL environment as the Malaysia ESL speakers, seemed to benefit more from the multiple accent exposure training in their speech perception (Bradlow & Bent, 2003; Baese-Berk et al, 2013; Bieber & Gordon-Salant, 2017).

On top of the non-significant difference between single and multiple accent exposure on the speech perception, the results consistently showed deteriorated speech perception in the post-test speech (i.e., SPA B and SPA A2) for both single and multiple accent exposure groups. This was contrary to most past literature (e.g., Baese-Berk et al, 2013; Bieber & Gordon-Salant, 2017; Potter & Saffran, 2017), as the exposure training should provide substantial speech perception practice for the speakers to recognise and understand different accented speech. There was a possibility that the exposure trainings did improve speech perception, but the effect was too small and masked by other factors arising from speaker and sentence differences used between the pre-test and post-test. In fact, SPA B showed a trend of being less intelligible and comprehensible than SPA A based on the pilot test in Study 1. Study 2 and Study 3 were therefore conducted to address these issues that might contribute to the negative exposure training effects on the perception of the post-test speech (i.e., SPA B and SPA A2).

Considering speaker difference to be a potential confounding factor, exposure training effect was re-examined in Study 2 by using the same pre-test speaker as the post-test speaker (i.e., SPA A2) and a potentially easier post-test speaker (i.e., SPA C). A similar negative exposure training effect in speech perception (particularly

comprehensibility) was still observed in the post-test, suggesting that speaker difference, characterised by greater difficulties induced by SPA B speaker's speech characteristics, did not explain the negative training effect observed in Study 1. Meanwhile, as participants consistently found post-test sentences 17–32 to be harder than pre-test sentences 1–16 in both Study 1 and Study 2, Study 3 was conducted to investigate another potential confounding factor due to higher difficulty level of post-test sentences. This was done by comparing the intelligibility score, comprehensibility rating and state anxiety rating between pre-test and post-test sentences using speech stimuli produced by the same speaker (i.e., SPA A), without requiring participants to undergo any training. The results showed that although post-test sentences were less intelligible than the pre-test sentences, the perceived comprehensibility and associated state anxiety level for both pre- and post-test sentences were similar.

With the speaker and sentence differences considered, the negative exposure training effect on intelligibility observed for post-test SPA B of Study 1 and SPA A2 of Study 2 seemed to be affected by the higher difficulty level of the post-test sentences (i.e., sentences 17–32) as compared to the pre-test sentences (i.e., Sentences 1–16). Future studies should make sure that the sentences between pre-test and post-test are equivalent in their difficulty level. This could be done by first conducting a pilot test similar to the design in Study 3 to compare the difficulty for each sentence. Then, the sentences could be reorganised into blocks with an equal number of easy and difficult sentences for each speaker.

The negative training effect on speech comprehension, however, seemed to be true, given that (a) the speech comprehension still deteriorated after using a potentially

easier post-test speaker (i.e., SPA C) in Study 2, and (b) this was not accounted by the sentence differences as there was no significant difference in perceived comprehensibility between pre-test and post-test sentences demonstrated in Study 3. The negative training effect was intriguing as it contradicted with other past studies (e.g., Bieber & Gordon-Salant, 2017; Derwing et al., 2002) that generally found positive exposure training effect (regardless of simple or multiple accent exposure) on speech comprehensibility. It was worth mentioning that different measurements of speech comprehensibility were used in the cited past studies. For instance, Bieber and Gordon-Salant (2017) operationalised comprehensibility as the reaction time to complete a secondary task (i.e., response to a probe light). Linking to the attentional control theory (Eysenck et al., 2007, see Section 1.1), a person's cognitive resources are limited. Consequently, the reaction time for the secondary task serves as an indicator of the residual cognitive resources allocated after completing the primary task (i.e., speech transcription). Bieber and Gordon-Salant (2017) regarded higher reaction time of the secondary task as involving greater listening effort to comprehend the speech, hence equating to lower comprehensibility. Another study by Derwing et al. (2002) measured comprehensibility through the percentage of comprehension questions that were answered correctly. On the other hand, the current chapter employed a self-rating measure to evaluate subjective perceived comprehensibility, an approach that was consistent with previous chapters.

The decreased perceived comprehensibility rating after the exposure trainings in the studies throughout the chapter showed that participants might perceive a considerable drop in speech comprehensibility intrinsically. Perhaps the exposure

trainings made the participants realise their weaknesses in understanding different

accented English speech, hence they became more reserved in evaluating speech

comprehensibility after the trainings. That may or may not mean that the trainings had

made the performance of speech comprehension deteriorated (as measured by

processing speed or speech-comprehension accuracy). However, it is important to note

that the subjective perception of comprehensibility was sufficient to determine the

language anxiety experienced according to the previous chapters' findings.

Similar to Chapter 4's findings, participants' state anxiety rating seemed to

correlate with their perceived speech comprehensibility. Participants' state anxiety level

increased when the post-test speech was perceived to be less comprehensible. As there

was no significant difference in speech perception between both exposure groups, the

state anxiety rating did not differ between single and multiple accent exposure groups as

well. Interestingly, an interaction effect was found in Study 2 between exposure groups

and stages of intervention. While single accent speech training seemed to exacerbate the

feeling of anxiety towards post-test speakers than pre-test speakers, participants from the

multiple accent exposure training showed no change in state anxiety level between pre-

test and post-test. It seems that the multiple accent exposure did not reduce or increase

participants' anxiety level, as long as the post-test speakers were not too difficult or

"foreign". Though multiple accent training did not decrease anxiety further, it was still a

feat of the multiple accent training to get the Malaysia ESL speakers to be mentally

prepared for ELF situations. The results showed some promising return from the

pluricentric approach in English teaching, at least on a psychological level. Given that

there were only two days of trainings in the current study, it was hard to impose large

significant attitude change among the L2 speakers. As suggested by Ayuthaya and Sitthitikul's (2016), the impact of multiple accent exposure would have a bigger positive impact on the attitude and confidence when the trainings were long enough (e.g., 17 weeks).

