“Do I speak ‘better’ English?”: A Preliminary Investigation on the Relationship Between Interlocutors’ Nativeness, L2 English Speakers’ Self-perception, and Actual Speech Production

by

Rong Ren

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Graduate Supervisory Committee:

Aya Matsuda, Chair
Mark James
Bryan Smith

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ABSTRACT

This study examined how L2 English speakers interpreted the notion of native English speakers (NESs) and nonnative English speakers (NNESs) and whether nativeness would influence their self-perception and speech production. It aimed at filling the following research gaps. First, limited studies have explored how L2 English speakers view the other NNESs and position themselves regarding interlocutors' nativeness. Second, self-perception has not been extensively studied as an independent construct. Third, the previous studies failed to examine how interlocutors' nativeness influenced L2 English speakers' speech production. Finally, although the social cognitive theory and the sociocultural theory have established a relationship between cognition, environment, and behavior, no studies have investigated this relationship empirically.

An exploratory study, including interviews and surveys, was conducted. Eight Chinese international students participated in the interviews. Their speech was recorded through semi-structured interviews, where two interviewers, one NES and one NNES, asked about participants' college life. Participants' speech data was coded and analyzed based on Complexity, Accuracy, and Fluency (CAF). Furthermore, 39 Chinese international students completed the survey to share their beliefs in the definition of NESs, their self-perceptions of speech production, and experiences interacting with NESs and NNESs. Statistical analysis and contextual analysis were used to interpret the survey responses.

The research findings showed that, first, many participants still believed in the connotations of NESs that were criticized by scholars. Moreover, many participants preferred to talk with NESs than with NNESs. Second, more L2 English speakers in this

study tended to think interlocutors' nativeness influenced their speech production. However, interlocutors' nativeness influenced their self-perceptions of speech CAF to different degrees. Third, the averages of participants' speech CAF with the NES interviewer differed from those with the NNES interviewer.

This study offered some meaningful directions for future research on the definitions of NES/NNES, self-perception, and speech production. It also proposed some pedagogical implications for educators to instruct English more efficiently. Finally, this study called for scholars' attention to change their research mindset, encouraging them to ground their research in people's daily lives.

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CHAPTER 1

INTRODUCTION

As the first chapter of the dissertation, this chapter will give an overview of the study. The first section, *Background of the Issue,* will introduce the background of this study, illustrating the necessity of conducting this research. This section will also propose the research questions. The section *Theoretical Frameworks* will describe two theories – sociocultural theory and Social Cognitive Theory – used in this research and explain how they guide my analysis. The last section, *Organization of the Study,* presents how I structured the entire dissertation and the main idea of each chapter.

Background of the Issue

The communication between L2 English speakers and speakers with diverse linguistic backgrounds has recently become a common phenomenon. Based on conversation with many L2 English speakers and my own self-reflection, I have noticed that many think they speak "better" English when talking with nonnative English speakers (NNESs) than with native English speakers (NESs). However, is this case applicable to more L2 English speakers? Do they actually speak "better" English when speaking to fellow L2 English speakers?

To answer these questions, we first need to understand if L2 English speakers still believe in the concept of NES/NNES. Many scholars discussed the flaws in the concept of NES/NNES (e.g., Medgyes, 1992; Phillipson, 1992; Canagarajah, 1999; Davies, 2004; Dewaele, 2018) and proposed pedagogies to decentralize the status of NES in the classrooms (e.g., Derwing & Munro, 2009; Seidlhofer, 2011; Galloway & Rose, 2015; Si, 2019; Tian et al., 2020). Whether those discussions have reached L2 English speakers or

are accepted by them is still unknown. If L2 English speakers have already recognized the flaws of the concept of NES/NNES and rejected it, discussing the influence of interlocutors' nativeness on their self-perception and speech production may be meaningless. On the other hand, if they still agree with the perspectives related to this concept, it may serve as the foundation for understanding their self-perceptions and speech production.

Being guided by this reasoning, I decided to examine how L2 English speakers interpreted the notion of NES/NNES and if interlocutors perceived nativeness influenced their self-perceptions and actual speech production. This study addressed the relationship between the notion of NES/NNES, self-related concepts, and speech complexity, accuracy, and fluency (CAF). Although existing studies on these topics provided valuable ideas on how to scaffold the current research, those studies have several research gaps. Thus, they cannot fully explain the possible phenomenon mentioned above.

One of the main research gaps is that the existing research has not fully revealed how non-experts understand the notion of NES/NNES. Most existing studies on L2 English speakers' perspective of NES/NNES situate in English Language Teaching (ELT) and focus on teachers (e.g., Aneja, 2016; Chun, 2014; Faez, 2011; Lasagabaster & Sierra, 2002; Medgyes, 1992; Pavlenko, 2003). The influence of the native/nonnative dichotomy on language learners is investigated in a limited pedagogical context. No known studies have specifically explored how L2 English speakers view the other NNESs and how their views are similar to or different from the scholarly construction. There is also a lack of studies that directly ask L2 English speakers how they position themselves in relation to speakers' nativeness.

Another gap in the research relates to the concept of self-perception. Self-perception has not yet been extensively studied as an independent construct. Many self-related concepts, such as self-efficacy and self-concept, only look at a certain part of an individual's cognition (Bandura, 1977; Bong & Skaalvik, 2003; Mercer, 2011). There needs to be another term that can fully reveal individuals' perception of their competence and their affection in a specific domain. Previous studies have shown the potential of self-perception as a specific construct (Harter, 1983; Henk & Melnick, 1995; Murphy & Alexander, 2000; Neugebauer & Howard, 2015), but it needs to be refined further.

Additionally, existing research also fails to examine how interlocutors' nativeness influences L2 English speakers' speech production. Studies in intercultural communication have claimed that speakers adjust their communicative strategies depending on interlocutors' different backgrounds, including nativeness (Mori & Hayashi, 2006; House, 2013). Studies in L2 speech production have also confirmed that environmental factors could influence individuals' L2 speech production (Dornyei & Kormos, 2000; Ockey, 2009; Sun & Zhang, 2020). However, the association between L2 speech production and interlocutors' nativeness is yet to be investigated.

Lastly, existing research does not fully reveal the triadic reciprocal relationship between behavior, cognition, and environment addressed by Bandura (1989). Scholars mostly choose to discover the reciprocal relationship between two of these factors. Given that talking with interlocutors with different linguistic backgrounds is a common occurrence, it is possible that there is an interaction between how L2 English speakers think about their speech production, how they think about interlocutors from diverse linguistic backgrounds, and how L2 English speakers actually speak. Therefore, it is

meaningful to investigate L2 English speakers' cognition (self-perception of their speech production), their actual behavior (speech production), and the context they are in. More empirical studies are needed to better investigate this triadic reciprocal relationship.

To address these research gaps and investigate how interlocutors' nativeness influences L2 English speakers' self-perception and their actual speech production, three research questions were proposed:

1. How do L2 English speakers understand the notion of native English speakers (NESs) and nonnative English speakers (NNESs)?
    1. How do they define NESs?
    2. Do they prefer to talk to NESs or NNES?
2. In what way and to what extent does the interlocutor's nativeness influence L2 speakers' self-perception of speech production?
3. In what way and to what extent does the interlocutor's nativeness influence L2 speakers' actual speech production?

An exploratory study was carried out, involving both interviews and surveys. These two instruments are proven to effectively capture individuals' thoughts and behaviors (Talmy, 2010; Dornyei & Csizer, 2012). The interviews collected the speech data to reveal if participants' speech production would change between their interactions with the NES interviewer and the NNES interviewer. Eight students participated in the interviews. The survey collected participants' responses to present if interlocutors' nativeness would make a difference in their self-perceptions of the speech production. 39 participants were involved in the survey. Overall, this study was created to highlight the relationship between interlocutors' nativeness, self-perception, and speech production.

Theoretical Frameworks

Since this study aims to highlight the triadic relationship between environment, individuals' cognition, and their behaviors, theories that address the relationship between these three factors would help to scaffold this study. Therefore, Sociocultural Theory and Social Cognitive Theory were both adopted to serve as significant theoretical foundations to this study.

Sociocultural Theory. Sociocultural theory was first proposed by Vygotsky at the beginning of the 20th century. According to Duff (2007), Vygotsky and his followers mostly situated the study in L1 learning and the monolingual context. Lantoff subsequently proliferated the influence of this theory into Second Language Acquisition. This theory denoted that human mental activity is mediated by cultural artifacts, activities, and concepts (Lantoff et al., 2015), which is the principal perspective of this study. Lantoff et al. (2015) explained that through participating in various "cultural, linguistic, and historically formed settings" (p. 1), humans developed cognitive activities that eventually regulated their behaviors.

It is agreed that mediation is the central construct of this theory. Humans use symbolic artifacts and tools, such as language and gestures, to mediate their relationships with the environment (Duff, 2007). When individuals use language to interact with the environment, they can gradually gain control over themselves and their mentality. Therefore, Lantolf (1994) divided the function of language into two directions – one was outwardly directed to objects, which referred to interacting with other mediated people's minds. The other was inwardly directed to subjects, which was defined as "a unit of thinking' (Lantolf et al., 2015, p. 5). Generally speaking, individuals use "private speech"

(Lantoff et al., 2015, p. 5) as a symbolic tool to self-regulate their behavior. Therefore, through using language to interact with others, individuals' minds are mediated accordingly.

Sociocultural theory addresses the power of language, claiming that language could mediate the relationship between individuals and the world. Therefore, it provides initial interpretations of the influence of interlocutors' nativeness on L2 English speakers' self-perceptions and their speech production. According to the definition of sociocultural theory proposed by Lantoff et al. (2015), the interlocutor's nativeness in the conversation can be considered a social factor in the environment. To deal with this environment, L2 English speakers may vary their language use. The variance may change how they think in return, which explains that interlocutors' nativeness may potentially influence L2 English speakers' self-perceptions of their speech production and their experiences of interacting with NES and NNES. In the meantime, their speech production may be mediated by their self-perceptions.

Social Cognitive Theory. Social Cognitive Theory (Bandura, 1977) also serves as a theoretical framework of this study. This theory proposes that human behaviors are shaped and controlled by the environment. More specifically, sociocultural factors influence an individual's mechanism, thus producing behavioral effects. According to Bandura (1989), Social Cognitive Theory favored a triadic reciprocal determinism between behavior, cognition, and environment. Furthermore, those elements influenced each other bidirectionally. Therefore, the relationship between these factors is quite dynamic.

Social Cognitive Theory also addresses human agency by recognizing that humans select their activities through the cognitive process, and their agentive action creates the environment (Bandura, 1989; Bandura, 2001). Bandura (2001) proposed several essential features that described humans' uniqueness. The first feature was intentionality. Humans, as agents, were able to plan the actions that would be performed at a future point. These intentions could be revised and adjusted during the execution progress. The second feature was forethought. People were able to anticipate future events so that they could adjust their current behavior. The next feature was self-reactiveness. This feature meant that people were proactive in making actions and making the performance happen since they were planners and able to think ahead. By involving the self-regulatory mechanism, people were able to perform based on their own goals and standards. The last feature was self-reflectiveness, which meant that people could self-examine their own functions.

This theory contributes two critical perspectives to support this research. First, that humans are autonomous and can decide their actions under the influence of the environment. Therefore, when facing NESs and NNESs, L2 English speakers have the autonomy to decide how they want to communicate according to different environments. Meanwhile, L2 English speakers can reproduce and adjust their actions by relying on their understandings of previous experiences. Any actions generated are due to humans' own will. The second perspective is that the reciprocal dynamic relationship between personal factors, behaviors, and environment is significant for this study. This leads to the idea that L2 English speakers' self-perceptions can evolve based on past interactional experiences, environments, and speech production. This can further reshape their

experiences and speech production. Moreover, this theory supports that their actual speech production is shaped by the environment and their self-perception, which also influence the environment and their self-perceptions in return. Due to the complexity of this reciprocal triadic relationship, the three dimensions of self-perception, environment, and speech production become rather dynamic and constantly in flux.

Organization of the Study

The dissertation is presented in the following structure. Chapter 1 explains the background and significance of conducting this study. The theoretical frameworks are also illustrated. Chapter 2 presents a holistic review that draws upon studies in NES/NNES, self-related concepts, and speech complexity, accuracy, and fluency. This chapter establishes the relationship between environment, cognition, and behavior from a theoretical perspective. Chapter 3 introduces the methodology used in this study and the rationales behind it. The details of the research design, data collection methods, and data analysis methods are all included in this chapter. Chapter 4 presents the major results of this study. The findings are structured according to the research questions. Chapter 5 discusses the research questions thoroughly and analyzes the reasons behind the results. Chapter 6 concludes the dissertation by addressing the main findings and the limitations of the study. Research and pedagogical implications are also emphasized in the last chapter.

CHAPTER 2

LITERATURE REVIEW

As mentioned in Chapter 1, one of the aims of this research is to reveal the triadic reciprocal relationship between environment, cognition, and individuals' behavior, which are the essential elements of both sociocultural theory and social cognitive theory. Therefore, this chapter will develop based on these three essential elements in the context of L2 usage.

The section *The Triadic Relationship of Cognition, Cognition, and Environment in the Context of L2 Use* will introduce the relationship between the three factors addressed by the sociocultural theory and social cognitive theory. It first mentions what "environment" means in this relationship and then presents the working definition of interlocutors' nativeness in this study. This section then explains what "cognition" means in this relationship and provides a working definition of self-perception based on the previous literature. This section then mentions the meaning of" behavior" in the context of L2 use. It then provides a working definition of complexity, accuracy, and fluency (CAF), which is the measurement used to observe individuals' peaking in this study.

The section *Literature Review* will first show what is known about interlocutors' nativeness. By reviewing previous empirical studies, it presents L2 English speakers' views on themselves and other speakers regarding interlocutors' nativeness. This section then focuses on self-perception by revealing its relationship with individuals' earning achievement. Finally, this section demonstrates what factors influence one's L2 speech production by reviewing the previous literature.

The next section, *Gaps in the Literature,* will indicate the research gaps in existing studies that I attempt to fill through this study. The last section, *Research Questions,* will list the research questions that have guided the research design and data analysis.

The Triadic Relationship of Cognition, Behavior, and Environment in the Context of L2 Use

The triadic relationship of individuals' cognition, behavior, and environment is taken from both sociocultural and social cognitive theories. Both theories recognize the interaction between sociocultural factors in the environment and one's cognition. In addition, as agents, humans are able to select their actions and activities that influence human cognition in return. The sociocultural factors in the environment also affect one's behavior that remodels the environment. Hence, this relationship shows that one's cognition, behavior, and environment all interact with each other. In the following section, I will explain how these three factors are contextualized in L2 use, which is also the background of this study.

Environment. According to sociocultural theory and social cognitive theory, *environment* in this relationship refers to the sociocultural factors in the environment where individuals are (Bandura, 1989; Duff, 2007). This factor will shape people's mental activity and agentive action. For example, speakers' attitudes towards language learning and emotions are shaped and developed by the environment where they are. They also adjust their actions according to the different contexts.

In this study, *environment* is operationalized as interlocutors' nativeness. In the context of L2 use, it is common that L2 English speakers use English when talking with speakers from diverse linguistic backgrounds. Some of those speakers are considered "native English speakers", or NESs, and some are perceived as "nonnative English speakers", or NNESs. Many studies have shown that an interlocutors' nativeness influences the way L2 English speakers speak. Studies in intercultural communication had claimed that speakers adjust their communicative strategies towards different speakers when they participated in the conversation (Mori & Hayashi, 2007; Fang, 2017). Furthermore, some studies also revealed that when talking with people with diverse backgrounds. Speakers utilize different strategies in English as a Lingua Franca (ELF) communication to reach mutual understanding, for instance, using discourse markers (House, 2013), and active strategies that included requests and repetitions (Romero-Trillo & Lenn, 2011; Kwan & Dunworth, 2016).

Much of the previous literature has contributed to identifying speakers' nativeness (Cook, 1999; Davies, 1991, 2003, 2004; Dewaele, 2018; Hacker, 2009; Halliday, 1978; Kramsch, 1997; Medgyes, 1992; Moussu & Llurda, 2008; Faez, 2011; Pavlenko & Norton, 2007; Wee, 2000). In addition to that, identifying interlocutors' nativeness also relates to some features which, according to Tsuchiya's (2016) work, are misconceptions that exist in people's subconsciousness, for example, nationality, skin color, and education. In lay discourse, speakers who possess all these elements are considered NESs. Otherwise, they would be considered NNESs. The key elements of identifying interlocutors' nativeness are listed as follows:

- Speakers acquire English in childhood.

- Speakers intuition about English grammar.
- Speakers can fluently generate discourse and pragmatics.
- Speakers have internalized the ideologies and values of the target society.
- Speakers are born in English-speaking countries.
- Speakers' ethnic features are typical in English-speaking countries (e.g., appearance).
- Speakers receive all of their education in English.

The criteria above are used throughout the entire data collection and data analysis process. Particularly, a list of detailed characteristics generated from the above elements was provided in the survey for participants to select. Meanwhile, this definition played a significant role in recruiting the other interviewer. The other interviewer needed to possess all the elements so that they were regarded as a typical NES with no doubt.

Cognition. *Cognition* in this relationship refers to one's brain process that produces thoughts (Bandura, 1989), which is also known as mental activities. According to some scholars (Bandura, 1989; Duff, 2007; Lantoff et al., 2015; Kung & Wang, 2018), humans, as agents, select actions through a cognitive process. Meanwhile, other scholars (e.g., Duff, 2007) have noted that the relationship between cognition and the environment is dynamic. There is an interaction between one's cognition and environment.

In the context of L2 use, language learners tend to hold different values and beliefs about themselves, their language learning, and the contexts where they participate as language learners. These kinds of beliefs significantly affect the process of L2 use (Kung & Wang, 2018)**.** Studies have shown that self-related beliefs, also known as self-related concepts, play a critical role in learners 'language acquisition and academic

success (Dornyei, 2005; Mills et al., 2007; Piechurska-Kuciel, 2013; Pyun et al., 2014; Wang et al., 2014). As more studies appear, scholars have noticed that self-related beliefs are such a broad idea and can be further divided into different specific constructs, for example, self-confidence, self-efficacy, self-concepts, and self-perception. These concepts explain self-related beliefs from different angles and frequently appear in studies of the effects of individual differences on the language acquisition process and achievements. Unlike self-efficacy and self-concept, few studies treated self-perception as a unique construct. Self-perception is widely used to describe how people think about themselves. In some cases, self-perception is used interchangeably with other self-related constructs such as self-concept, self-efficacy, and self-assessment (Henk & Melnick, 1995; de Saint Leger, 2009; Choi & Lee, 2016; Trofimovich et al., 2016). In those cases, self-perception exists in multiple disciplines and was used as an umbrella term that covered all self-related constructs.

Given the lack of studies on self-perception, *cognition* is represented as self-perception in this study. Drawing from previous literature (Wichstrom, 1995; Harter, 2012; Henk & Melnick, 1995; Murphy & Alexander, 2000; Neugebauer & Howard, 2015), the working definition of *self-perception* is an individual's beliefs and assessment of their own performance when completing certain tasks. This concept can be explained by the following dimensions.

- Self-perception is domain-specific, indicating that it can capture individuals' reactions when they are involved in specific activities and tasks.

- Self-perception describes both people's convictions about their actions and their perceptions of self in a given domain. This statement means that both cognitive and affective appraisals are included in self-perception.
- Self-perception refers to the judgment before and after the tasks, meaning that individuals cannot only predict, but also evaluate, the tasks they are already involved in.

Behavior. *Behavior* in this relationship refers to any human behaviors (Bandura, 1989; Lantoff et al., 2015). Scholars state that behaviors modified individuals' brain processes (Greenough, Black, & Wallace, 1987) and their environment (Bandura, 1989).

In the context of L2 use, behavior can be described as how L2 English speakers use English. In this study, *behavior* specifically refers to speakers' L2 speech production, which indicates how speakers translate their intentions to overt speech. Many scholars have discussed how speech is produced (Levelt, 1989; De Bot, 1992). Kormos (2006) went a step further, developing a bilingual model of speech production based on Levelt's work. Their model proposes that language processing should contain one long-term memory store that includes both episodic memory and semantic memory. This long-term memory plays a significant role in conceptualization, formulation, and speech-comprehension systems. Episodic memory activates concepts. Then, concepts move to semantic memory that is in a hierarchical structure. The conceptual level is the highest in semantic memory, which decides how speakers could maneuver their lemmas and lexemes in long-term memory.

The speech model developed on the basis of cognition and psychology was inspiring for scholars in second language acquisition (SLA). May scholars focused on

exploring the most effective pedagogies to facilitate L2 speech production (Robinson, 2007; Mora & Valls-Ferrer, 2012; Timothy, 2017). In addition, some scholars tried to explain the factors that influence L2 speech production (Dornyei & Kormos, 2000; Hanse, 2006; Lahmann, Steinkrauss & Schimd, 2016). However, there needed to be a specific measurement that can thoroughly describe L2 speech production so as to explain the effectiveness of the empirical studies. That is when CAF was developed, which is also used to measure participants' L2 speech production in this study.

The CAF framework has been widely used to measure L2 speakers' proficiency. Unlike the traditional four-skills model that divides language ability into grammatical, textual, functional, and sociolinguistic skills (Bachman, 1990), this model not only analyzes language users' proficiency through different dimensions, but also describes different stages of SLA. First, speakers internalize new L2 elements, which can be traced in "complexity." Then, they modify and restructure their L2 knowledge, which can be presented in "accuracy." Finally, speakers consolidate their L2 knowledge, which can be seen in "fluency." The detailed definitions of each dimension will be explained below.

First, complexity is composed of cognitive complexity, linguistic complexity (Housen et al., 2012), and developmental complexity (Pallotti, 2015). Cognitive complexity refers to "the relative difficulty with which language elements are processed during L2 performance and L2 learning" (Housen et al., 2012, p. 4), which is subjective and influenced by learners' backgrounds. Linguistic complexity, on the other hand, is objective, referring to "the intrinsic formal or semantic-functional properties of L2 elements or to properties of (sub-) systems of L2 elements" (Housen et al., 2012, p. 4). Scholars have further divided linguistic complexity into grammatical complexity and

lexical complexity (Norris & Ortega, 2009; Tonkyn, 2012; Lahmann et al., 2016). Developmental complexity refers to "the order in which linguistic structures emerge and are mastered in second (and, possibly, first) language acquisition" (Pallotti, 2015, p. 2). It is worth noting that since cognitive complexity and developmental complexity are too subjective to measure, scholars usually exclude these two aspects when measuring L2 proficiency.

The term accuracy refers mainly to L2 learners' error types and error gravity regarding target-like use of language, such as the number of words per error and the ratio of error-free units (Tonkyn, 2012). Many empirical studies have divided this measurement into global measures that refer to the overall accuracy, and specific measures that focus on the specific goal of the investigation and intervention. Global measures are what this study is looking at.

Fluency describes "the ease, eloquence, 'smoothness' and native-likeness of speech or writing" (Housen et al., 2012, p. 4). It is mainly "a phonological phenomenon" (Housen et al., 2012, p. 5) that best indicates speaking proficiency. As a result, it is often applied to measuring L2 oral proficiency (Kormos & Denes, 2004; Hilton, 2014). This construct includes speed fluency, breakdown fluency, and repair fluency (Skehan, 2009). Speed fluency refers to one's speaking speed, which can be measured by syllabi per minute. Breakdown fluency is indexed by pausing. Repair fluency refers to one's speech repair behaviors, such as "reformulation, repetition, false starts, and replacements" (Skehan, 2009).

As essential dimensions of one's speech production, complexity, accuracy, and fluency with interact with one another (Norris & Ortega, 2009; Larsen-Freeman, 2009;

Housen et al., 2012) to present speakers' L2 proficiency. Those dimensions might offset each other due to the concern on human's limited processing capacity (Housen et al., 2012). Complexity, accuracy, and fluency are also not equally activated during learners' L2 development. For example, for learners at the beginning level, developing the complexity of their speech requires the most focus. therefore, their accuracy and fluency may not be equally developed. As the language acquisition process proceeds, speakers are able to develop their accuracy and fluency later on.

Literature Review

Based on the triadic relationship discussed in the previous section, this section reviews relevant literature to demonstrate what is known about the three factors that this study focuses on: interlocutors' nativeness, self-perception, and L2 speech production.

Interlocutors' nativeness. Although many scholars have challenged the elements of identifying speakers 'nativeness mentioned above (e.g., Canagarajah, 1999; Holiday, 2006; Davies, 2004; Dewaele, 2018; Faez, 2011), previous studies have demonstrated that the native/nonnative dichotomy still profoundly influenced L2 English speakers ' beliefs about other speakers and themselves.

***L2 English speakers' views on themselves*.** Most studies that investigate how L2 English speakers view themselves shed light on teachers, especially how nonnative English-speaking teachers (NNESTs) view themselves in language teaching. In these studies, NNESTs tended to feel less competent and were more likely to question their legitimacy as English teachers. For example, in his study which investigated the "native speaker fallacy," Canagarajah (1999) pointed out that NNESTs often questioned their own teaching competence due to the lack of nativeness. As a result, many professionals

who participated in the study positioned themselves in a lower position than native English-speaking teachers (NESTs) and attempted to get rid of their accents and underestimate themselves. Pavlenko (2003) presented a similar situation by conducting a discursive analysis of students' autobiographies. The study explored how the NNS students in TESOL Master's programs, who would be the future NNESTs, would position themselves regarding professional and linguistic communities. The researcher found that they positioned themselves in the NNS community and attempted to enter the NS community. Aneja (2016) also investigated how NNESTs positioned themselves by exploring four teacher candidates' identity construction. The researcher found that participants' identities as teachers were swayed due to their accents, overseas experience, race, and birthplace in a non-English-speaking country.

Other studies looked at L2 English speakers who were not teachers and focused on how they position themselves while interacting with NESs. Studies have shown that L2 English speakers tended to position themselves lower than NESs during the interaction. For example, Park (2007) investigated NNESs' identity construction by looking at the speakers' intercultural communication, finding that there was "an asymmetrical alignment of the participant" (p. 339) due to participants' unequal distribution of linguistic knowledge. The researcher noticed that NNESs excused themselves for their linguistic deficiency and self-depreciated themselves during the interaction with NESs, which signified that NESs and NNESs were at unequal positions in the conversation. Furthermore, Liddicoat (2016) revealed how NNESs' identities were influenced by the NESs' didactic voice. NNESs usually started the conversation simply as language users, but as the conversation preceded, "the focus of interaction moves from

the content of communication to the form of communication" (p. 426), and NNESs' identities shifted from that of language users to language learners.

L2 English speakers' views on other speakers. The discussion of "native/nonnative speakers" also addresses how L2 English speakers judge other speakers based on their own perceptions of NESs/NNESs. Most studies in this area studied how students perceive teachers' nativeness and showed that students appreciated NNESTs' in the classrooms. By conducting a survey looking at students' opinions about NESTs and NNESTs, Lasagabaster and Sierra (2005) concluded that, although the majority of students preferred native speakers as teachers, they also valued the advantages of their nonnative speaker teachers. Chun (2014) surveyed 125 Korean students to understand their beliefs about NESTs and NNESTs. The study found that although students considered NEST have higher language competence, Korean English teachers were deemed to understand students' learning needs and empathize with students more effectively. Tsuchiya (2016) expanded this idea into another language context. He investigated students' attitudes towards native and nonnative language teachers of Japanese. Through qualitative and quantitative data collection, the researcher found that language learners believed that nonnative language teachers of Japanese had some advantages that native speakers did not have.

Limited studies focused on L2 English speakers' perspectives of their peers who are NESs or NNESs in general. One study has been found to show that L2 English speakers tended to have a relatively positive image towards NESs. Kubota (2001) investigated how L2 English speakers' perspectives of NESs and NNESs were shaped by the image of U.S. classrooms. Due to the history of colonialism, Asians tended to look up

to Western cultures. Thus, U.S. classrooms were positively described as promoting logical and analytical skills as well as individualism and emphasizing questioning. Under the influence of this image, NNESs were more likely to stereotype native speakers from the U.S. education system as being more direct and individualistic.

Some studies also noted that L2 English speakers' perspectives of their NES peers became more realistic as they gained more intercultural experiences. Wang and Jenkins (2016), for example, found that the more intercultural experiences that participants had, the more critical they were towards NESs. They explained that ELF experiences allowed Chinese speakers to realize that NESs were not the gold standard of intercultural communication. Schreiber (2019) also investigated the relationship between L2 users' intercultural experience and their attitudes towards NESs. This study examined how a multimodal online intercultural exchange affected students' attitudes towards native speakers. It showed that, through this online program, students shared their understanding of language differences and were able to enrich their perceptions of NESs. They also noticed the linguistic and racial diversity of English in the U.S. and gained confidence as English users.

To sum up, many empirical studies have looked at how L2 English speakers view themselves and other speaker. Several of these studies showed that L2 English speakers tended to put themselves in a lower position while interacting with NESs. Especially for NNESTs, they felt less, and that their authority was questioned because they lacked the elements associated with being NESs. Regarding how they view the others, L2 English speakers recognized NNESTs' value in the classrooms. They also had a positive

impression of NESs. However, this impression became more objective once they had more intercultural experiences.

Self-perception. Many studies on self-related concepts attempted to show the relationship between self-related concepts and learning achievement. For example, studies on self-efficacy have proven that self-efficacy is positively associated with language achievement (Bruning et al., 2013; Choi & Lee, 2016; Mills et al.,2007; Piechurska-Kuciel, 2013). In addition, studies on self-concept have shown that self-concept positively predicted one's academic achievement (Janssen et al., 2015; Yoshida, 2013) and spontaneous foreign language use (Erten & Burden, 2014; Lauermann et al., 2020).

As mentioned in the previous section, self-perception is a separate concept from other self-related concepts. However, only limited studies have looked specifically into this concept's relationship with language learning and academic achievement. Those studies concluded that L2 speakers' self-perception could predict their learning performance. Stringer and Heath (2008) conducted a study among a group of students from middle-class and suburban schools. Participants were tested twice on reading, arithmetic, and academic self-perception. The second test was implemented one year after the first test. The study demonstrated that students' self-perception of competence was a reliable indicator of students 'reading performance over time. However, they also pointed out that self-perception did not predict a significant change in reading performance. Through statistical analysis, they inferred that students' self-perception was not in a causal relationship with academic performance. Alkhateeb (2014) also added to this discussion by applying a Reader Self-Perception Scale (RSPS) in a study to measure

Arab-American students' reading self-perception. In the study that investigated the relations between students' reading anxiety, language motivation, and self-perception, they found that Arab-American students' reading self-perception positively predicted their Arabic achievement. In addition to that, by studying 409 students, including native English speakers and native Spanish speakers, in a two-way immersion (TWI) program, Neugebauer and Howard (2015) found a positive relationship between self-perception and writing performance among both native English speakers and native Spanish speakers.

All in all, studies have shown that self-related beliefs contained many constructs, such as self-concept, self-efficacy, and self-belief. Unlike self-concepts and self-efficacy that have received extensive attention, limited studies have shed light on self-perception. A large number of studies have examined the relationship between self-concept and learning, between self-efficacy and learning. However, few studies have proven that students' self-perception could predict their language-related performance.

L2 speech production. Many scholars have investigated what factors would influence L2 speech production. These factors can be categorized into the following categories: social contexts where L2 speakers learn or apply the language, the variety of speech tasks that L2 speakers need to complete, and individual differences of the speaker that L2 English speakers interacted with. The following section will review the previous literature to show how one's L2 speech production is changed due to these factors.

Social contexts where L2 English speakers learn or apply the language. The first subcategory that many scholars have discussed is the social contexts where L2 speakers learn or apply the language. Many studies have explored the effects of studying

abroad, a specific learning context, on L2 speech production and language proficiency (Llanes & Munoz, 2009; Mora & Valls Ferrer, 2012; Leonard & Shea, 2017). Overall, those studies have proven that studying abroad would positively influence speakers' L2 language proficiency. Some studies have further shown that different language proficiency dimensions – complexity, accuracy, and fluency – did not develop equally under this situation. For example, Leonard and Shea (2017) denoted that study abroad experience could change L2 speakers' linguistic knowledge and their processing abilities in a positive way. These two factors could free up speakers' "attentional resources" (Kormos, 2011, p. 51) to help speakers develop their accuracy and complexity in speaking. Furthermore, culture, as an indispensable affordance of society, was also discussed regarding L2 speech production in the literature. For example, Sun and Zhang (2020) explored factors influencing L2 Chinese multilinguals' speech production. The findings showed that speakers' L2 classes, as well as their interest in L2 culture and the L2 community where speakers stayed, could positively affect speakers 'Chinese speech production overall.