Both the exposure trainings had also increased the ASSELF rating of participants in the post-test. While *interlocutor-induced difficulties* (e.g., worrying about the possible communication difficulties that would be induced by other interlocutors' questionings and responses) remained as the prevalent L2 anxiety factor among the Malaysia ESL speakers similar to previous chapters' findings, the training seemed to have increased the ASSSELF rating for *language decoding difficulties* (e.g., concerning about their linguistic abilities to interpret and understand the different accented English) factor as well that was not shown to be particularly anxiety-provoking in the previous chapters. Getting single or multiple accent exposure consistently for several days made one recognize their shortcomings in decoding accented English speech. Anticipating the high variability of English varieties that one could encounter, participants reported higher anxiety level towards these related ASSELF items in the post-test. This type of anxiety may be more facilitative than debilitative in L2 acquisition because it encourages L2 speakers to acknowledge and embrace the diversity of World Englishes. Increasing such awareness is important to encourage L2 users' change of attitude in accepting their new identities as legitimate English users of the bigger community. It would be interesting to investigate whether a more extensive exposure training could change ESL speakers' attitude and consecutively their L2 anxiety towards the different accented English (Ayuthaya & Sitthitikul, 2016).

In conclusion, the current chapter had provided insightful findings about how both single and multiple accent exposure trainings could affect Malaysia ESL speakers' speech perception and L2 anxiety. Advantages of multiple accent exposure training in improving speech perception (i.e., comprehensibility, intelligibility, and familiarity) and L2 anxiety (e.g., state anxiety and ASSELF ratings) among the Malaysia ESL speakers were not salient. This could be because the training had a limited impact in a multilingual setting where there was plenty of opportunity for high variability accent exposure. Instead, both the single and multiple accent exposure trainings might worsen the subjective perceptions of speech (as shown in SPA B, SPA A2 and SPA C), contrary to what was suggested by previous literature (e.g., Baese-Berk et al, 2013; Bieber & Gordon-Salant, 2017; Potter & Saffran, 2017). Based on the findings from Study 2 and Study 3, the negative training effect in speech intelligibility was likely due to the more difficult sentences used in the post-test than the pre-test. Still, the negative training effect on perceived speech comprehensibility was unexpected and was not accounted by speaker and sentence difference. Perhaps improving perceived speech comprehensibility entails a higher degree of attitude adjustment that may take longer period of intervention than what the current exposure trainings had provided.

One major limitation of the current chapter was the absence of a suitable control group to demonstrate whether there was any exposure training effect at all. Single accent exposure could still be considered as an exposure training for the participants in the current chapter, as the American English was not a common English variety used in the immediate environment of the Malaysia ESL speakers. Therefore, single accent exposure group could not be treated as a control group like what Baese-Berk et al.

(2013) did. Future research may consider including a control group with filler tasks during the training (e.g., watching cartoons with no sound), to justify whether the multiple accent training could worsen the speech perception and anxiety, or there was actually no training effect at all. Studies with more careful experimental design are needed to conclude whether multiple accent exposure training is suitable for English teaching in Malaysia.

Despite the drawback, getting multiple accent exposure seemed to be able to keep participants' state anxiety level at baseline level towards post-test speakers which were not too difficult or foreign. This showed that multiple accent exposure could be a good way to prepare Malaysia ESL speakers psychologically when using English in a global communication setting with different English users. The facilitative increase in L2 anxiety might be alleviated at a later stage when ESL speakers come to understand their new identities as legitimate members of the larger English community (Ayuthaya & Sitthitikul, 2016).

CHAPTER 6: DISCUSSION AND IMPLICATION

The pervasive challenge of L2 anxiety confronts numerous L2 speakers, making it a focal point of extensive research in L2 acquisition. The new dynamic phase of L2 anxiety research posited that L2 anxiety should be examined in a broader context outside of the classroom setting, as it is situated in a myriad of constantly interacting factors ranging from linguistic, intrinsic to extrinsic variables. However, previous research tended to investigate L2 anxiety within a classroom setting through correlations with other factors in a cross-sectional study, or by examining the impact of specific linguistic outcome after certain anxiety-provoking manipulation (MacIntyre, 2017). These studies were limited in their ecological and predictive validity because they did not take into account the variability of an out-of-class setting. As an initiative to provide more comprehensive understanding of L2 anxiety beyond the classroom environment, the current thesis investigated L2 anxiety and its interaction with different factors involving interlocutors other than peers and teachers. This approach aligns with the new dynamic approach and holds greater relevance to the Malaysians who use ESL in different official, academic, urban and international communication settings.

Notably, unlike existing literature that predominantly focused on anxiety of speakers with low English proficiency (Botes et al., 2020a; Horwitz, 2001; Zhang, 2019), this thesis investigated L2 anxiety of speakers who identified themselves as intermediate-advanced ESL speakers. Their source of L2 anxiety is likely different from those of lower language proficiency, as proficient L2 speakers could be more concerned about possible negative evaluation from other interlocutors rather than their own language proficiency (Onwuegbuzie et al., 1999; Tóth, 2007, 2008; also see Chapter 2

findings). Investigating L2 anxiety of the intermediate-advanced ESL speakers could provide a distinctive perspective about how L2 anxiety is affected by other non-linguistic factors such as the immediate social environment and adds further insights to the existing L2 anxiety literature.

By adopting a sociolinguistic perspective, this thesis offers valuable insights into different factors that could contribute to the language anxiety of intermediate-advanced speakers in an ESL environment, particularly in the context of Malaysia. For instance, Chapter 2 explored the unique language anxiety phenomenon in an ESL environment and how it differed from the language anxiety phenomenon in an EFL environment; Chapter 3 discussed the possibility of manipulating one's perception of other's language competence and consecutively how this affected their language anxiety; Chapter 4 explored the roles of ethnicity and speech accents of the interlocutors in the language anxiety experience of the Malaysia ESL speakers. The language anxiety factors investigated in this thesis range from linguistic (e.g., language proficiency, self-perceived competence and frequency of usage) to social (e.g., perceived competence, ethnic identity, and perceived speech evaluation of other interlocutors) aspects. The linguistic factors were investigated in a questionnaire design, and they were further complemented by the investigation of social factors using an experimental design. Building on these findings, an inquiry into the viability of high-variability multiple accent training, simulating a multilingual ESL environment, was conducted to assess its efficacy in mitigating L2 anxiety (see Chapter 5). While the data collected for the current thesis was still based on hypothetical communicational questions that might not accurately reflect the anxiety experiences of L2 speakers in real L2 communicative

settings, these studies offered a way to foresee the anxiety reactions of L2 speakers in a controlled range of L2 use scenarios with selected sets of interlocutors. A total of seven independent studies were conducted throughout this thesis. They were designed to sequentially examine potential anxiety-provoking scenarios that these speakers might face in an ESL conversation.