The variety of speech tasks. The second subcategory that has received significant attention is the variety of speech tasks that L2 speakers needed to complete. This perspective is derived from the Cognition Hypothesis, which indicated that "complex notions and high functional demands will lead adult language learners to develop or stretch their interlanguage so that they can meet the increased demands of the task and express elaborated ideas" (Sasayama, 2011, p. 108). Task complexity could facilitate speakers' cognitive complexity, thus allowing speakers to generate more complex speech production and interaction (Robinson, 2005). Inspired by this cognitive perspective,

many scholars have discussed how different tasks could improve L2 speech production and found a positive relationship between task complexity and L2 speech production. Robinson (2007) used Picture Arrangement tasks at different complexity levels to facilitate Japanese students' English oral performance. The study revealed that, although there was no distinct evidence to support the positive relationship between task complexity and "syntacticization and grammaticization of speech" (p. 207), task complexity would positively influence L2 speakers' interaction and attention to the output. It would also cause learners' anxiety as the level of task complexity increased. In line with Robinson's finding, Nuevo et al. (2011) divided seventy-nice students into two groups to finish two sets of tasks with different complexity levels. The result showed that students who completed the high-complexity tasks had more self-repair during the output. Unlike the previous two studies, Levika and Gilabert (2011) found that this positive relationship between task complexity and L2 speech production would not be valid without considering the planning time. By removing the pre-task planning time and increasing the elements in the tasks, they found that the number of elements in the tasks negatively influenced L2 speakers' fluency, and their speech fluency and complexity were reduced without the planning time.

Individual differences of the speaker that L2 English speakers interacted with.

The third subcategory is the individual differences of the speaker that L2 English speakers interacted with. In this case, individual differences refer to distinctive features carried by different speakers, which include gender, social status, education, and so on. Studies have shown that an individuals' differences influence speakers' L2 speech production. For example, Ockey (2009) revealed that the task takers' assertiveness could

influence other group members' task performance. If there was only one assertive task taker in the group oral discussion, test takers tended to have higher scores. Lahmann et al. (2016) also acknowledged the influence of individuals' differences. They analyzed 102 oral history testimonies, showing that level of education played a significant role in L2 speech production. They found that level of education was positively associated with participants' grammatical and lexical complexity.

In conclusion, this study focuses on L2 speech production as an example of behavior. The previous literature has shown that many factors influence one's L2 speech production, for example, the social contexts where L2 speakers learn or apply language, the variety of speech tasks, and individual differences of the speakers with whom the L2 English speakers interact.

Gaps in the Literature

The literature review above shows some research gaps that the present study has attempted to fill.

The first research gap is that the existing studies on L2 English speakers' perception of "native/nonnative speakers" are mostly situated in English Language Teaching (ELT) and focus on teachers (e.g., Aneja, 2016; Chun, 2014; Faez, 2011; Lasagabaster & Sierra, 2005; Medgyes, 1992; Pavlenko, 2003). How L2 English speakers view the other NES/NNES peers is investigated to a limited extent. Addressing this research gap will allow scholars to realize the hurdles in connecting the scholarly discussions with laypeople's beliefs. Thus, with this research gap in mind, this study will inspire scholars to seek more research and pedagogical innovations to empower nonnative English speakers in intercultural communication.

The second research gap is that self-perception has not been extensively studied as an independent construct yet. Only limited studies have considered self-perception as a unique construct (Harter, 1983; Harter, 1988; Henk & Melnick, 1995; Murphy & Alexander, 2000; Neugebauer & Howard, 2015). Compared with studies on the relationship between self-concept and learning achievement and between self-efficacy and learning achievement, not many studies have looked at how self-perception is associated with one's learning achievement. Therefore, studies on self-concept and self-efficacy inspire scholars to develop definitions of self-perception, exploring its relationship with individuals' earning outcomes through empirical studies.

The third research gap is that studies have not examined how interlocutors' nativeness influences L2 English speakers' speech production. Studies in intercultural communication had claimed that speakers would adjust their communicative strategies depending on interlocutors' different backgrounds, including nativeness (Mori & Hayashi, 2006; House, 2013; Fang, 2017). Studies in L2 speech production have also confirmed that many factors in the environment where L2 speakers are could influence their L2 speech production (Ockey, 2009; Lahmann et al., 2016; Sun & Zhang, 2020). However, the existing studies have not established the association between L2 speech production and speakers' nativeness, which is one the environmental factors. Hence, establishing the relationship between L2 speech production and speakers' nativeness can greatly contribute to the study of L2 speech production.

The last research gap observed from the literature review is that existing studies do not fully reveal the triadic reciprocal relationship between behavior, cognition, and environment. Even though Bandura (1989) already proposed a triadic reciprocal

determinism that presented how behavior, cognition, and environment influence each other bidirectionally, scholars mostly choose to investigate the bidirectional relationship between two of these factors. Given that talking with interlocutors with different linguistic backgrounds is common now, exploring this triadic relationship in this context allows us to take a closer look at L2 English speakers' behaviors and the reasons behind. Therefore, it is meaningful to investigate L2 English speaker's cognition (self-perception of their speech production), their actual behavior (speech production), and the context where they are.

Research Questions

To fill the above-mentioned research gaps, I conducted a study that investigates interlocutors' nativeness, L2 English speakers' self-perception for their speech production, and actual L2 speech production, and the relationship between the three. The following research questions are proposed to guide my study:

- How do L2 English speakers understand the notion of native English speakers (NESs) and nonnative English speakers (NNESs)?
    - How do they define NESs?
    - Do they prefer to talk to NESs or NNES?
- In what way, and to what extent, does the interlocutors' nativeness influence L2 speakers' self-perception on speech production?
- In what way and to what extent does the interlocutors' nativeness influence L2 speakers' actual speech production?

Summary

In this chapter, I presented the guiding framework for the study and a review of the relevant literature to identify the research gaps that the current study attempts to fill.

The first half of the chapter explained the triadic reciprocal relationship of environment, cognition, and behavior in the context of L2 use, which argued that these three factors interplayed with each other while speakers used L2. For each factor, environment, cognition, and behavior, I explained how they were contextualized in this study, provided the working definitions for this study, and reviewed existing literature that had investigated their significance in the context of L2 learning.

The second half of the chapter focused on the literature review of interlocutors' nativeness, L2 speakers' self-perception, and L2 speech production. By showing the previous discussions on these topics, I demonstrated what we already know about these topics and identified several gaps that this study aimed to fill. Based on the gaps in the literature, I also proposed the research questions at the end of this chapter.

CHAPTER 3

METHODOLOGY

In this chapter, I will explain my research design, the two data collection methods, and the data analysis methods used in this study and the rationales behind them. In the first section "Research Site and Participants," I will describe the research site and participants and introduce the criteria for choosing them. In the section "Instruments," I will describe the instruments and explain why I chose them. The next section "Data Collection Procedure" will present the steps taken to collect the data. The final section, "Data Analysis," will contain the parameters and the means of analysis. Since this is an exploratory study that tries to uncover participants' beliefs and speech production habits that have not already been clearly defined, the results of this study may not be conclusive due to the number of participants and instruments. However, they will be meaningful for the future research.

Research Site and Participants

Research site. Due to the physical restraints during the Covid-19 pandemic, the research was conducted online. Interviews were conducted via Zoom and the survey was created via Qualtrics and distributed online. Although this virtual experience created more difficulties in recruiting participants, it allowed me to reach out to more Chinese international students across different universities in the U.S. Therefore, this turned out to actually be an ideal research site given the current situation.

Participants. This study, as I explain later in this chapter, had two stages of interview collection: interviews and surveys. For interviews, there were eight participants. Three were male and five were female. All participants in this study were

Chinese international undergraduate students. Their background information is illustrated in Table 1. Two of the participants were freshmen, three students were sophomores, two students were juniors, and one student was a senior. Students had different academic backgrounds before attending U.S. colleges. Two students attended the U.S. college as Chinese transfer students. This means that they completed two-years of undergraduate studies in China and then attended U.S. colleges to complete their undergraduate degrees. Four students attended high school in the U.S. for one year before going to U.S. colleges. The rest two students finished their high school studies in China and came to the U.S. for four years of undergraduate study. In addition, all students interviewed were college students and had been in the U.S. for less than three years.

Table 1

Participants' Background Information

Gender	Freshmen	Sophomore	Junior	Senior
Male	1	1	0	1
Female	1	2	2	0

For the survey stage of data collection, 39 Chinese international undergraduate students participated. Figure 1 shows that about 38.5% of the participants were male (n = 15), and 61.5% of the participants were female (n = 24). Although participants were all in the U.S. for less than three years, their ages varied, which is shown in Figure 2. 61.5% of the participants were 18 – 24 years old (n = 24), 12 participants were 25 – 34 years old. There were three participants who were above 35 years old.

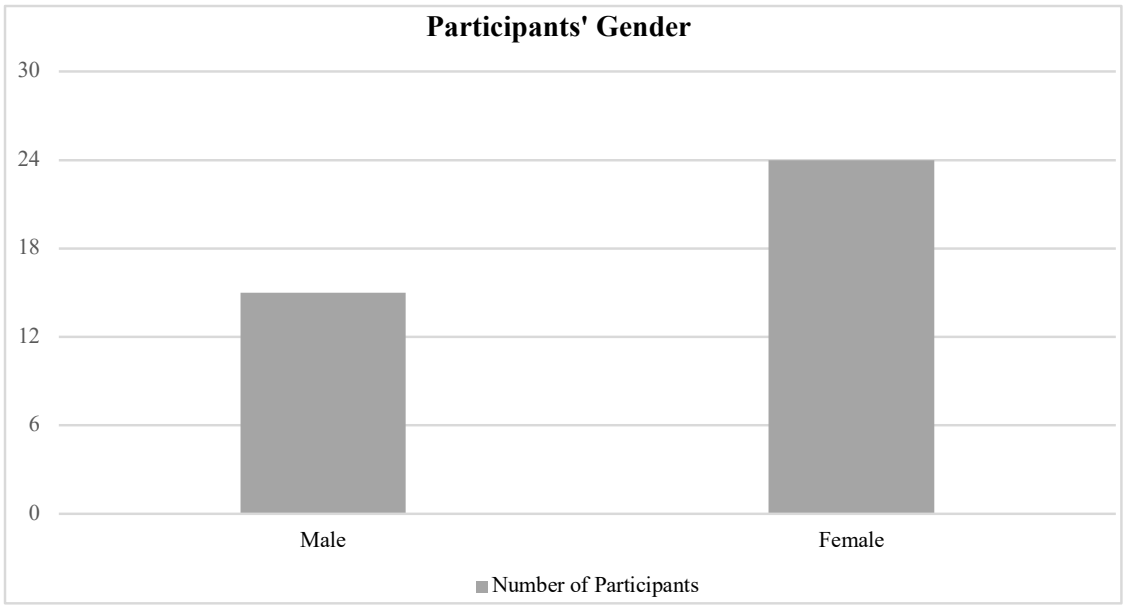

Figure 1. Survey Participants' Gender

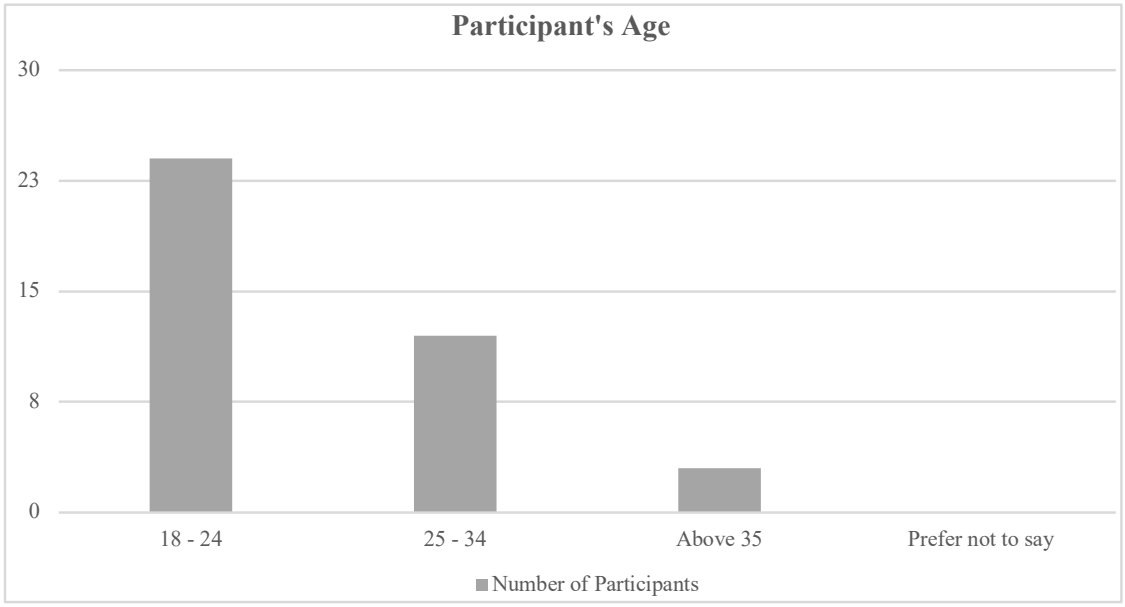

Figure 2. Survey Participants' Age

Participants learned English for various lengths of time. Figure 3 shows that about 35.9% of participants had learned English for more than 12 years (n = 14). Nine participants had learned English for between 3 – 7 years, which accounts for 23.1% of the

participants. Nine participants had learned English for 8 – 12 years. And 7 participants have learned English less than two years, which accounts for 17.9 % of the participants.

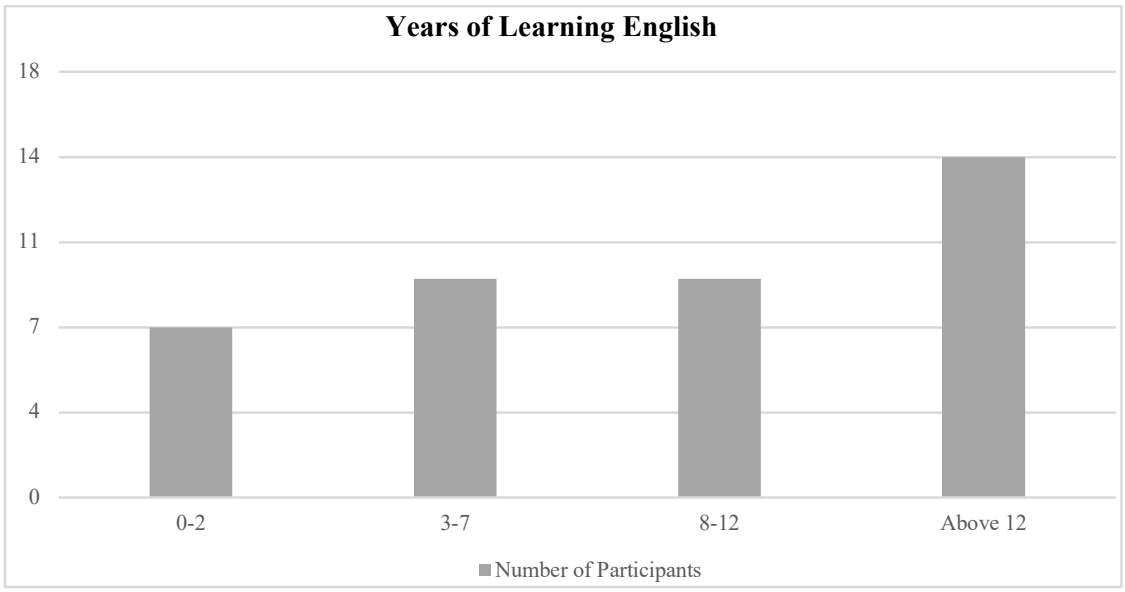

Figure 3. Years of Learning English

There was also a variation in the participants' TOEFL/IELTS scores. About half of the participants' scores were above either 93 in TOEFL or 6.5 in IELTS (n = 19). Those participants could be defined as proficient users based on the CEFR levels created by the Council of Europe. The rest of the participants' scores indicated that their English was less proficient. 23.1% of the participants' scores were between either a 79 – 93 in TOEFL or below 6.5 in IELTS (n = 9). Five participants' scores were between either a 60 – 78 in TOEFL or below 6 in IELTS. Six participants' scores were either below 60 in TOEFL or 6 in IELTS.

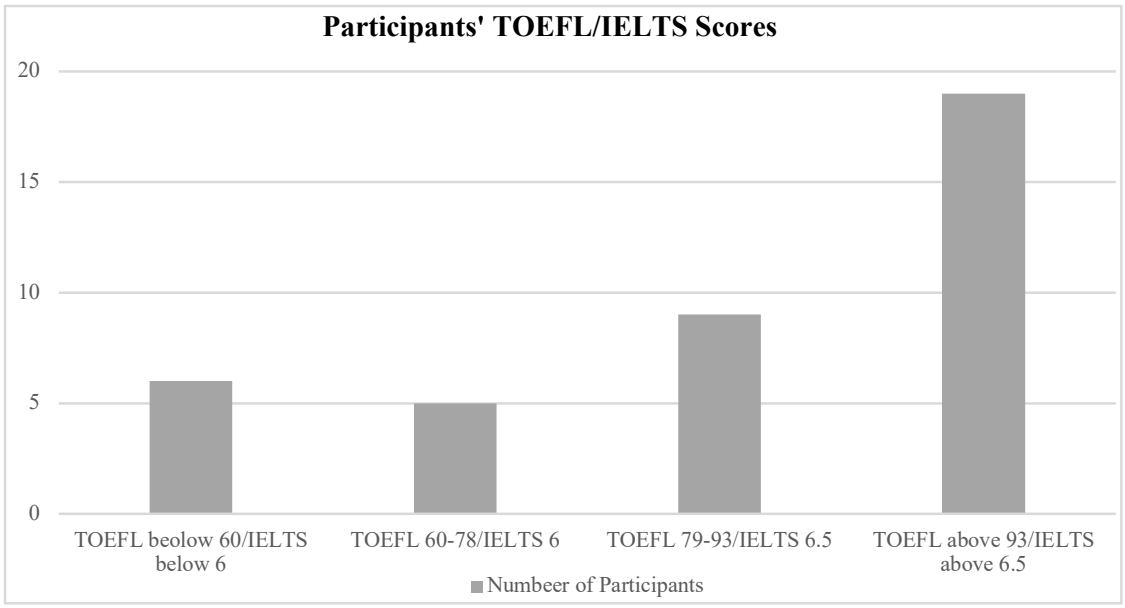

Figure 4. Participants' TOEFL/IELTS Scores

As mentioned earlier, my research participants were Chinese international undergraduate students who have been in the U.S. for less than three years. The reasons why I chose to focus on this specific group will be explained in the following paragraphs.

First, Chinese international students constitute the largest group among international students in the U.S. According to the 2020 Open Doors Report (IIE, 2020). Chinese international students accounted for approximately 35% of the international students in the U.S., remaining the largest source among the other countries. Therefore, the findings from this group could provide meaningful insight for the study of other groups of international students in the future. Another reason that I selected Chinese international students was to control the influence of cultures. According to Schwarzer & Born (1977), culture played a critical role in individuals' self-efficacy, which meant that people from different cultures tended to have different levels of self-efficacy. Although

no studies have specifically demonstrated the influence of cultures on individuals' self-perception, I aimed control this variable just in case.

The second reason is that participants being in the U.S. for less than three years also helped to control other confounding variables like length of studying abroad and language proficiencies. Previous studies have already shown that the length of studying abroad would influence students' self-perception (e.g., Hessel, 2017) because individuals needed time to adjust to a different culture (Harrison et al., 1996; Halic et al., 2009). Therefore, three years was a long enough time length for participants to have had some experience interacting with NESs and NNESs and were not too comfortable interacting with them in most cases. Meanwhile, since participants' stays in the U.S. were less than three years, I inferred that the variation of their language proficiency might not be that huge. The influence of other potential variables could be minimized in this way.

Instruments

Both interviews and surveys were used to collect data so as to answer the research questions proposed in the previous section. To answer research question 3, I conducted interviews to collect speech data. Surveys were used to help answer research questions 1 and 2. The detailed explanations of each instrument will be presented below.

Interviews. Interviews were used in this study to collect participants' speech data. Interviews were conducted without revealing the real research goals. By doing that, participants' speech during the interview would be more natural and would not compromise the study. Unlike most interviews that collect participants' ideas and beliefs, the interview in this study aimed at eliciting participants' speech samples. This means that interview data were analyzed only for the CAF variables of the speech and not for

the content. Therefore, the function of interviews in this study was quite different from its functions in the majority of studies.

To obtain natural speech production, the prompts were carefully drafted. Participants were invited to discuss their college life in the U.S. and how their life had been affected by the pandemic. This topic was closely related to Chinese international students' lives; therefore, it was easier for them to talk. The interview was organized in narrative format, which invited participants to share their experiences (Barkhuizen, 2015, p. 177). According to Labov (1997), the narratives of personal experiences can generate more authentic language use. Hence, it is believed that participants' speech production during the interview is more similar to the performance in their real life than speech collected in a more controlled way. In addition, to create an interactive and relaxing environment, the interview was semi-structured. Some follow-up questions were brought up based on how participants answered the questions. In this way, the details of how participants reacted to the questions and negotiate the meaning were fully captured. The interview questions are attached in Appendix A.

The reason I chose this method was based on the feature of interview. Talmy (2010) proposed that interviews as a social practice presented interlocutors' interaction. Therefore, this instrument can capture how participants actually talk in interaction. Given that interviews may impose an unbalanced power relationship between interviewer and interviewee, participants may not produce the most natural speech compared with their casual daily conversations. However, by creating a rather interactive interview environment, the tensions and power structures between interviewer and interviewee can be mitigated to some extent.

To compare if Chinese English speakers produced speech differently in front of NESs and NNESs, the interview was composed of two parts: I, a L2 English speaker, conducted the first part and a NES administered the second part. Each part of the interview lasted about 15 minutes. Since the other interviewer needed to be a "typical" NES in participants' eyes, I recruited the other interviewer among the Ph.D. students in my department who met the following criteria:

1. English was his/her dominant language;
2. He/she was born in the U.S. and spent most of the lifetime in the U.S.;
3. He/she was Caucasian;

In addition to that, to minimize the influence of other variables (e.g., gender and age), the NES also needed to be female and be similar to my age. Doing so ensured that (perceived) nativeness as English speakers was the most prominent feature between the two interviewers, making it easier to observe the influence of the interviewers' nativeness on one's speech.

Surveys. According to Dornyei and Csizer (2012), questionnaires and surveys significantly contributed to understanding learners' learning behavior, attitudes, feelings, and beliefs. Since this research also aims to capture English language learners' self-perception of their own English speaking, the survey was an optimal choice.

Since there is no pre-existing questionnaire that specifically exploring either individual's beliefs about NESs and NNESs or their self-perception of English speech production, an original questionnaire was developed based on multiple established works on NESs and NNESs, self-concept, self-efficacy, and speech production. Overall, the questionnaire was composed of five parts. In Part 1, several screening questions were

asked to ensure that participants met the criteria: Chinese international undergraduate students who had been in the U.S. for less than three years. In Part 2, participants were asked to select the factors that they thought determined if an English speaker was native or not. The factors were adopted from the previous works that discussed the definition and the fallacies of NESs and NNESs (Medgyes, 1992; Davies, 2004; Tsuchiya, 2016).

The responses from Parts 3 and 4 provided a general overview of Chinese international students' attitudes towards NESs and NNESs and their experiences of talking with NESs and NNESs. To specify, Part 3 aimed at investigating participants' self-perception of their own English speaking. To draft questions that best captured one's self-perception, I included both cognitive and affective reactions in the question phrasing. Therefore, sentence structures like "I feel…" and "(doing something) is easier/harder for me" were widely adopted in the questions (Bong & Skaalvik, 2003). To better understand participants' speaking proficiency, the three dimensions of speech production - complexity, accuracy, and fluency (CAF) (Skehan, 2003) – were embedded in the questions. Overall, there were five (C1, C2, C3, C4, C5) statements examining the participants' perception of the complexity of their speech, four (A1, A2, A3, A4) statements explored participants' self-perception of the speech accuracy, and four (F1, F2, F3, F4) statements investigated how participants viewed their speech fluency regarding interlocutor's nativeness.

Cronbach's alpha (a) was first computed in the analysis to verify the reliability of Part 3, which is .708. According to Nunnaly and Bernstein (1994), this was considered as reasonable internal consistency. However, each dimension's reliability varied. The a in complexity was .243, the a in accuracy was .155, and the a in fluency was .715. As

mentioned at the beginning of the chapter, since this study is exploratory, the a in complexity and accuracy may change with more participants.

Part 4 explored participants' preferences for NESs and NNESs. Multiple choice questions and open-ended questions were incorporated to reveal this information. Part 5 collected participants' demographic information, including their names, ages, gender, length of learning English, and TOEFL/IETLS scores. Although participants were only allowed to participate in the questionnaire after meeting the criteria addressed above, some individual factors could still influence the accuracy of the analysis. Having this demographic information helped to further analyze if participants' self-perception had anything to do with their individual background. The last section helped to interpret if there were any outliers in the data.

Given that the questionnaire length was relatively long, and participants' English might not be proficient enough, I decided to create the questionnaire in Chinese. Therefore, the questionnaire was first created in English for IRB approval (Appendix B) and then was translated in Chinese for the participants (Appendix C).

Data Collection Procedure

The data collection took place from January 2021 through the beginning of April 2021. The survey was conducted after the interviews were conducted.

Interviews. To start, the interview recruitment email was distributed in mid-January 2021. The recruitment information was shared in the following ways:

1. Instructors who taught English composition course at a public university in the Southwest U.S. helped to disseminate the survey.

2. Acquaintances who had access to the target group also introduced me to some students who fitted the criteria.
3. The information was shared with the target research group through WeChat, a Chinese multi-purpose messaging app.

All the participants signed a consent form (see Appendix H) before the interview. The interviews were recorded on Zoom with the participant's permission. Before the interview, I made sure students were in the same view mode so that they could see interviewers' faces. To minimize the other interviewer's potential pressure on the interviewees, while one person interviewed the participants, the other interviewer always remained muted and turned off the camera. All the interviews followed the same process: I, the first interviewer, started off the interview by introducing the interview process and compensating the participants. Then, I asked the first part of the interview questions about students' U.S. college life. After that, the second interviewer turned on their camera and asked participants how the pandemic influenced their college life. Each interviewer had six prepared questions that were closely related to the topic. They could ask follow-up questions for further clarification. Each part of the interview lasted about fifteen minutes. The interview recordings were stored by Zoom for 30 days. I downloaded the transcripts and audios to password-protected cloud storage. The entire interview data collection process lasted for about a month.

Surveys. After completing the interview data collection, the survey recruitment letter and flyer were distributed in mid-February to a broader range of Chinese international students via multiple channels:

1. Instructors who taught English composition classes at a public university located in the Southwest U.S. were contacted to help distribute the information. Some acquaintances who had access to Chinese international students from some other universities in the U.S. also helped to distribute the survey.
2. I recruited participants via social media. For example, recruitment information was posted on my social media account and shared by my friends and advisor. I also spread the recruitment information at multiple Chinese student WeChat groups.
3. The survey information was shared at several workshops for Chinese undergraduate students.

A QR code and survey link were included in the recruitment letter and flyer so that students could take the survey through their phones or laptops. Participants were required to consent to taking the survey. At the beginning of April, the survey responses were downloaded from the survey platform – Qualtrics – and were stored in password-protected cloud storage. The survey data collection process lasted for about a month and a half, finishing at the beginning of April 2021.

Data Analysis

While collecting survey responses, a speech data coding manual was prepared, and speech data transcription took place simultaneously. Beginning in April 2021, I started to code speech data, clean the survey responses, and conduct both qualitative and quantitative analyses. The entire data analysis was completed in July 2021.

In the following section, I will first present the coding principles that I have created for analyzing the speech data collected from the interviews. Then, I will explain the means of analysis for the research data.

Speech data coding principles. ***AS-units and clauses***. The recorded interview data was analyzed based on the CAF variables. First, the data was automatically transcribed by Zoom. After transferring the data to Microsoft Word, some essential data cleaning was implemented before the analysis. Since the research focused on Chinese international students' speech production, the interviewers' speech was excluded from the data. Furthermore, according to Foster et al. (2000), "one-word utterance and echo responses" (p. 370) in highly interactional conversation could be excluded from the analysis because the high proportion of these units would distort the real speech performance. Therefore, in this study, if participants answered or echoed the question with "Yes," "No," and "Okay" with no further explanation, those units were eliminated from the transcription. Since the focus of this research was to investigate if participants spoke differently when they talked with the NES or the NNES interviewers, the greetings and endings that were not closely related to the interview topic were excluded in the analysis either. One sample of identifying AS-units and clauses is provided in Appendix D. The rules of identifying AS-units and clauses will also be explained below.

The primary step of measuring CAF variable is to break the speech into units. Among the three different units (T-unit, C-unit, & AS-unit) that are all widely used in the study of CAF variables, the AS-unit was chosen for the analysis this time, because it is the most suitable for dialogic oral data, which is what I collected through interviews. The AS-unit best indicates participants' speech production. The rules of splitting data into

AS-units were adopted from Foster et al.'s (2000) work, which provided rather detailed instruction on analyzing text into AS-units.

AS-units are composed of "an independent clause or sub-clausal unit, together with any subordinate clause(s) associated with either" (Foster et al., 2000, p. 365). An independent clause refers to a clause that at least has a finite verb. An independent sub-clause includes one or more phrases that "can be elaborated to a full clause by means of recovery of ellipted elements from the context of the discourse or situation" (Foster et al., 2000, p. 366). A subordinate clause is composed of a finite or non-finite verb element and another element that can indicate the clausal status (Foster et al., 2000). In my transcriptions, "|" marks the unit boundaries, and "::" is used to mark clause boundaries. The first step of the analysis is to divide sentences into units. There are several critical aspects that determine how the units are split:

- The definition of units clearly explains that either an independent clause or an independent sub-clause can be a unit. Example (1) is an independent clause that contains one subject and one finite verb. Therefore, this is one unit. In example (2), B answers with "in person class." Although it is a phrase, it can be elaborated to complete meaning. So, it is one unit:

  (1) I don't want to challenge that.

  (2) A: do you like online or in person class?

  B: In person class.

- If the coordinated phrases contain coordinate verbs, they usually belong to the same AS-unit. However, if the first phrase is articulated with a falling or rising intonation followed by a pause, which is at least 0.5 seconds, the two phrases

should be divided into two units. In the following example, “and” shows up between two clauses. Since there is a pause between “and” and the clause after it, it becomes a separate unit.

(3) |They didn’t get back to me (0.5) | and I searched online |

- When the subordinate clause undertakes adverbial functions and appears in the final position, in most cases, it should be within the same unit because it shares the same tone with the preceding clause (see example (4)). However, as Foster et al. (2000) mentioned, if the second subordinate clause clearly carries a different intonation, it would be put in a separate unit. Example (5) clearly demonstrates such a situation.

  (4) |I want to travel after coronavirus is over|

  (5) |specially for reading scientific papers | because er all the papers that er arrived to the library in Chile are English paper | (Foster et al., 2000, p. 368).

- Topicalization is considered a part of the same unit. It means that when topicalized phrases and nouns are at the topic of the sentence, they will be a part of the unit. For example, in example (6), “political science” is the topicalized noun phrase. Even though there is “it” after “political science”, it is still deemed a part of the same unit. It is worth noting that if there is an intonation change or a clear pause between the topicalized phrases and the rest part of the unit, the topicalized phrases will be a separate unit.

  (6) |so political science it’s the most suitable major in my undergraduate program|

The second step in conducting the speech analysis was to identify the clauses in each unit, which plays a major role in analyzing complexity. According to Foster et al.