6.1 Key Findings of Previous Chapters

  Starting from an exploratory study in Chapter 2, the language anxiety of Malaysia ESL speakers was explored through an out-of-class language anxiety questionnaire (i.e., ASSELF) in relation to the dynamic linguistic factors (e.g., language proficiency, self-perceived ESL competence, and frequency of ESL usage), to provide an overview of the language anxiety phenomenon among Malaysia ESL speakers. Although English is commonly used as an L2 in the urban areas of Malaysia, quite a large proportion of the Malaysian speakers still reported being anxious when using the target L2 for communication. Malaysia ESL speakers expressed higher anxiety level when faced with interlocutor-induced challenges, such as anticipating more difficult conversations or detecting indicators of dissatisfaction from their interlocutors (see Table 2). Coherent with the attentional control theory (Eysenck et al., 2007, see Section 1.1), higher L2 anxiety can be induced when the cognitive resources of L2 speakers become depleted. This is particularly true in communicative settings where the L2 speakers need to multitask across listening, speaking and evaluating other interlocutors' reactions at the same time. The language anxiety level and its dynamic linguistic variables were later compared between Malaysia ESL and China EFL speakers to distinguish the language anxiety phenomenon between an EFL and ESL environment.

The results showed that Malaysia ESL speakers scored higher in English proficiency tests and reported higher self-perceived English competence and higher frequency of English usage than the China EFL speakers. However, they also reported higher language anxiety than China EFL speakers in scenarios where the interlocutor is a proficient English speaker or speaks with a "native" accent. A potential explanation for the difference in L2 anxiety between the two groups could be related to different socio-linguistic expectations in the two different contexts, such as the higher societal expectation of speaking good English in Malaysia. These distinctions demonstrated the L2 anxiety experience can be different in nature as compared to FL anxiety, which necessitates specific investigation towards the language anxiety based on their corresponding contexts.

The higher anxiety reported towards more proficient or "native" English speakers sparked further interest to investigate the social dynamics of language anxiety. This interest was extended to understanding how specific social cues exhibited by the interlocutors might influence an individual's experience of language anxiety. Chapter 3 and 4 hence set out to investigate how language anxiety could be caused by the perceived competence and ethnic identity of other interlocutors, respectively. Chapter 3 was a deceptive experiment that investigated whether giving a short descriptive statement could convince participants' perception about other interlocutors' language competence and then determine or change one's L2 anxiety when using ESL with the interlocutor. The deceptive manipulation only managed to lower the perceived competence of interlocutors, but it did not affect participants' L2 anxiety. Instead of perceived language competence, participants' language anxiety ratings seemed to be

more influenced by other more heuristic approaches of social comparison (e.g., through ethnic identity information of the interlocutors). Chapter 4 followed up on whether Malaysia ESL participants were indeed more anxious when speaking to a White Caucasian speaker. The same stimuli used in Chapter 3 were shown to Malaysia ESL speakers in either video (with visual information about the speaker identity information) or audio form. Findings of Chapter 4 revealed that high accentedness and low comprehensibility of the White Caucasian speech predicted higher L2 anxiety. The findings supported the affective filter hypothesis (Krashen, 1982) which stated that language anxiety could be reduced when the input is more comprehensible. In addition, Malaysia ESL participants were more anxious towards the White Caucasian speakers as compared to speakers of other speaker groups. This could be due to the deeply rooted raciolinguistic ideology (Flores & Rosa, 2015) of the Malaysia ESL speakers, whereby White Caucasians were believed to be the privileged owners of the English language. These two chapters provided strong evidence that the raciolinguistic inferiority of Malaysia ESL participants could contribute to elevated levels of L2 anxiety, particularly in situations when they have to communicate with White Caucasians, who were often perceived to be English L1 speakers.

To rectify this harmful and pervasive raciolinguistic ideology, the pluricentric English teaching or education approach was proposed. Malaysia ESL speakers were trained with a multiple accent exposure training paradigm, aiming to encourage ESL speakers to accept and appreciate different varieties of World Englishes. With the rise of the awareness of World Englishes, language anxiety of ESL speakers might be moderated. In Chapter 5, the effectiveness of single and multiple accent exposure

trainings in enhancing speech perception and reducing language anxiety was
investigated. The findings showed that the well-established multiple accent exposure
training did not differ from the single accent exposure training in enhancing speech
perception of the multilingual Malaysians. The indifference in training effect was
attributed to the readily available multiple accent exposure in the immediate living
environment of the Malaysia ESL speakers. On top of that, the effect of exposure
training on speech perception was inconclusive with mixed findings in the post-tests.
Nevertheless, while multiple accent exposure training did not influence the anxiety level
of participants between pre- and post-test towards same stimuli, single accent exposure
training could potentially increase participants' anxiety. More research is needed to
investigate the long-term benefits of incorporating the multiple accent exposure training
in the pluricentric approach of English teaching (e.g., over a longer time span of 2–4
months), as participants could experience a facilitative increase in L2 anxiety when they
were first exposed to the short yet intensive trainings.

The previous five chapters had shown that L2 anxiety is a prominent emotion
among Malaysia ESL speakers, as it persisted throughout the studies even when
different sets of participants were recruited each time. L2 anxiety can be a unique
phenomenon depending on the speaker groups and sociocultural context, because the
experience can be very different from the FL anxiety that had been extensively studied
(as shown in Chapter 2). Furthermore, L2 anxiety of moderate-highly proficient
speakers could be susceptible to the social influence induced by other interlocutors (e.g.,
speaker identity cues as shown in Chapter 3 and 4) and to the everyday linguistic
environment for an intervention to take effect (as shown in Chapter 5). The following

sections would discuss the themes and patterns observed across all the studies reported in this thesis, and how they are linked to the existing theories.