(2000), subordinate clauses usually function as subject, verb complementation, phrasal post-modifier or complement, adverbs. For example, in the sentence “if I have questions :: I just email the professor”, the part led by “if” is an adverbial clause. Therefore, this sentence contains two clauses. Even though most clauses can be easily recognized, having some guidelines helps to distinguish the ambiguous situations:

- Verb complementation would not be considered as a clause unless it had a finite or non-finite verb with another element. In examples (7) and (8), although both “studying at home” and “traveling” are verb complementation, only “studying at home” is defined as one clause because it has “at home” as an additional element to establish the clausal status (Foster et al., 2000). In contrast, “traveling” is only considered as a Noun Phrase (NP).

  (7) | I enjoy :: studying at home| (2 clauses, 1 AS-unit)

  (8) | I enjoy traveling | (1 clause, 1 AS-unit)

- Some scholars (e.g., Kaneko, 2008) argued that if to-infinite was used as a helping verb (e.g., have to, be going to, want to), also known as auxiliary-like expression, it was not counted as a clause. For example, “I have to go to school” is one AS-unit with one clause. Since “want to” is usually catenated as “wanna” in oral performance, “wanna” also applied to the situation mentioned here.
- If “and” connects different coordinated phrases within one unit, it would be considered as one clause because there is no subordinated relationship between the two elements (example (9)). However, my speech data showed that participants tended to use “and” in front of many sentences as a filler. Therefore, if there was an adverb right after “and” that marked the subordination between the

two sentences, the part led by “and” would be considered as one clause (see example (10)).

(9) |I like music, and I like reading| (1 clause, 1 AS-unit)

(10) | and I just went back to China for the summer break and then :: I am kind of just stuck here. (2 clauses, 1 AS-unit)

Speech breakdown, also called “disfluencies”, was a common phenomenon in the speech data. It is important to mark them down in the transcription because breakdowns play a role in analyzing fluency. Breakdown is composed of false start, repetition, or self-correction. Brackets {} were used to identify this phenomenon. A sample transcript in Appendix F demonstrates how disfluencies were identified in this study.

- A false start means that speakers start the utterance with certain words but quickly reformulate the utterance. For example, “{because I just} when I stay home :: it’s eat and sleep.”
- Repetition refers to the situation where speakers repeat their previous speech. For instance, in the unit “{I just} I just don’t wanna feel down everyday”, the speaker used “I just” twice. In this case, brackets were put around the first “I just,” signifying that the words in the bracket were repeated.
- Self-correction occurs when speakers identify their previous speech as incorrect and try to reformulate the speech immediately. An example could be “they changed all the {person} in person class to the online class.” In this example, the speaker realized how to express “in-person class” after saying “person”. She corrected herself and continued the speech.

Although I have discussed in Chapter 2 that there were many specific elements to measure CAF variables, I decided to focus on syntactic complexity, lexical complexity, errors free clauses, Rate A, and Rate B. There are several reasons that I chose these measures. First, the factors framing the survey questions should be consistent with the factors utilized in the speech data analysis because the study aims to compare participants' self-perceptions of their speech production with their actual speech. Those measures should be understandable for non-experts so that they could make a general judgment. For example, the frequency of rare and academic words is a significant element of lexical complexity (Tonkyn, 2012; Michel, 2017). However, asking participants to determine if they use academic words may sound quite confusing to them. It is difficult for them to make any judgement as a non-expert. Meanwhile, because the measures asked in the surveys are also associated with the speech data analysis, I need to take into consideration the feasibility of measuring those factors. For participants whose language proficiency lies between the intermediate and advanced levels, their speech may not have certain traits mentioned in the previous studies. For instance, some measures of CAF variables describe the higher proficiency level, such as phrase-internal complexification, which are difficult to trace in the participants' speech production. That is why I included the above-mentioned factors in this survey. The detailed measures in each dimension are explained below.

Complexity. The level of complexity is divided into grammatical complexity and lexical complexity. To examine participants' grammatical complexity, I divided the total number of clauses by the total number of AS-units and divided the total number of words divided by the total number of AS-units. The first measure was selected because my

overall goal was to detect speakers' general grammatical complexity. According to Tonkyn (2012), counting subordinate clauses in the speech was the most frequently used measure and was considered a general metric. As a result, some specific intra-clausal features, for example, verb phrase complexity and the use of catenated verbs, were excluded from this study. Considering that participants' English proficiency might vary, I picked the second measure to supplement the first one to present lower proficiency level speakers' complexity, if any.

Lexical complexity usually considers both lexical variation and lexical sophistication (Tonkyn, 2012). In this study, I decided to only focus on lexical variation by utilizing MTLD (Measure of Textual Lexical Diversity) created by McCarthy (2005). I excluded lexical sophistication in this study because it focused more on individuals' daily informal conversations where people tended to use more colloquial and non-academic vocabularies. It is unlikely that lexical sophistication, which referred to the use of low-frequency words (e.g., academic vocabulary), would be detected in the data. Hence, there was no sufficient need to detect lexical sophistication in this study.

To measure lexical variation, I decided to use MTLD in this study. Although type-token ratios (TTR) was the most well-known measure regarding lexical variation, as McCarthy (2005) pointed out, TTR only looked at "inflections, frequencies, and rarity" (p. 91). To specify, in order to calculate TTR, we divide the number of types by the number of tokens. If speakers generate more speech data, there will be more tokens. Thus, speakers are more likely to have lower lexical variation. However, MTLD could solve this issue by exploring how vocabularies function in the text, which is independent of text length. In this study, I used the site cohmetrix.com to calculate MTLD.

While analyzing grammatical and lexical complexity, I excluded false start, repetition, and self-correction from the data because those elements would increase the number of tokens in the speech data. Moreover, those elements might interfere with the interpretation of grammatical complexity.

Accuracy. A generalized measure was used in this study to measure accuracy, which was the ratio of error-free clauses. To calculate this ratio, I took the number of clauses that did not have errors and divided it by the total number of clauses. This approach takes all errors into analysis, which creates a global representation of participants' errors. Therefore, this metric can detect participants' overall control of grammar. Even though existing studies proposed some specific measures (e.g., noun phrase error, the use of past tense), it was not necessary to address them within this context. False starts, repetitions, and self-corrections may artificially increase the number of errors; thus, they were excluded from the analysis. A sample transcript of identifying speech accuracy is provided in appendix E.

The errors marked in this study generally relate to grammatical errors, which fall into the following categories:

1. Errors in the verb-phrase, which include the incorrect use of auxiliaries and incorrect verb inflection.
2. Syntactical errors, which include incorrect word order and the misuse of clausal elements. This type of error may cause fragments.
3. Errors in lexical choice, which include the incorrect use of a lexical verb, noun, preposition, adjective, and adverb.

Given that the interviews created an informal conversation setting, the ways that participants spoke were quite colloquial and did not strictly follow the grammatical rules. Some grammatical errors were not considered as errors in this study:

1. The misuses of articles and plural-s were not considered as errors in this study because, according to Kanda (2015), "it was difficult for participants to use articles and plural -s correctly in the oral production tasks" (p. 114). Those errors were excluded from this study.
2. Tense inconsistency. The use of different tenses within one unit was excused from grammatical errors as well. In example (11), although the speaker uses past tense in the majority of the unit, the last unit is still considered grammatically correct because using present tense in this clause is a minor issue.

   (11) |And then later on, I figured out :: I had better find something :: that I am really interested in|
3. Inverting word order. Inversion in English speaking is quite a common phenomenon that speakers adopt for emphasis. In the following example, "I believe" is added to the end of the unit, which emphasizes the meaning in the subordinate clause. Therefore, it is not an error.

   (12) |and right now I am taking macroeconomics :: I believe|

Fluency. Fluency in oral performance refers to the smoothness of speech. Therefore, capturing smoothness is crucial in this analysis. To achieve that, I measured speech length and the pauses in this study. Following the categories created by Yuan and Ellis (2003), Rate A (number of syllabus per minute) and Rate B (number of meaningful syllabus per minute) were adopted.

To calculate rate A, I divided the total number of syllables by the duration of the entire speech. “The number of syllabi” includes participants’ entire speech production. Their disfluencies – false starts, repetitions, and self-corrections – generated during the speech were also included in Rate A. A sample transcript of participants’ speech with disfluencies is presented in Appendix F. “Duration of the entire speech” takes into consideration the duration of pauses and breakdowns. In this case, if speakers articulated quite fast, they tended to have a higher Rate A even though they might have many repairs or breakdowns. Hence, Rate A addresses participants’ temporal fluency inclusive of their repair behaviors. To further explore the complexity of fluency, Rate B came into play. To calculate Rate B, I excluded all disfluencies and divided the rest of the syllabi by the duration of the speech. The same participant’s speech without disfluencies is listed in Appendix G. The result showed participants’ temporal fluency without the interference of repair behaviors. Therefore, although participants might have a higher articulation rate, their Rate B would be more likely to be lower if they had many repairs. Overall, these two measures can display participants’ speech fluency holistically.

To count participant’s syllabi for this study, I used an online syllabus counter (https://www.syllablecount.com/) proposed by Doe (2017).

Speech production analysis. To answer Research Question 3, I explored if the independent variable – interviewers’ nativeness as English speakers– caused a change in participants’ speech performance. The speech data were divided into two datasets: conversations with NESs and conversations with NNESs. A non-parametric test was utilized in this situation due to the small sample size. To specify, a Wilcoxon Signed-Rank Test was utilized because it could compare two small sets of observations.

Since participants generated a different number of AS-units for different time lengths, parameters needed to be controlled so that the data in the two datasets were comparable. The shortest interview produced fifty AS-units. Therefore, fifty units were selected from all interviews for analysis. After computing each measure, results were input in SPSS. A Wilcoxon Signed-Rank Test was run for each measure. The overall null hypothesis was that there was no difference between the speech productions of speaking with NESs and NNESs. The alternative hypothesis was that there was a significant difference between the speech productions of talking with NESs and NNESs. The significance level I chose for this research was .05. Since the interviewer's nativeness was the major variable between the two datasets, using a Wilcoxon Signed-Rank Test could explain if the independent variable - speakers' nativeness - influences the dependent variable - L2 speakers' actual speech production.

Survey analysis. Since this survey is composed of qualitative and quantitative questions, different analytical methods were used.

To analyze the multiple-choice questions, I first counted the frequencies of the different items in Part 2 to understand how participants would define NESs. Meanwhile, index scores – the number of statements selected by the respondents - were calculated to reveal to what extent did respondents agreed with the statements about NESs. The results were compared and contrasted with the statements about NESs from the previous literature. To analyze open-ended questions in Part 4 (Q4 and Q5), I conducted a textual analysis. By counting the occurring patterns of their answers, I identified the reasons for participants choosing NNESs. These reasons helped to conclude how participants view the role of NESs in their daily communication.

Data from Parts 3 and 4 were analyzed statistically. First, questions in Part 3 were presented on a Likert scale; so, participants' answers were coded from one to five: 1 represented strongly disagree, 2 represented disagree, 3 represented neutral, 4 represented agree, and 5 represented strongly agree. Since five statements (C3, C5, A1, A3, F2) in Part 3 were statements with reversed meaning, I reverse-coded those responses. Descriptive statistics were run to reveal participants' overall self-perception of their own speaking complexity, accuracy, and fluency when interacting with both NESs and NNESs. Meanwhile, regressions were conducted to examine if other demographic variables (e.g., age, gender, and language proficiency) may have potentially influenced their self-perceptions. I also explored if there were any interactions between the variables. Frequency counting was used on multiple choices questions 1 to 4 in Part 4.

Summary

In this chapter, I detailed my research design, data collection process, and data analysis framework. I explained how data were collected in two stages—interviews and surveys—and then analyzed using both quantitative and qualitative methods. In the next chapter, I will discuss the findings from the interviews and surveys, answering three research questions proposed at the beginning of this dissertation.

CHAPTER 4

FINDINGS

In this chapter, I will present the major findings discovered from the data. The data analysis and findings will be in the same order the research questions. Therefore, in in the first section, I will analyze the survey responses overviewing participants' definitions of NESs and their experiences of interacting with both NESs and NNES. The next section will discuss survey responses regarding participants' self-perception of their speech production. In the final section, I will analyze the interview data to show if the interlocutor's nativeness influenced participants' actual speech production. A non-parametric test – the Wilcoxon Signed-Rank Test – was utilized at this stage to compare the differences between the mean of participants' speech production with NNES and the mean of their speech production with NES.

L2 English Speakers' Understandings of the Notion of Native English Speakers and Nonnative English Speakers

In this section, I will first present the findings on the characteristics of NESs selected by the participants to show how L2 English speakers defined NESs. Then, to show if L2 English speakers preferred to talk to NESs or NNESs, I will reveal their self-reported experiences talking with NESs and NNESs and their preferences for NESs or NNESs.

How do L2 English speakers define NESs? To illustrate how participants perceived NESs, the survey listed some characteristics for participants to select. There were seventeen statements in the survey (see Table 2). Most of them were typical characteristics mentioned in previous studies: childhood acquisition, intuition about

idiolectal grammar, intuitions about standard language grammar, discourse and pragmatic control, creative performance, and interpreting and translating. In addition, features related to participants' personal beliefs were also listed in this survey (Tsuchiya, 2016). Participants could select as many as they wanted from the list.

Overall, the top five most selected characteristics were: "a person who learns English since birth/early childhood" (79.5%), "a person who can act appropriately in situations where English is widely spoken" (74.4%), "a person who can use idiomatic expressions in a variety of contexts" (61.5%), "a person who can read and write in English in a variety of contexts" (59.0%), "a person who can use the language completely in a variety of subjects and situations" (53.8%). These selected characteristics were in line with previous studies, showing that the Chinese English language learners in this study considered childhood acquisition, intuitions about the language grammar, discourse, and pragmatic control as critical elements of being a NES. Additionally, 48.7% of the participants consider not being influenced by another language while speaking English as one characteristic of NESs. Finally, about half of the participants thought that having a connection with the local community (48.7%) and being familiar with the English-speaking culture and tradition (48.7%) were characteristics of NESs.

Participants also had some idealized and personal beliefs about NESs. For example, many participants had a relatively positive impression of NESs, relating them with higher English proficiency: "NESs talked without an accent" (43.6%), and "NESs could manage the grammar without mistakes while speaking" (43.6%). A few participants also associated NESs with having received their entire education in English (46.2%), if speakers were born in an English-speaking country (43.6%), if they spoke the

standard language (41%), and if they held citizenship of an English-speaking country (33.3%). This data shows that, apart from the features mentioned by the existing studies, speakers' understandings of target language culture and community, personal backgrounds, and their language mastery all played a role in determining the speaker's nativeness.

Table 2

Characteristics of NESs

In your definition of a native speaker of English, would you include the following characteristics? Please choose one for each row.

		Responses		Percent of cases
		N	Percent	
1	A person who learns English since birth/early childhood.	31	10.30%	79.50%
2	A person who can act appropriately in situations where English is widely spoken.	29	9.60%	74.40%
3	A person who can use idiomatic expressions in a variety of contexts.	24	7.90%	61.50%
4	A person who can read and write in English in a variety of contexts.	23	7.60%	59.00%
5	A person who can use the language completely in a variety of subjects and situations (e.g., education, politics, science, parenting, etc.).	21	7.00%	53.80%
6	A person whose English is not influenced by another language they speak.	19	6.30%	48.70%
7	A person who is socially connected with the English-speaking community.	19	6.30%	48.70%
8	A person who is familiar with English-speaking culture and tradition.	19	6.30%	48.70%
9	A person who receives all the education in English.	18	6.00%	46.20%

10	A person who holds citizenship of an English-speaking country.	17	5.60%	43.60%
11	A person whose English is without foreign accent.	17	5.60%	43.60%
12	A person who can manage to use grammatical patterns without mistakes, regardless of various factors such as stress and anxiety.	17	5.60%	43.60%
13	A person who speaks the standard language as opposed to a dialect.	16	5.30%	41.00%
14	A person who holds citizenship of an English-speaking country.	13	4.30%	33.30%
15	A person who has English name (e.g., Sarah, Max).	8	2.60%	20.50%
16	A person who can only speak English.	7	2.30%	17.90%
17	A person who looks like a native English speaker from appearance.	4	1.30%	10.30%
	Total	302	100%	774.4%

The mean index score of the definition of NES was 7.74 out of 17, which indicates that, on average, participants agreed with approximately half of the statements in the survey. The mode of the index scores of participants' selections was 10, which means most participants selected 10 statements from the survey. It is worth noting that, in real life, NESs may not always correspond to those statements picked by the participants. For example, some native speakers may have limited English writing and reading proficiency due to the lack of education. Some NESs may not be born in an English-speaking country but grow up using English. Furthermore, it is possible that NESs have certain accents influenced by their community and environment. Regardless of how limiting those statements may be, this result reflects Chinese English speakers' real-life thoughts. They believe in the notion of NESs, and about half of the statements in the survey fit their criteria. Although this section did not ask for participants' beliefs in

NNESs, we can assume that a NNES would be associated with the lack of these characteristics.

Do L2 English speakers prefer to talk to NESs or NNESs? The second part of the first research question aimed to investigate participant' NES/NNES preferences. By exploring this question, we can obtain some additional hints of how they view NESs and NNESs. Two types of questions were used to approach this question during the survey: one inquired about participants 'self-reported experiences of talking with NESs and NNESs. The other one asked for participants 'preferences for NESs or NNESs as an interlocutor if they could choose. Although these two types of questions addressed different aspects of participants 'interaction, understanding how participants 'real-life interaction with NESs and NNESs helped further analyze their preferences for NESs and NNESs, thus allowing us to have a more informed understanding of how participants thought about NESs and NNESs in their daily conversations.

As for the participants' experiences of talking with NESs and NNESs, ten participants (25.6%) responded that they used English mostly with NESs while five participants (12.8 %) claimed that they mostly interacted with NNESs in English. The remaining 24 participants (61.5%) explained that the people they interacted with in English were roughly half NESs and half NNESs. Therefore, we can conclude that most participants tended to interact with both NESs and NNESs in their daily life.

When asked about the purpose of interaction, participants responded that they interacted with NESs and NNESs for the same purposes. However, they put different emphasis on those purposes between interacting with NESs and NNESs. Figure 5 shows respondents' answers regarding their purpose for interacting with NESs and NNESs.

Regarding interacting with NESs, we can see that the most frequently selected purpose was "study" (n = 34). This means that the primary purpose of interacting with NESs was for study, for example, group discussion, presentation. 27 participants selected "daily chores," such as having a haircut, doing grocery shopping, as one of their purposes. 20 participants indicated that they might encounter NESs and need to use English during work. 17 participants showed that they would interact with NESs for social purposes, for example, playing games, hanging out.

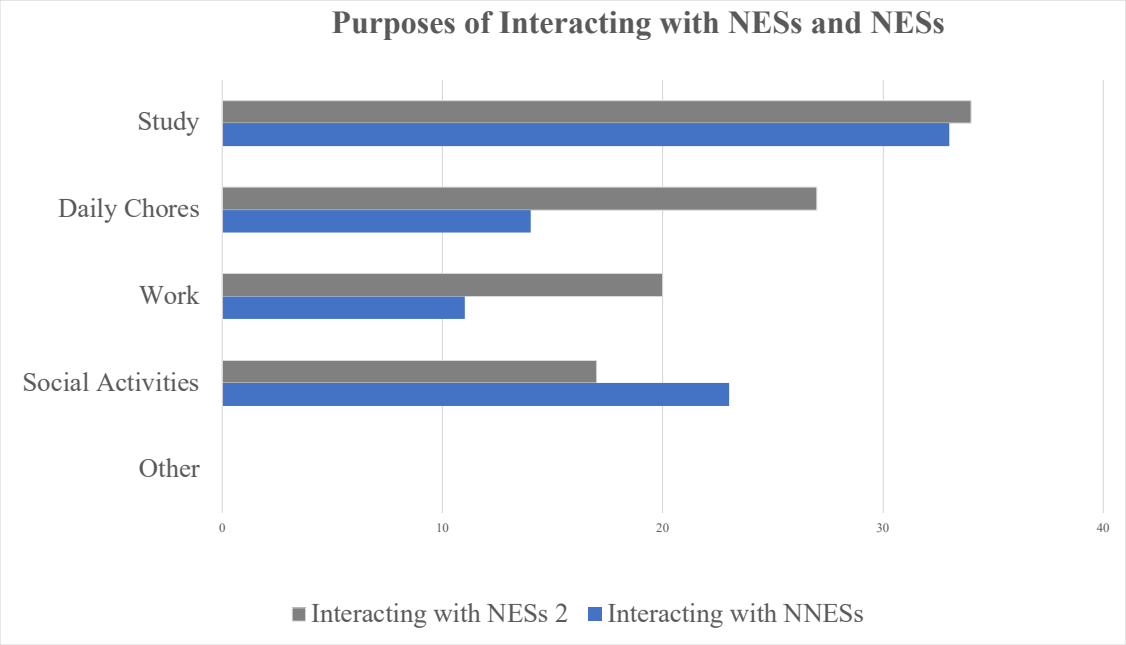

Figure 5. Purposes of Interacting with NESs and NNESs

Participants were also asked about the purposes of interacting with NNESs. Just as in the interactions with NESs, the primary purpose was "study" (n = 33). "Social activities" was the second most selected purpose (n = 23). The third was "daily chores" (n = 14). Only 11 participants claimed that they would interact with NNESs while working. This means that for participants who worked, fewer had NNES colleagues or a working environment that required English. Compared with their purposes for talking with NESs,

more participants connected with NNESs for social activities purposes. However, fewer people interacted with NNESs while doing daily chores and working.

To further reveal participants' experiences and expectations for the interaction with NESs and NNESs, some open-ended questions were also asked after the two questions mentioned above. When being asked whom they would choose to interact with if they could decide, 66.7% of the participants said they would choose NESs (n = 26). Some themes were summarized from their responses to show why they wanted to interact with NESs more:

1. English learning. Many participants thought that NESs provided them with better opportunities to practice English and thus interacting with NESs improve their oral English proficiency. Some participants specifically mentioned that NESs helped them acquire more authentic expressions (e.g., "能够学习到更地道的表达，更精准的用词" I can learn more authentic and accurate expressions) as well as pronunciation and grammar (e.g., "因为我想学习更多的语法和正确的发音" because I want to learn more grammar and correct pronunciation). From their perspectives, thinking in English was another major takeaway from talking with NESs (e.g., "能够更好的去锻炼英语口语和英语思维" I can practice my oral English and learn to think in English).
2. Easy understanding. Some participants thought that NESs could facilitate the conversation better. First, they believed that NESs' more accurate pronunciation and expressions would make the participants understand the conversation more

easily (e.g., “Native English speaker的发音精准清晰，让我更容易听懂” native English speaker can pronounce words clearly and accurately, which makes it easy for me to understand). Additionally, they stated that due to NESs’ native English proficiency, they thought they were able to understand the participants’ English that had mistakes, thus avoiding misunderstandings (e.g., “即使我有时有较多的错误，native speaker会更容易理解我的意思” although I made many mistakes while using English, native speakers could understand me easily).

3. Connection with the local community. Some participants believed that interacting with NESs would teach them how to socialize with the American people, which they thought would benefit their long-term development in the U.S. (e.g., “学习更地道的表达方式，有利于以后在英语环境工作生活” learn more authentic expression would benefit me working in the English-speaking environment in the future).

The reasons above show that participants believed that NESs played a positive role during the conversation. The L2 English speakers in this study considered NESs to have a higher language proficiency. The assumption seems to be that by talking to NESs, L2 English speakers can learn the language better and have a smoother conversation. NESs were also perceived as the source of the local culture, helping the respondents integrate better into the local community. At the same time, in addition to the reasons of choosing NESs, many participants also shared why they did not want to choose NNESs.

NNESs' various accents were the prominent reason preventing respondents from talking with NNESs. (e.g., "有一些nonnative speaker口音也是阻碍交流的原因之一", some nonnative speakers' accent prevent us from talking with each other).

However, 33.3% of the participants responded that they would choose NNESs to interact with (n = 13). Although there were fewer people choosing NNESs, several themes were also found from their responses, indicating why they preferred interacting with NNESs:

1. English learning. Some people believed that talking with NNESs improved their English speaking (e.g., "it can promote my English skills"). One person in particular mentioned that while talking with NESs, they believed that they could openly correct each other's mistakes (e.g., "跟nonnative English speaker交流可以互相学习，互相纠正有错误的地方" When I talk with NNES, we could learn from each other and correct each other's mistakes). The responses indicate the assumption that interacting with other NNESs creates a safe space for speakers to learn from each other. Such interaction creates opportunities to practice English more, which could potentially benefit respondents' overall English learning.
2. Easy understanding. Some people mentioned that it was easier to understand NNESs in the conversation. One participant pointed out that NNESs used fewer buzzwords and Internet slang, which made the conversation more understandable (e.g., "因为缩略语网络用语会比较少，更容易理解" because abbreviations and Internet are used less frequently, the speech is easier to understand).

3. Less pressure. Some people believed that they felt less stressed while talking with NNESs. They inferred that the pressures might be caused by the fear of being judged by the interlocutors. Therefore, we can reasonably assume that less anxiety allows them to feel more comfortable with speaking in English (e.g., "不用担心自己英语不够好" I don't need to worry that my English is not good enough).
4. Using other shared languages. Some participants stated they would choose to talk with NNESs because they believed that if they shared other languages, they could find alternative ways to communicate smoothly if English did not work out (e.g., "can change language if possible"). Participants seemed to assume that such an option is not available when speaking with NESs. Thus, participants thought they could successfully communicate with NNESs without having to rely solely on English. They had the option to switch to the language that they were comfortable with during the conversation.
5. Diverse cultures. Some participants stated they would choose to talk with NNESs to learn about diverse cultures (e.g., "可以有更多文化的碰撞" there will be a clash of cultures). Based on that, we could infer that if L2 English speakers are interested in more cultures worldwide, beyond American cultures, they might be driven to interact with NNESs.

As shown here, the reasons that participants said they would choose to interact with were more diverse. While NESs were perceived predominantly as a reliable language and culture source, NNESs were more likely to be considered participants' peer

language learners. Participants thought they could learn the language from correcting each other's errors and were not afraid of their lack of English proficiency. They also believed that if they shared the same language with NNESs, they did not need to rely on English to achieve successful communication. In the end, interests in diverse cultures could also drive participants to talk with NNESs.

Overall, the two parts of the first research question reveal a vivid image of how L2 English speakers in this study perceived NESs and NNESs. Echoing previous studies, most L2 English speakers in this study referred to childhood acquisition, intuitions about the language grammar, discourse, and pragmatic control as critical elements of being a NES. Cultural mastery and connection with the local community were also important factors in defining NESs. Furthermore, due to the positive image that they project onto NESs (i.e., a reliable language and cultural source), most participants stated they would choose to talk with NESs over NNESs. In this way, they can improve their English skills, understand English more easily, and learn more target language cultures. Participants also indicated that NNESs' accents and lack of English proficiency discouraged them from talking with NNESs. However, this does not mean that NNESs were not preferred at all in this survey. Some participants expressed that NNESs also carried some attractive traits. For example, some thought that as peer language learners, NNESs could also help them learn English and communicate in an easy language. Some also believed that talking with NNESs created less stress. Additionally, some participants believed interacting with NNESs meant languages other than English could be potentially used, which motivated participants to talk. Lastly, responses suggested that NNESs' diverse cultural backgrounds may also attract people to initiate conversation.

In What Way and To What Extent Does the Interlocutors' Nativeness Influence L2 English Speakers' Self-perception on Speech Production?

As discussed in Chapter 3, part three of the survey invited participants to reflect on their own speech production on the basis of CAF after comparing their experiences of interacting with NESs and with NNESs. The statements not only inquired about participants' self-evaluations of their own speaking proficiency, but also asked for their affective reasons in such context. The goal of this section is to analyze whether or not interlocutors' nativeness influences speakers' self-perceptions of their speech production. It also analyzes whether or not other demographic variables and participants' backgrounds potentially influence the relationship between speakers' nativeness and L2 English speakers' self-perception.

Overview of participants' self-perception on speech production. Since each dimension of speech production contains several variables, three composite variables (C_Average, A_Average, and F_Average) were generated to represent the overview of the responses in each dimension. The table below shows that, on average, participants remained neutral in the statements about complexity ($\bar{x}$ = 3.036), which means that they were not sure if their speech complexity would change in accordance with interlocutor's nativeness. Participants' responses did not vary that much in terms of complexity (sd = .498). In addition to that, participants' average reaction to statements related to accuracy was 3.199, which indicates that, on average, they also remained neutral to the statements about accuracy. And their responses were more concentrated (sd = .253). As for speech fluency, participants had relatively varied responses to the statements (sd = .748), which means that more participants agreed or disagreed with the statements

related to fluency. The average fluency score was 3.199, meaning that, on average, participants' opinions towards the statements about fluency were quite neutral.

Table 3

Descriptive Statistics of Participants' Self-Perception of Speaking Complexity, Accuracy, and Fluency

	N	Min	Max	Mean	SD
C_Average	39	2.00	4.00	3.036	.498
A_Average	39	2.25	4.25	3.199	.253
F_Average	39	1.50	4.50	3.199	.748

Although the composite variables showed a generally neutral self-perception of participants' own speech production, each dimension included more dynamic details that are worth our attention. Hence, I will present the frequencies of each statement to further illustrate participants' self-perceptions on speech complexity, accuracy, and fluency in detail.

As for complexity, C1 asked for participants' perception of their own vocabulary use. Except for eight participants who did not find a noticeable difference between their interaction with NES and NNES, 41% of participants (n=16) thought they would not use a larger vocabulary when talking with NNES; whereas 38.5% of participants (n=15) thought they would use a larger vocabulary in the conversation with NNES. C2 was related to participants' use of different forms of words. Of all participants, 43.6% (n=17) disagreed with this statement, thinking that they did not attempt to use different forms of the same words while interacting with NNES. Nine participants were neutral to this statement, and 33.3% of the participants (n=13) agreed with this statement. C3 asked if participants were satisfied with their word choice. 56.4% of the participants (n=22) did

not think they were more satisfied with their word choice when talking with NNES, 38.5% of the participants (n=15) did not hold a strong opinion towards this statement. Only 5.1% of the participants (n=2) believed that they were more satisfied with their word choice while interacting with NNES. C4 asked if participants would be able to construct more complex sentences while interacting with NNES. Of the total participants, 61.5% (n=24) disagreed with this statement, 20.5% (n=8) remained neutral, and 18% of (n=7) accepted this statement. C5 stated that participants would feel more nervous while interacting with NES. 20.5% of the participants (n=8) denied this statement, 12.8% (n=5) were neutral, 66.7% (n=26) agreed with this statement.

The data in the study outlines the complex picture of how Chinese English speakers perceive their speaking complexity. Although more participants considered themselves to be using smaller vocabulary, fewer forms of the same English words, poor word choice, and less complicated sentence structure while talking with NNES, they also felt less nervous in that situation.