6.2 L2 Anxiety is a Self-Absorbed Emotion

Based on findings from both Chapter 2 and 3, L2 anxiety of Malaysia ESL speakers seems to be affected by self-related perceptions (e.g., self-perceived competence) and less by perceptions of others' language competence (e.g., PCO) or more objective measurement of language competence (e.g., objective L2 competence). This leads to the question on whether L2 anxiety of proficient Malaysia ESL speakers is an egocentric emotion that may be oblivious to the perception of others' language competence. Normally, self-perceived competence is built from past experiences of success and failure. For instance, through instances of using an L2 successfully, one could gain more confidence and intrinsic motivation to pursue the positive L2 experience again (Nobre & Valentini, 2019). This is particularly evident in the early ages of 2–4 years old whereby children in this age group could be more susceptible to making unrealistic inferences based on several success attempts of learning basic features of a language (Harter, 2015). Their cognitive limitation in distinguishing between an idealized and actual self-concept, on the bright side, could help them to cultivate a growth-learning mindset as it could serve as a "motivational and emotional protection" strategy to persist learning an L2 despite not being very good at it.

However, as one gets older, L2 speakers tend to become more aware of their self-representation and the identity they construct in front of others. The influence of socializing agents (e.g., family, friends, teachers, and the local community) came into the picture at this stage in which L2 speakers learn to gauge their competence through

social comparison (Nobre & Valentini, 2019). As a result, the construction of their L2

self-identities is complicated by the process of internalizing comments received from

other people. At this later stage, L2 anxiety and self-concept could become dependent

on the perception of how others evaluate them (Kangasvieri & Leontjev, 2021). Past

studies (Papi, 2010; Teimouri, 2017) had found that L2 anxiety is more easily affected

by the ought-to L2 self (i.e., how one should behave based on society's norm and

expectations) than the ideal L2 self (i.e., how one aspires or wishes to become),

suggesting that L2 speakers are easily affected by the evaluations imposed on them. The

qualitative analysis in Chapter 3 (see Section 3.3.2) also showed that L2 speakers tended

to over-exaggerate how harshly others would evaluate them in hypothetical scenarios.

Consequently, they felt anxious about the evaluation by other interlocutors because that

would shape how they view themselves too.

It appears that the process of L2 anxiety experience, as exhibited by the Malaysia

ESL speakers throughout the chapters, could be seen as a *self-absorbed* instead of self-

centred process. The difference lies in: when L2 speakers are anxious in an L2 use

situation, they are still concerned about how others evaluate them, but they are too

absorbed in their own perception about how others evaluate them. This is because it can

be hard to get past their own phenomenological experience, as how one appears to

others is greatly determined by how one appears to himself (Gilovich & Savitsky, 1999).

Gaydukevych and Kocovski, (2012) provided a clear description of how this

self-absorbed process could create a cycle of dysfunctional thinking of L2 anxiety: when

(highly anxious) individuals encounter anxiety-provoking L2 situations, attention would

be shifted to enhancing any negative events or consequences that could occur. This

would be internalised to form part of their negative L2 self-image which is not always true. The negative self-image would be maintained by the post-event reminiscence which recalls the bad L2 use experience, leading to an endless loop of L2 anxiety.

Some common biases that the L2 speakers might experience are the spotlight effect (i.e., overestimating the amount of attention/judgement other people cast towards oneself) and illusion of transparency (i.e., assuming other people know how oneself feels), which exacerbate the feeling of anxiety when using an L2. The impact of self-absorbed perceptions on L2 anxiety surpasses that of objective measures, and this was clearly illustrated throughout the studies in this thesis. For example, when L2 anxiety was significantly predicted by self-perceived L2 competence and not objective L2 proficiency scores in Chapter 2; when L2 anxiety was significantly predicted by self-perceived L2 competence and not the provided L2 competence information of other interlocutors in Chapter 3; when L2 anxiety was significantly predicted by the perception of other interlocutors' speech characteristics (i.e., accentedness and comprehensibility ratings) and not the objective speech measures (i.e., intelligibility scores) in Chapter 4.

It is possible that L2 anxiety greatly restricts the available cognitive resources for executive functioning (see Section 1.1 for attentional control theory, Eysenck et al., 2007). Without enough mental capacity, anxious L2 speakers find it harder to resist egocentric interference. In support of the argument, Todd et al. (2015) found that the anxiety state of participants increased the likelihood and scale of egocentric interference. In several mental-state reasoning experiments conducted by Todd et al. (2015), anxious participants (triggered by anxiety-provoking autobiography memory recalling tasks)

tended to use their own spatial perspectives (i.e., an egocentric bias) in describing an object and deducing what others were seeing. Anxious participants also had difficulty inferring how other individuals would interpret an ambiguous email as sarcastic or sincere, when they were constantly affected by their own interpretations of the email message (Todd et al., 2015).

These results supported that L2 anxiety could easily lead to self-absorbed process that focuses on how one appears to themselves, and generalise that perception to how others would view them as well. The self-absorbed aspect of L2 anxiety informs that any intervention that aims to alleviate L2 anxiety should be designed in a way that can be internalised and change part of their self-perception. Two of the intervention studies from both Chapter 3 and 5 were not effective in reducing L2 anxiety, possibly because participants did not believe or internalise the information or training offered. It is not easy to interfere their self-absorbed thinking processes especially in regard to how anxious they feel during an L2 conversation.

6.3 L2 Anxiety is Affected by a Strong Sense of Inferiority

Looking at the importance of self-perception in L2 anxiety, "what experiences shape their L2 self-perception" becomes a key question. Throughout Chapter 2, 3 and 4, the societal norm and perception towards one's English use, such as the language attitude (Attanayake, 2019) and raciolinguistic ideology (Flores & Rosa, 2015) seem to affect the L2 anxiety experience of Malaysia ESL speakers most saliently. The language attitude anxiety, characterized by the negative societal attitude towards localized English use in the local community, seems to be a common and distinct L2 anxiety phenomenon among many post-colonial countries (Attanayake, 2019). According to Attanayake

(2019), in some post-colonial South Asian countries, English is used to establish a power distance between the elite and non-elite groups. This power distance is reinforced through societal structures and access to resources. For example, the elite group often has more privileged access to English education, which leads to higher English competence. This proficiency in English is frequently equated with higher socioeconomic status and power. As a result, some L2 speakers constantly imagine the presence of watchdogs that governs their English competence: low English proficiency speakers become worried about other's perception of their language mistakes, whereas the high English proficiency speakers become over-conscious of their English accents to be evaluated as deviates from the "standard" English varieties (e.g., British and American English). This explains why Malaysia ESL speakers reported higher anxiety than China EFL speakers particularly when communicating with proficient Standard English speakers (see Section 2.2.2).