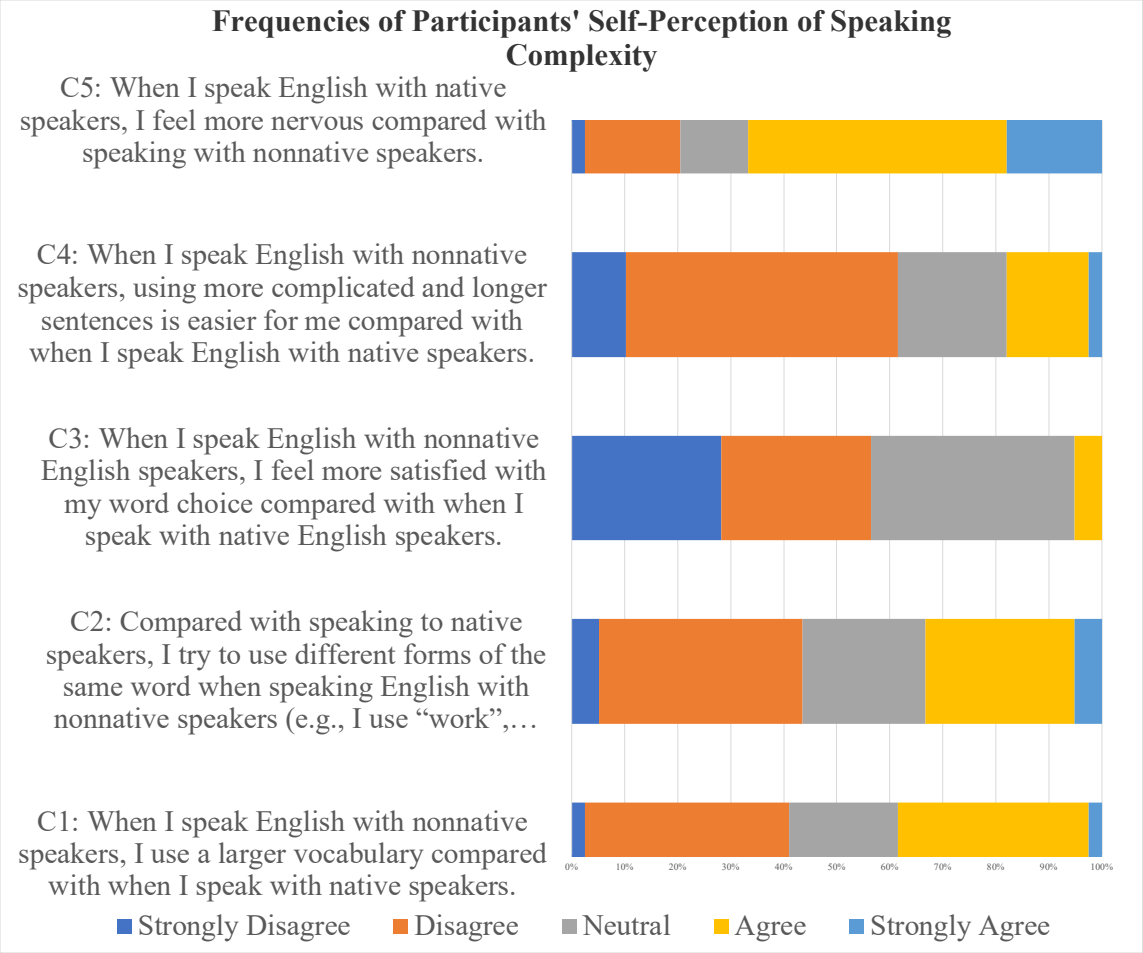

Figure 6. Frequency of Participants' Self-Perception of Speaking Complexity

In moving the focus to accuracy, statement A1 asked if participants made fewer grammatical mistakes while interacting with NNESs than with NESs. Of all participants, 23.1% (n=9) disagreed with this statement. Subsequently, 30.8% (n=12) remained neutral, and 46.2% (n=18) agreed with this statement. Statement A2 was related to the accuracy of word choice. This resulted in 43.6% of the participants (n=17) indicating that they did not use more accurate words to express themselves while speaking with NNESs, followed by 21.3% (n=9) remaining neutral, and 33.3% (n=13) agreeing that they used more accurate words with NNESs. A3 asked for participants' emotional reactions towards making mistakes in front of NNES. 20.5% of the participants (n=8) expressed

that they felt more worried about making mistakes when speaking with NNESs. 7.7% (n=3) did not hold a clear opinion about this statement. 71.8% of the participants (n=28) believed that they felt less worried about making mistakes while interacting with NNESs. A4 inquired about whether or not participants attempted to use more accurate expressions while interacting with NNESs. Overall, 33.4% (n=13) disagreed with this statement, 25.6% of the participants (n=10) remained neutral, 41% of the participants (n=16) agreed with this statement.

Participants' speech accuracy data illustrate that more participants believe they make fewer grammatical mistakes and use more accurate expressions during the interaction with NNESs. Similarly, they worried less about making mistakes in front of NNESs. However, they did not think that their word choice was more accurate when they spoke with NNESs.

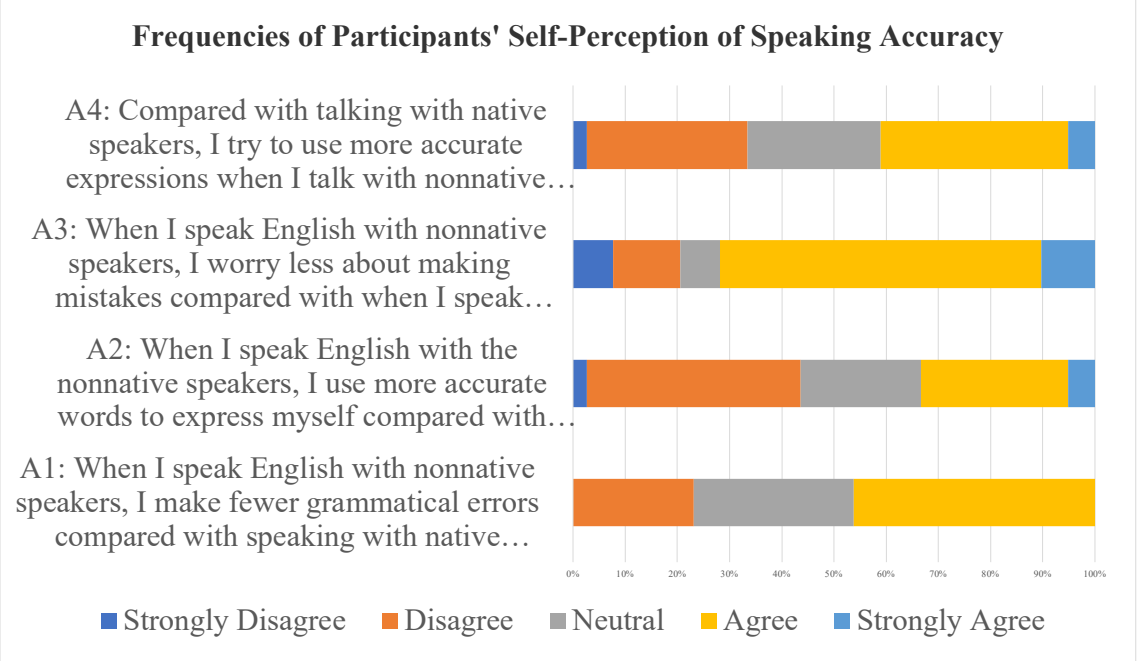

Figure 7. Frequency of Participants' Self-Perception of Speaking Accuracy

Regarding fluency, F1 asked if participants speak more fluently while interacting with NNESs. 41% of the participants (n=16) disagreed with this statement, thinking that they spoke less fluently in front of NNESs. Alternatively, 46.2% of the participants (n=18) agreed with this statement. The remaining 12.8% (n=5) remained neutral regarding this statement. F2 involved the frequencies of participants' repeat and pause. 23.1% of the participants (n=9) disagreed with the statement, thinking that they did not repeat and pause more when they spoke with NESs. 25.6% of the participants (n=10) did not have a distinct opinion towards this statement. 51.3% of the participants (n=20) believed that they repeated and paused more while talking with NESs compared to talking with NNESs. F3 asked if participants expressed more ideas when speaking with NNESs. 53.8% of the participants agreed with this statement (n = 21), and 25.7% of the participants (n=10) disagreed with this statement. The remaining 20.5% of the participants (n=8) remained neutral on this statement. A4 investigated engagement in the conversation. 30.8% of the participants (n=12) stated that they felt less engaged in conversations with NESs. 20.5% of the participants (n=8) felt neutral in regards to this statement. 48.7% (n=19) felt more engaged in the conversation with NNESs.

Unlike the complex picture of participants' speech complexity and accuracy perception, participants' perceptions of their speech fluency data demonstrate a more unified situation. More participants thought that their speaking fluency while interacting with NNESs was better than their speaking fluency with NESs. For instance, more participants thought that they spoke more fluently, paused and repeated less, expressed more ideas, and stayed more engaged in conversations with NNESs.

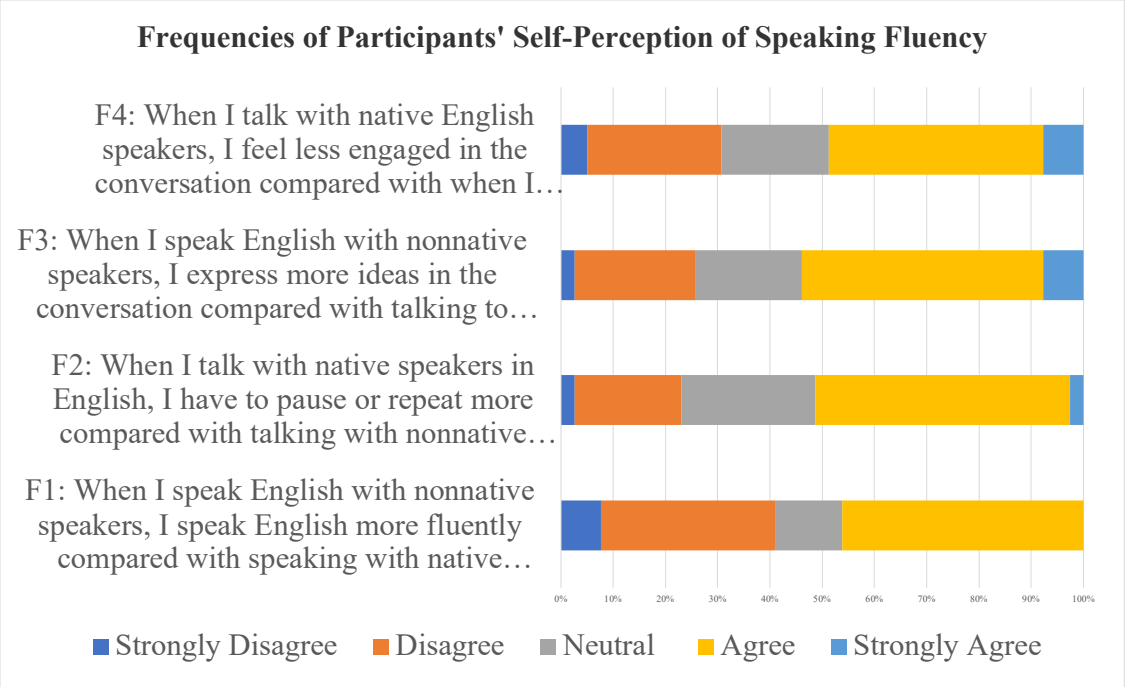

Figure 8. Frequency of Participants' Self-Perception of Speaking Fluency

The correlation between the average of complexity, accuracy, and fluency was also calculated to see if they are strongly correlated to each other under the influence of interlocutor's nativeness. Since C_Average, A_Average and F_Average were composite variables that represented the average self-perceptions of complexity, accuracy, and fluency, the data was analyzed at the interval measurement scale (Boone & Boone, 2012). Pearson's R was also utilized in the correlation analysis. Based on Evans' (1996) principles to interpret Pearson's R, there was a moderate and positive relationship between complexity and accuracy ($r = .452$, $p < .05$). Meanwhile, the relationship between complexity and fluency was weak and positive ($r = .344$, $p < .05$). Lastly, there was a strong and positive relationship between accuracy and fluency ($r = .657$, $p < .05$). The correlation analysis shows that participants' perceptions of their speech complexity, accuracy, and fluency were correlated with each other at different levels. If speakers'

self-perception of speech complexity increase, both their self-perception of speech accuracy and fluency may increase. The former has a stronger relationship with self-perception of complexity than self-perception of speech fluency. If speakers' self-perception of speech accuracy increase, their self-perception of speech fluency are more likely to increase.

Table 4

Correlation between Complexity, Accuracy, and Fluency

		C_Average	A_Average	F_Average
C_Average	Pearson Correlation	1	.452	.344
	Sig. (2-tailed)		.004	.032
	N	39	39	39
A_Average	Pearson Correlation	.452	1	.657
	Sig. (2-tailed)	.004		.000
	N	39	39	39
F_Average	Pearson Correlation	.344	.657	1
	Sig. (2-tailed)	.032	.000	
	N	39	39	39

The relationship between the other variables and participants' self-perceptions regarding interlocutors' nativeness. To understand if participants' demographic information and their experiences of using English would influence the relationships between interlocutors' nativeness and L2 English speakers' self-perceptions, three multiple linear regressions were calculated. In these analyses, I aimed to explore if the following independent variables –NES/NNES preference, Age, Gender,

length of English learning, and language proficiency – would significantly predict their self-perceptions of speech complexity (C_Average), accuracy (A_Average), and fluency (F_Average).

The first analysis suggests that NES/NNES preference, age, gender, length of English learning, and language proficiency did not significantly predict C_Average, F (5, 33) = 1.335, $p > .05$. Similarly, NES/NNES preference, age, gender, length English learning, and language proficiency did not significantly predict A_Average, F (5, 33) = .796, $p > .05$. These two results demonstrate that those variables did not significantly influence the relationship participants' self-perceptions of their speech complexity and accuracy regarding interlocutors' nativeness.

The final regression analysis model significantly predicted F_Average, F (5, 33) = 2.593, $p < .05$, indicating that the above-mentioned independent variables together could influence speakers' self-perception of their speaking fluency. The model accounted for approximately 53.1% of the variance in F_Average. Only gender and NES/NNES preference in this model significantly predicted F_Average. The rest variables being constant, when speakers were female, their self-perception of speaking fluency was .639 units less than male speakers' self-perception. Therefore, this analysis denotes that female participants tended to have lower self-perceptions of speech fluency compared to their male peers. Meanwhile, with all other variables being constant, if speakers prefer to talk to NESs, their self-perception of speaking fluency is .506 units higher than speakers who prefer to talk with NNESs. This proves that participants who preferred to talk to NESs tend to have higher self-perceptions of speech fluency than speakers who prefer to talk to NNESs.

Table 5

Regression Model with Gender, Age, Length of English Learning, Language Proficiency, and NES/NNES Preference as Predictors

Coefficient	Estimate	SE	*t-value*	*p*-value	Semi-partial Correlation
Intercept	1.482	.712	2.082	0.045	
Gender	.639	.240	2.660	0.012	0.420
Age	.038	.200	.190	0.850	.033
Time length of English learning	-.119	.124	-.959	0.344	-.165
Language proficiency	.093	.137	.684	0.499	0.118
NES/NNES preference	.506	.237	2.137	0.040	0.349

On average, participants remained overall neutral regarding their self-perception of speech complexity, accuracy, and fluency. The responses in each dimension provided a more complex and remarkable situation. For example, more participants considered themselves to use smaller vocabulary, fewer forms of the same English words, worse word choice, and less complicated sentence structure while talking with NNESs. They also thought that they spoke less accurately while speaking with NNESs. However, they felt they performed better in terms of grammatical mistakes, the accuracy of word choice, and speaking fluency. Alternatively, they had more positive emotional reactions when recalling their interactions with NNESs. Some of the participants' demographic variables influenced the relationship between interlocutors' nativeness and their self-perceptions, such as NES/NNES preference, age, gender, length of English learning, and language

proficiency. Even though those variables did not predict one's self-perception for speech complexity and accuracy, some of them, like the choice of speaking with NESs or NNESs and gender - impacted one's self-perception for speech fluency under the influence of interlocutors' nativeness.

In What Way and To What Extent Does the Interlocutors' Nativeness Influence L2 English Speakers' Actual Speech Production?

In this section, I will first discuss how I developed the interrater-rater reliability of some measurements. Then, I will present the descriptive statistics of the speech data's complexity, accuracy, and fluency. To examine if participants' speech production changed during the interaction with NNESs and NESs, a non-parametric test – the Wilcoxon Signed-Rank Test – was also carried out.

Inter-rater reliability. Among the CAF dimensions utilized in this research, the clause-unit ratio and error-free-clause ratio needed to be manually examined. Therefore, to determine if the rules of identifying clauses and errors were reliable, data from one participant (12.5% of the total sample size) was calculated by me and my colleague, who was familiar with the literature.