In Malaysia, it is interesting to observe that many Malaysia ESL speakers possess the skills to flexibly switch their languages to meet different needs of language use context (Lee, 2003), for example to use Colloquial Malaysian English when interacting with friends and family, and to use Standard English at work (Pillai & Ong, 2018). The prior is used as a versatile language for effective communication with the local community and to establish solidarity, whereas the latter is used in a more formal setting or during international communication. Using an inappropriate type of Malaysian English in the wrong context could be seen as a sign of hostility and mockery, which is why some even choose to mask their English competency to fit into the larger local

community who may not speak English very well to avoid social marginalization (Lee, 2003).

On top of the judgmental attitudes on the colloquial English varieties portrayed by the local society, the raciolinguistic ideology in which White Caucasians are treated as more superior English L1 speakers further exacerbates the anxiety that many Malaysia ESL speakers have when communicating with proficient Standard English speakers (as demonstrated in Chapter 3 and 4). The anxiety directed towards the White Caucasian speakers might be happening at the psychological rather than the linguistic level (Jones, 2004). As shown in Chapter 4, participants did not rate the White Caucasian speakers to be more anxiety-provoking simply because they spoke better or poorer English (as measured by the perceived comprehensibility or intelligibility scores) than speakers of other speaker groups. The anxiety hits at a more implicit level as they felt more inferior when using ESL with the White Caucasian or perceived English L1 speakers. This inferiority could be traced back to the colonial mentality of past racial hierarchy which can take many forms (Chew et al., 2019; David & Okazaki, 2006). For instance, the colonial mindset includes within-group discrimination (e.g., envy or annoyance towards more westernized Asians), colonial debt (i.e., the belief that the colonizers are to be grateful of for their assistance in reaching independence), and internalized cultural inferiority (i.e., feeling less superior than the colonizers because we were colonized before).

It is important to address such negative ideology among the Malaysia ESL speakers, given that the raciolinguistic ideology continues to affect Malaysians' ESL use performance and experience. According to the interview study by Lee (2003), some

Malaysia ESL speakers believed that learning English has opened them to different worldviews and ideas from various cultural stances, which make them feel more empowered and confident. Hence, the process of getting fully immersed in the L2 experience (e.g., using the target L2 with speakers from various backgrounds and cultural stances etc.) can be a good strategy in countering the language attitude anxiety and raciolinguistic ideology that one may have. When English is used as a lingua franca that connects people who speak different L1s (Jenkins, 2009), it is then portrayed as a "neutral" communication tool with no one's English variety perceived as more superior than the other. Understanding the function of English as a lingua franca and how English is commonly used worldwide for international communication dissociates English with a particular racial group, and this step is important to diminish the raciolinguistic ideology (Bai et al., 2020).

6.4 Co-existing with L2 Anxiety is the Key to Manage the Emotion

Moving forward, it would be helpful to incorporate the findings of previous chapters in designing effective interventions for L2 anxiety reduction. According to Toyama and Yamazaki's (2021) systematic review, there are many different interventions that could help to reduce L2 anxiety in a classroom setting, such as affective strategies (e.g., positive self-talk), collaborative learning with peers, supportive feedback from teachers, involving mood booster in learning (e.g., music and games), and involving technology (e.g., virtual reality, video chat etc.). These interventions make the L2 learning environment more enjoyable and relaxing, but they have minimal practical utility in an out-of-class setting because these language use scenarios are controlled with less unexpected social and environmental interference. The effectiveness

of these interventions also relies largely on the experience of the teachers/researchers conducting the studies. Other strategies that help to improve emotional self-regulations such as meditation and mindfulness-based interventions were also found useful in reducing L2 anxiety (e.g., Cheng, 2023; Kimble, 2019). However, these relaxation techniques might take a long duration (e.g., 10 weeks) for the benefits to take effect, and their ecological validity in real-life conversations is often questioned. With all considered, one of the few attempts that considers the variability in an out-of-class setting to reduce L2 anxiety and meets the objectives of the current thesis is the multiple accent exposure training.

Nevertheless, the attempt to reduce L2 anxiety by the means of improving perceived comprehensibility through the multiple accent training intervention in Chapter 5 was not successful. The failed intervention did not refute the possibility that increased comprehensibility could help to reduce anxiety. In contrast, speech with low perceived comprehensibility were consistently associated with high anxiety rating disregarding the type of training. This showed that perceived speech comprehensibility is a prevalent factor in L2 anxiety. Perhaps the way to increase perceived comprehensibility of speech may not be as simple as adapting to new speech accents. While it is fairly quick to adapt to new speech accents (Clarke & Garrett, 2004; Cristia et al., 2012; Norris et al, 2003; Vaughn, 2019), speakers could have difficulty understanding the intended meaning of the speech message due to unfamiliar words. For instance, the word "pitcher" in one of the post-test sentences is not used commonly in Malaysia, and participants often misinterpreted it as "picture". To understand the pragmatics of the target L2 better, L2 speakers need to engage in life-long process of socialization with other members of the

target language community in various types of language environment (Duff, 2003; Kecskes, 2018). The exposure trainings, however, did not provide sufficient L2 practices in a natural communicational setting. Hence, participants might not internalize the feeling of knowing the words (i.e., perceived comprehensibility) and did not experience a reduction in anxiety following the 2-days accent exposure training. With today's sophisticated technology, a more naturalistic L2 communication setting is easily accessible anywhere in the world, facilitating greater interaction with the target L2 culture. Consider eTandem, for example, which pairs up speakers of different L1s from various locations to learn the language from one another by phone, email, or other media (Cziko, 2004; Rahimi & Fathi, 2022). Learning an L2 does not need to be about learning vocabulary and grammar rules only when one has different means to learn the target L2 (and its local culture and pragmatics) with the L1 speakers.

Another better way to deal with L2 anxiety is to co-exist with this emotion, minimizing its debilitative impacts on L2 performance while allowing its presence to motivate improvement of current L2 proficiency. Here comes the role of facilitative L2 anxiety which motivates one to challenge new language tasks beyond their present level of competence (Chastain, 1975; Kleinmann, 1977; Scovel, 1978). Often, debilitative and facilitative effects of L2 anxiety are treated as two opposite ends of a dichotomous scale, though both can be present at the same time, and an increase in one end may not necessarily lead to a decrease in the other (Alpert & Haber, 1960). L2 anxiety can have differential effects on an individual depending on the individual's L2 proficiency. Less proficient individuals are more likely to experience debilitative effects of anxiety (e.g., Liu, 2016), whereas more proficient individuals are more likely to experience

facilitative effects of anxiety (e.g., Marcos-Llinás & Garau, 2009). This is because when one gains higher proficiency in the target L2, they also gain the ability to recognize their own inadequacies and are prepared to take on new L2 learning challenges. By being aware of own lack of L2 competence, facilitative L2 anxiety motivates one to study or work harder to perform better (e.g., Chang, 2010).

It is important for L2 speakers to realize that L2 anxiety is a rather normal affective response caused by various L2 disadvantages as discussed throughout this thesis. The change of perspective and attitude on L2 use experience might help to alleviate the detrimental effect of L2 anxiety. Recent research has also shifted from investigating negative affect of L2 acquisition (i.e., L2 anxiety) to more positive affect (i.e., enjoyment), as the latter allows more rooms for growth (e.g., Botes et al., 2020b; Dewaele & MacIntyre, 2014; Hayasaki & Ryan, 2022). This could be done by simply reframing the L2 experience in a more positive light, such as reminiscing successful L2 use experience rather than dwelling on the embarrassing L2 use experience (Jin et al., 2021). The shift to positive psychology perspective does not necessarily mean to ignore the harm that L2 anxiety does, but to provide more perspectives on how one can view the L2 use experience in a more nurturing light.

Future language anxiety research should focus on investigating how to channelize L2 anxiety positively in promoting L2 development, for instance by making good use of the facilitative anxiety. One way to channel the anxiety towards a more positive direction is through reappraisal, for instance by viewing an anxiety-provoking L2 use scenario as a challenge instead of a stressful assessment (Jones, 1995). Viewing a task as an assessment shifts the attention to evaluation and meeting specific standards

which could trigger higher pressure. Conversely, perceiving a task as a challenge fosters a positive, growth-oriented mindset that emphasises on opportunities for learning and skill development. This could make the L2 conversation less anxiety-provoking. In addition, more focus should be placed on ways to enhance one's self-perceived L2 competence as it is shown to be a self-absorbed emotion. Although a number of studies have demonstrated the strong correlation between L2 anxiety and self-perceived competence (see literature review in Chapter 2 and 3), few have actually looked at strategies for raising self-perceived competence. Instead, many educators focus on developing learners' language proficiency in combatting L2 anxiety, but this is not the best solution for the intermediate-advanced ESL speakers (see Chapter 2 findings). The enhancement of self-perceived L2 competence requires more positive L2 use experience, and this is only attainable when one has the opportunity to interact and use the target L2 with other speakers. Therefore, encouraging the development of a more naturalistic L2 communication platform for L2 learners to practise their L2 (such as eTandem) is a highly promising topic that future research on L2 anxiety should look at on how to raise self-perceived L2 competence and reduce L2 anxiety. Future research on L2 anxiety should also follow the guidance in the previous chapters and take caution when designing an intervention study (e.g., considering various confounding factors and a control group) and when interpreting language anxiety phenomena based on speakers' sociodemographic background and sociolinguistic expectations in their immediate English learning environment.

6.5 Conclusion

The unique contribution from this thesis suggests that L2 anxiety is a self-absorbed process that arises from a sense of inferiority. It will always be present for the L2 speakers because they can never escape the L2 disadvantages due to their L2 speaker identity and the inability to control for the quality and quantity of language inputs in their environments. However, L2 anxiety can be adaptive as it alerts the L2 speakers about the potential threat (e.g., negative evaluation by other interlocutors) and for them to take appropriate actions to cope with the threat (Gutiérrez-García & Contreras, 2013). As L2 anxiety is a dynamic emotion that changes from situation to situation, it is imperative to explore how it interacts with a range of situational circumstances in different social situations. Different approaches (such as the causal experimental studies) should be employed to investigate the different factors of L2 anxiety that extend beyond the scope of questionnaires and interviews, as demonstrated in the current thesis. The outcomes of these studies can empower ESL speakers worldwide to navigate around language-related obstacles (such as L2 anxiety) more confidently and efficiently in the evolving landscape where English is used as a lingua franca.

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Appendix A: ASSELF Questionnaire

Factors	Items
Interlocutor-induced difficulties	I don't know the answer to a question.
	The interlocutor asks me a difficult question.
	I am not familiar with the interlocutor's words/phrases.
	The interlocutor asks me a question where I am not prepared to answer.
	The interlocutor seems unwilling to communicate.
	I am not familiar with topic of discourse.
	The interlocutor shows some sign(s) such as facial expression to make me uncomfortable.
Language decoding difficulties	I cannot decode the interlocutor's words/phrases.
	My accent is difficult for the interlocutor to understand.
	I cannot understand the meaning behind an utterance.
	I don't know the word(s) for saying something.
	I am not familiar with the interlocutor's accent.
Apprehension over interlocutors	The interlocutor is a proficient speaker of English.
	The interlocutor speaks a native-like accent.
	There are more than two or more interlocutors.

Appendix B: English Language Achievement Score Conversion Table

Test / MUET	SPM	IELTS	CEFR	GCE/ A level	Foundation Programs	EALD/ OLNA	SAM	UEC
6	A	8,9	C2	A	High Distinction	A	A	A1, A2
5	B	7–7.5	C1	B	Distinction	B	B	B3
4	B	6–6.5	B2	C	Credit	C	C	B4, B5
3	C	5–5.5	B1	D	Credit	D	D	B6
2	C	4–4.5	A2	E	Pass	E	E	C7, C8
1	D, E, G	0–3.5	A1	U	Fail	E	N	C9

References with links:

1) The Cambridge English scale (Adapted from https://www.cambridgeenglish.org/Images/167506-cambridge-english-scale-factsheet.pdf)

2) English language test equivalency table from The European Consortium for Accreditation in higher education (ECA): http://ecahe.eu/w/index.php/English_language_test_equivalency_table

3) A level: https://wenr.wes.org/2014/02/a-guide-to-the-gce-a-level

4) IELTS: https://takeielts.britishcouncil.org/teach-ielts/test-information/scores-explained

5) STPM & UEC (page 42): https://resource.dongzong.my/images/doc/uec/UEC-BI-2018.pdf

6) SPM: https://unidigest.com/spm/

7) SAM: https://www.sace.sa.edu.au/web/sace-data/subject-results

8) EALD in OLNA: https://senior-secondary.scsa.wa.edu.au/__data/assets/pdf_file/0020/581231/English-as-an-Additional-Language-or-Dialect-Y12-Syllabus-General-2020-GD-EST.pdf#page=23

9) Foundation: https://www.monash.edu/__data/assets/pdf_file/0009/801792/Grading-Scale-Policy.pdf

Appendix C: Self-perceived Competence Questionnaire

Self-perceived English proficiency items
1. In face-to-face interaction with an English speaker, I can participate in a conversation at a normal speed.
2. I know how to *(the necessary strategies to help)* maintain a conversation with an English speaker.
3. I feel comfortable using English as the language of instruction in classes/work *(my English class)*.
4. I can watch English news (for example, CNN) and/or English films.
5. I understand the meaning of common idiomatic expressions used by English speakers.
6. I can understand when two native English speakers talk at a normal speed.
7. I can understand English magazines, newspapers, and popular novels.
8. I can draw inferences/conclusions from what I read in English.
9. I can figure out the meaning of unknown words in English from context.
10. I can easily write business and personal letters in English and can always find the right words to convey what I want to say.
11. I can fill in different kinds of application forms in English such as a bank account application.
12. I can write a short essay in English on a topic of my knowledge.

Note. Italic words in bracket were the original words used in the past studies. The items measure different components of English proficiency: speaking (1 – 3), listening (4 – 6), reading (7 – 9) and writing (10 – 12).

Appendix D: Mean and Standard Deviation of Each ASSELF Item between

Malaysia ESL and China EFL Speakers

Factors	Items	Group	*M*	*SD*
Interlocutor-induced difficulties	I don't know the answer to a question.	Malaysia	2.940	1.023
		China	3.010	1.071
	The interlocutor asks me a difficult question.	Malaysia	3.140	1.035
		China	3.029	1.192
	I am not familiar with the interlocutor's words/phrases.	Malaysia	2.850	0.936
		China	2.825	1.024
	The interlocutor asks me a question where I am not prepared to answer.	Malaysia	3.310	1.107
		China	3.126	1.135
	The interlocutor seems unwilling to communicate.	Malaysia	2.980	1.255
		China	3.107	1.357
	I am not familiar with topic of discourse.	Malaysia	2.930	1.094
		China	3.049	1.106
	The interlocutor shows some sign(s) such as facial expression to make me uncomfortable.	Malaysia	3.430	1.241
		China	3.748	1.178
Language decoding difficulties	I cannot decode the interlocutor's words/phrases.	Malaysia	2.740	0.960
		China	2.796	0.984
	My accent is difficult for the interlocutor to understand.	Malaysia	2.700	1.168
		China	2.524	1.119
	I cannot understand the meaning behind an utterance.	Malaysia	2.770	1.014
		China	2.864	0.981
	I don't know the word(s) for saying something.	Malaysia	2.860	1.110
		China	2.903	1.125
	I am not familiar with the interlocutor's accent.	Malaysia	2.760	1.074
		China	2.748	1.026
Apprehension over interlocutors	The interlocutor is a proficient speaker of English.	Malaysia	2.360	1.202
		China	2.010	1.107
	The interlocutor speaks a native-like accent.	Malaysia	2.370	1.253
		China	1.913	1.067
	There are more than two or more interlocutors.	Malaysia	2.400	1.348
		China	2.126	1.117

Appendix E: IELTS Band Score Description

Band score	Description
Band 9: Expert user	You have a full operational command of the language. Your use of English is appropriate, accurate and fluent, and you show complete understanding.
Band 8: Very good user	You have a fully operational command of the language with only occasional unsystematic inaccuracies and inappropriate usage. You may misunderstand some things in unfamiliar situations. You handle complex detailed argumentation well.
Band 7: Good user	You have an operational command of the language, though with occasional inaccuracies, inappropriate usage and misunderstandings in some situations. Generally, you handle complex language well and understand detailed reasoning.
Band 6: Competent user	Generally, you have an effective command of the language despite some inaccuracies, inappropriate usage and misunderstandings. You can use and understand fairly complex language, particularly in familiar situations.
Band 5: Modest user	You have a partial command of the language, and cope with overall meaning in most situations, although you are likely to make many mistakes. You should be able to handle basic communication in your own field.
Band 4: Limited user	Your basic competence is limited to familiar situations. You frequently show problems in understanding and expression. You are not able to use complex language.
Band 3: Extremely limited user	You convey and understand only general meaning in very familiar situations. There are frequent breakdowns in communication.
Band 2: Intermittent user	You have great difficulty understanding spoken and written English.
Band 1: Non-user	You have no ability to use the language except a few isolated words.

Appendix F: Cloze Test with Missing Blanks

Practice trial (Malaysian):
And most historical site in Malaysia is Kellie's Castle in Batu Gajah, Perak. Kellie's Castle has a very interesting…. interesting (1) on it. A (2) planter built the castle for his (3) or his (4). There were a lot of (5). So, one of the most famous things about the castle is that it's (6).

1. history

2. Scottish

3. wife

4. son

5. theories

6. haunted

Dimple (Indian):
Well errr…..I like almost everything about my (1), but the most important thing which I like is the (2). It is a small garden but with a number of (3) plants and (4) in my garden. And other thing which I (5) is that, there is some (6) problem at my home so this is the major problem.

1. house

2. garden

3. rose

4. marigold

5. dislike

6. parking

Jing Yi (Chinese):
Ok I like to tell you something about the (1) in my high school. It was a (2) building that is made of (3) and the one thing special about this building is they have this big (4) in front of the (5) of the library and the arch is shaped as an open (6).
1. library

2. red

3. bricks

4. arch

5. steps

6. book

<u>Emanuele (Italian):</u>
I think that it depends on the <u>(1)</u>, for example hearing HPS here in <u>(2)</u> showed me that people are much more helpful here than in <u>(3)</u> and but I think that generally in a <u>(4)</u> town since you more or less <u>(5)</u> each other, you are more <u>(6)</u> and you tend to help other people more easily.

1. country

2. England

3. Italy

4. small

5. know

6. kind

<u>Hendrick (German):</u>
They are only <u>(1)</u> because it is easy to blame them for everything what happens. At the moment we have the <u>(2)</u> crisis in Europe, especially Greek and <u>(3)</u> really have to <u>(4)</u> at the moment. And yeah it is easy to blame something. You can't blame a <u>(5)</u> player but it is easy to blame the <u>(6)</u>.

1. famous

2. financial

3. Ireland

4. suffer

5. soccer

6. politicians

<u>Raziye (Turkish):</u>
This depends on country because every country has a different <u>(1)</u>. In <u>(2)</u> I have been here for 4 years especially before <u>(3)</u> people are crazy about giving gifts, <u>(4)</u>… But for

us, in (5), we have a…a lot of the special (6) days. 2 of them are very big with… 1 of them we celebrate for 4 days, one of… another one we celebrate for 3 days.

1. occasion

2. England

3. Christmas

4. shopping

5. Turkey

6. religious

Kyoungae (Korean):
When I was a (1), when I was very young, I didn't have much (2) because we are used to…. we are (3) to (4) on the study, not only but yeah pretty much studying. But once I got into (5), I started to learn table tennis, (6) and swimming (quite late) but yeah which I really enjoyed.

1. child

2. hobby

3. encouraged

4. concentrate

5. university

6. bowling

Appendix G: Sentence Stimuli Used in Chapter 5

<u>Summary for lists of sentences used:</u>

Exposure training day 1 & 2: HINT 1

Practice, Pre-test, Post-test: HINT 2

<u>List of sentences used</u>:

HINT 1

Exposure training day 1: 1–16 (16 sentences)

1. A boy fell from the window.
2. The wife helped her husband.
3. Big dogs can be dangerous.
4. The shoes were very dirty.
5. The player lost a shoe.
6. Somebody stole the money.
7. The fire was very hot.
8. She's drinking from her own cup.
9. The picture came from a book.
10. The car is going too fast.
11. The paint dripped on the ground.
12. The towel fell on the floor.
13. The family likes fish.
14. The bananas are too ripe.
15. He grew lots of vegetables.
16. She argues with her sister.

Exposure training day 2: 17–32 (16 sentences)

17. The kitchen window was clean.

18. He hung up his raincoat.

19. The mailman brought a letter.

20. The mother heard the baby.

21. She found her purse in the trash.

22. The table has three legs.

23. The children waved at the train.

24. Her coat is on a chair.

25. The girl is fixing her dress.

26. It's time to go to bed.

27. Mother read the instructions.

28. The dog is eating some meat.

29. Father forgot the bread.

30. The road goes up a hill.

31. The painter uses a brush.

32. The family bought a house.

HINT 2

Pretest: SPA A: 1–16

1. They heard a funny noise.

2. They found his brother hiding.

3. The dog played with a stick.

4. The book tells a story.

5. The matches are on a shelf.

6. The milk was by the front door.

7. The broom was in the corner.

8. The new road is on the map.

9. She lost her credit card.

10. The team is playing well.

11. The boy did a handstand.

12. They took some food outside.

13. The young people are dancing.

14. They waited for an hour.

15. The shirts are in the closet.

16. They watched the scary movie.

Post test SPA B/SPA A2: 17–32

17. The milk is in a pitcher.

18. The truck drove up the road.

19. The tall man tied his shoes.

20. A letter fell on the floor.

21. The ball bounced very high.

22. Mother cut the birthday cake.

23. The football game is over.

24. She stood near the window.

25. The kitchen clock was wrong.

26. The children helped their teacher.

27. They carried some shopping bags.

28. Someone is crossing the road.

29. She uses her spoon to eat.

30. The cat lay on the bed.

31. They're running past the house.

32. He's washing his face with soap.

Post-test JAP/SPA C: 33–48

33. The dog is chasing the cat.

34. The milkman drives a small truck.

35. The bus leaves before the train.

36. The baby has blue eyes.

37. The bag fell off the shelf.

38. They are coming for dinner.

39. They wanted some potatoes.

40. They knocked on the window.

41. School got out early today.

42. The football hit the goal post.

43. The boy ran away from school.

44. Sugar is very sweet.

45. The two children are laughing.

46. The firetruck is coming.

47. Mother got a sauce pan.

48. The baby wants his bottle.

Appendix H: Speech Stimuli Used in Chapter 5

Stages of intervention	Audio file code	Age	Gender	L1	English proficiency (Versant Test 20-80)	Hearing noise (All will be controlled to 3dB)	Places of stay	Education
Pretest & post-test (Study 2)	ALL_036_M_SPA	24	M	Spanish A	58	3.29	Mexico	Spanish throughout
Post-test (Study 1)	ALL_135_M_SPA	25	M	Spanish B	59	N/A	Venezuela, Merida, Meriad	English at university
	ALL_013_M_JPN	24	M	Japanese	56	5.65	1. Hong Kong 0-5 yrs old 2. Japan 5-24 yrs old	English at graduate
Post test (Study 2)	ALL_134_M_SPA	33	M	Spanish C	NA (self-rated speaking proficiency 3 out of 10)	NA	Lima, Peru	Half English at graduate
Training (multiple accent exposure)	ALL_025_M_TUR	23	M	Turkish	53	3.53	Turkey	English at university and graduate level
	ALL_139_M_PBR	29	M	Brazilian Portugese	58	N/A	1. Brazil (Rio de Janeiro) 0-28 yrs old 2. US (Chicago) 29yrs old	English at graduate level
	ALL_095_M_KOR	24	M	Korean	60	1.88	Korea (Seoul)	Korean throughout

	ALL_031 _M_VIE	20	M	Vietnam ese	62	7.76	1. Russia (Dubna) 0-8 yrs old 2. Vietnam (Hanoi) 8-20 yrs old	English at graduate
Training (single accent exposure)	ALL_061 _M_ENG	19	M	America n	N/A	-2.35		
	ALL_059 _M_ENG	20	M	America n	N/A	-3.06		
	ALL_053 _M_ENG	21	M	America n	N/A	-2.35		
	ALL_057 _M_ENG	21	M	America n	N/A	-2.12		
Training (both)	ALL_066 _M_ENG	26	M	America n	N/A	-2.12		