The percentage of agreement for the classification of clauses were calculated. The initial percentage agreement was 92%, which means that my colleague and I had the same amount of clause classification for 92 out of 100 units. The disagreements came from two parts: verb complementation and the use of the conjunction "and." As mentioned in the previous chapter, verb complementation containing a finite or non-finite verb with another element would be considered one unit. Therefore, "I am planning to graduate early in three years" would be split into two clauses – "I am planning" and "to

graduate early in three years", whereas "I am planning to graduate" would be considered as one clause. The use of "and" was the other issue. Although both of us agreed that "and" connected two independent clauses, I decided not to mark the sentence after "and" as a clause unless there is a noticeable pause longer than 0.5 seconds. Foster et al. (2000) suggested that in most cases, phrases connected by coordinating conjunction were considered as one AS-unit unless there was a pause longer than 0.5 seconds or the intonations shifted. Therefore, the sentence "I went to ASU tutoring center and they kind of help me out there" has one AS-unit and one clause in my study because there was no pause between the part before "and" and after "and". However, other coordinating conjunctions, such as "so" and "but," are different cases. Since they mark a subordinated relationship between the two clauses, the part led by those coordinating conjunctions was defined as another clause. For example, in the sentence "I take courses online, :: so sometimes I do not understand the course" there is one AS-unit with two clauses. After the discussion, the data was re-checked, and the inter-rater agreement was 100%.

To calculate the ratio of error-free clauses to total number of clauses, the grammatical errors discussed in the previous chapter were also examined by my colleague and me. The percentage of agreement for the classifications of error-free clauses was initially 88%, which means that my colleague and I found the same number of errors for 88 out of 100 units. The disagreements arose for two reasons: inversion in spoken English and dangling modifiers. Since the data was spoken English, there were some inversions within the speech. For instance, "right now I am taking macroeconomics I believe." Although "I believe" was supposed to be at the beginning of the sentence, this was considered as an inversion instead of an error. Meanwhile, due to the flexibility

embedded in spoken English, dangling modifiers were not classified as an error either if the sentence was entirely understandable in the conversation. For example, in the sentence "it turns to your local time, whenever it is due," "whenever it is due" was considered error-free, even though there were two "it" within one sentence, and they referred to different subjects. Since the clause was entirely understandable in the conversation, it was marked as error-free. After the discussion, the data was checked again, and the agreement was 100%. Once we reached the agreement regarding identifying clauses and errors, I started analyzing the rest of the speech data. The results are listed below.

The correlations between interlocutors' nativeness and speakers' CAF.

During this analysis, each participant's speech data was divided into two sets: interaction with NNESs and interaction with NESs. Fifty units were selected from each dataset for analysis. Since it is unavoidable that participants generated some disfluencies during the conversation, such as false starts, repetitions, and self-corrections, the speech data was organized into two versions for analyzing different dimensions of speech production. The first version excluded disfluencies, which was used for complexity and accuracy analysis. In this version, participants generated 747 words during the interview with the NNESs on average (sd = 78.803), whereas they generated 615 words during the interview with the NESs (sd = 86.840). The second version included disfluencies and was used for analyzing speech fluency. In this version, the average words generated during the interaction with the NNESs were 852 words (sd = 94.216). On the other hand, the average words generated during the interaction with the NES interviewer was 710 words (sd = 134.201). The average time of talking with the NNES interviewer was 5.669

minutes (sd = .925), whereas the average time of talking with the NES interviewer was 4.392 minutes (sd = .881). As mentioned in the previous chapter, based on Yuan and Ellis' (2003) study, the time length here refers to the entire time used for producing 50 units. The following paragraphs will reveal how participants' speech complexity, accuracy, and fluency changed between their interaction with NNESs and NESs.

Table 6

Basic Information on Participants' Speech

	N	Minimum	Maximum	Mean	Std. Deviation
Word Count without Dysfluencies NNES	8	658.00	919.00	747.375	78.803
Word Count with Dysfluencies with NNES	8	742.00	993.00	852.125	94.216
Time length with NNES	8	3.770	6.537	5.669	.925
Word Count without Dysfluencies NES	8	495.00	737.00	614.500	86.840
Word Count with dysfluencies with NES	8	561.00	959.00	709.875	134.201
Time Length with NES	8	3.624	6.490	4.392	.881

Complexity. As discussed in Chapter 3, complexity includes clause-unit ratio, word-unit ratio, and MTLD in this study. These measurements best indicate participants' grammatical complexity and lexical complexity. The overview of the participants' speech complexity is listed below.

Table 7

Descriptive Statistics of the Participants' Speech Complexity

	N	Minimum	Maximum	Mean	Std. Deviation
Clause-unit Ratio with NNES	8	1.380	1.720	1.583	.124
Word-unit Ratio with NNES	8	9.700	12.220	10.873	.879
MTLD with NNES	8	34.822	57.900	47.333	9.130
Clause-unit Ratio with NES	8	1.200	1.660	1.460	.133
Word-unit Ratio with NES	8	7.360	11.620	9.488	1.414
MTLD with NES	8	33.302	56.934	44.136	7.148

Overall, when participants spoke with the NNES interviewer, the average clause-unit ratio was 1.583 (sd = .124). This means that one unit contained 1.583 clauses on average. When participants interacted with the NES interviewer, the average clause-unit ratio was 1.460 (sd = .133), which was slightly lower. When interacting with the NNES interviewer, participants' average words-unit ratio ($\bar{x}$= 10.873, sd = .879) was 1.385 units higher than when they were interacting with the NES interviewer ($\bar{x}$ = 9.488, sd = 1.414). This means that, on average, participants generated 1.385 more words when they were interviewed by NNES. As for MTLD, which was discussed in the previous chapter, when the participants were interviewed by NNESs, their average MTLD was 47.333 (sd = 9.130), whereas the average MTLD went down to 44.136 (sd = 7.148) when they were interviewed by NESs. The averages of the complexity elements showed that, participants generated more clauses and words when they were interviewed by NNESs. The use of

vocabulary was more diverse on average during the interaction with the NNES interviewer as well.

A non-parametric test was then applied to examine if the interlocutor's nativeness could play a role in the participants' speech complexity. The Wilcoxon Signed-Rank test was conducted in this study to examine whether or not there was a significant difference between the average of participants' speech complexity with NNESs and the average of their speech complexity with NESs.

In regard to the clause-unit ratio, six participants produced more clauses within each unit when they were interviewed by NNESs, whereas two participants produced more clauses within each unit when they were interviewed by NESs. Similarly, six people generated more words within each unit when they interacted with the NNESs interviewer, while two people generated more words within each unit when they interacted with the NES interviewer. Additionally, five participants' MTLD score with NNESs was higher than their MTLD score with NESs and three participants' MTLD score with NNESs was lower than their MTLD score with NESs.

Table 8

The Complexity Rank Change between Interacting with NNESs and NESs

		N	Mean Rank	Sum of Ranks
Clause-unit Ratio with NES - Clause-unit Ratio with NNES	Negative Ranks	6[a]	5.17	31.00
	Positive Ranks	2[b]	2.50	5.00
	Ties	0[c]		
	Total	8		

Word-unit Ratio with NES – Word-unit Ratio with NNES	Negative Ranks	6[d]	5.17	31.00
	Positive Ranks	2[e]	2.50	5.00
	Ties	0[f]		
	Total	8		
MTLD with NES – MTLD with NNES	Negative Ranks	5[g]	4.40	22.00
	Positive Ranks	3[h]	4.67	14.00
	Ties	0[i]		
	Total	8		

Note:

a. Clause-unit Ratio with NES < Clause-unit Ratio with NNES

b. Clause-unit Ratio with NES > Clause-unit Ratio with NNES

c. Clause-unit Ratio with NES = Clause-unit Ratio with NNES

d Word-unit Ratio with NES < Word-unit Ratio with NNES

e. Word-unit Ratio with NES > Word-unit Ratio with NNES

f. Word-unit Ratio with NES = Word-unit Ratio with NNES

g. MTLD with NES < MTLD with NNES

h. MTLD with NES > MTLD with NNES

i. MTLD with NES = MTLD with NNES

The null hypothesis was that there was no significant difference between the averages of speakers' complexity when they were interviewed by NESs or NNESs. The analysis results revealed that the average of participants' clause-unit ratio with NESs was not significantly different from the average of their clause-unit ratio with NNESs (p >.05). Meanwhile, the average participants' word-unit ratio with NESs was not significantly different from their word-unit ratio with NNESs (p > .05) either. In the end,

the average of participants' MTLD with NNESs was not significantly different from their MTLD with NESs ($p > .05$). Therefore, the test result failed to reject the hypothesis, meaning that while talking with NNESs and NESs, participants' speech complexity did not change significantly.

Table 9

Wilcoxon Signed Ranks Test Result

	Clause-unit Ratio with NES – Clause-unit Ratio with NNES	Words-unit Ratio with NES – Words-unit Ratio with NNES	MTLD with NES – MTLD with NNES
Z	-1.827	-1.820	-.560
Asymp. Sig. (2-tailed)	.068	.069	.575

Accuracy. An error-free clause ratio was utilized to measure participants' speech accuracy. The following table shows that the average error-free clause ratio when participants talked with NNESs was .690 (sd = .104). This means that, on average, 69% of the clauses generated by the participants did not have errors. When participants interacted with NESs, the average error-free ratio was .700 (sd = .086). This means that, on average, 70% of the clauses did not have errors. This result also demonstrates that participants' error-free-clause ratio with NNESs was slightly more dispersed than their error-free-clause ratio with NESs. The descriptive statistics indicate that, on average, participants produced more accurate clauses when they are interviewed by NESs.

Table 10

Descriptive Statistics of the Participants' Accuracy

	N	Minimum	Maximum	Mean	Std. Deviation
Ratio of Error-free clauses with NNES	8	.551	.895	.690	.104
Ratio of Error-free clauses with NES	8	.600	.867	.700	.086

The Wilcoxon Signed-Rank test was also conducted to examine whether or not there was a significant difference between the means of two dependent groups – error-free-clause ratio with NNESs and error-free-clause ratio with NESs. From this, we can infer the relationship between the independent variable – interlocutor's nativeness – and the dependent variable – participants' speech accuracy.

Four participants' error-free-clause ratio with NNESs was higher than the error-free-clause ratio with NESs. Meanwhile, four participants' error-free-clause ratio when they were interviewed by NNESs was lower than when they were interviewed by NESs.

Table 11

The Accuracy Rank Change between Interacting with NNES and NES

		N	Mean Rank	Sum of Ranks
Ratio of Error-free clauses with NES - Ratio of Error-free clauses with NNES	Negative Ranks	4[a]	3.50	14.00
	Positive Ranks	4[b]	5.50	22.00
	Ties	0[c]		
	Total	8		

Note:

a. Ratio of Error-free clauses with NES < Ratio of Error-free clauses with NNES

b. Ratio of Error-free clauses with NES > Ratio of Error-free clauses with NNES

c. Ratio of Error-free clauses with NES = Ratio of Error-free clauses with NNES

In this analysis, the null hypothesis was that the mean of participants' accuracy during the interaction with the NNES interviewer was not significantly different from the mean of their accuracy during the interaction with the NES interviewer. The result revealed that the average of participants' error-free-clause ratio with NNESs was not significantly different from their error-free-clause ratio with NNESs (p >.05). Therefore, we cannot reject the null hypothesis, which means that when participants interacted with NNESs and NESs during the interview, their speech production accuracy did not differ significantly.

Table 12

Wilcoxon Signed Ranks Test Result

	Error_free_clause_ratio_NES - Error_free_clause_ratio_NNES
Z	-.560
Asymp. Sig. (2-tailed)	.575

Fluency. Rate A and Rate B were utilized in this study to measure participants' speech fluency. Overall, the average Rate A with the NNES interviewer was 155.252 (sd = 25.916), which means that, including all the disfluencies, participants produced an average of 155.252 syllabi per minute. When participants interacted with the NES interviewer, the average Rate A was 162.834 (sd = 22.703), which was higher than the Rate A with NNESs. When interacting with the NNES interviewer, participants' average Rate B ($\bar{x}$ = 136.187, sd = 22.076) was 6.001 units lower than when they interacted with the NES interviewer ($\bar{x}$ = 142.188, sd = 22.390). The descriptive statistics demonstrate

that when participants interacted with the NES interviewer, they generated more syllabi on average than interacting when with the NNES interviewer. Therefore, we could infer that, on average, participants spoke more fluently when they were interviewed by NESs.

Table 13

Descriptive Statistics of the Participants' Fluency

	N	Minimum	Maximum	Mean	Std. Deviation
Rate A with NNES	8	132.658	212.467	155.252	25.916
Rate B with NNES	8	118.269	183.554	136.187	22.076
Rate A with NES	8	139.970	213.232	162.834	22.703
Rate B with NES	8	110.169	187.532	142.188	22.390

Although the overall mean of Rate A and Rate B with NESs were higher than Rate A and Rate B with NNESs, individuals' performances varied. Two participants' Rate A and Rate B with NNESs were higher than their Rate A and Rate B with NESs. Six participants' Rate A and Rate B with NNESs were lower than their Rate A and Rate B with NESs.

Table 14

The Fluency Rank Change Between Interacting with NNESs and NESs

		N	Mean Rank	Sum of Ranks
Rate A with NES - Rate A with NNES	Negative Ranks	2[a]	4.50	9.00
	Positive Ranks	6[b]	4.50	27.00
	Ties	0[c]		
	Total	8		

Rate B with NES - Rate B with NNES	Negative Ranks	2[d]	4.00	8.00
	Positive Ranks	6[e]	4.67	28.00
	Ties	0[f]		
	Total	8		

Note:

a. Rate A with NES < Rate A with NNES

b. Rate A with NES > Rate A with NNES

c. Rate A with NES = Rate A with NNES

d. Rate B with NES < Rate B with NNES

e. Rate B with NES > Rate B with NNES

f. Rate B with NES = Rate B with NNES

In this analysis, the null hypothesis was that the mean of participants' speech fluency during the interaction with NNESs was not significantly different from the mean of their speech fluency during the interaction with NESs. The results revealed that the average of participants' Rate A with NNESs was not significantly different from their Rate A with NNESs (p >.05). The average of participants' Rate B with NNESs was also not significantly different from their Rate B with NESs (p >.05). In this case, we fail to reject the null hypothesis. This means that during the interviews, participants' speech fluency did not change significantly between their interaction with NNESs and NESs.

Table 15

Wilcoxon Signed Ranks Test Result

	Rate A with NES - Rate A with NNES	Rate B with NES - Rate B with NNES
Z	-1.260	-1.400

Asymp. Sig. (2-tailed)	.208	.161

In this section, we discussed the participants' speech production from the perspective of CAF. Although participants spent more time and produced more words within the same number of units when they interacted with both NNESs than with NESs, the detailed results showed a much more complicated phenomenon. The averages of participants' clause-unit ratio, word-unit ratio, and MTLD with NNESs were higher than those with NESs. On the other hand, the averages of participants' error-free-clause ratio, Rate A, and Rate B with NESs were higher than those with NNESs. There were no significant differences between the means of these variables under the influence of interviewers' nativeness, indicating that participants' speech production did not change significantly with the NNES interviewer or the NES interviewer from the statistical perspective.

Summary

In this chapter, I presented the major findings to answer the three research questions. The findings in the first section answered the first research questions. I first showed the findings on the characteristics of NESs selected by the participants to show how L2 English speakers defined NESs. Then, I presented their self-reported experiences talking with NESs and NNESs and their preferences for NESs or NNESs.

In the second section, a descriptive statistical analysis was conducted to explain the relationship between the interlocutor's nativeness and the participants' self-perception of their speech production. I also conducted a correlation analysis to examine the relationship between participants' self-perception on complexity, accuracy, and fluency.

Finally, a multilinear regression was conducted to investigate the relationship between the other variables and participants' self-perceptions regarding interlocutors' nativeness.

In the last section, I first discussed how I developed the interrater-rater reliability of some measurements. Then, I presented the descriptive statistics of the speech data's complexity, accuracy, and fluency. To examine if participants' speech production changed during the interaction with NNESs and NESs, a non-parametric test – the Wilcoxon Signed-Rank Test – was also carried out.

CHAPTER 5

DISCUSSIONS

In this chapter, I will discuss the findings revealed in the previous chapter. The three sections of this chapter revisit research findings in Chapter 4 to answer the research questions proposed at the beginning of the dissertation. The main focus for this discussion will be why I obtained such findings and how the findings were the same or different from the previous studies and why that may be the case. In the first section, I will answer the research question – *How do L2 English speakers understand the notion of native English speakers (NESs) and nonnative English speakers (NNESs)?* I will analyze participants' definitions of NES/NNES and the preferences for interacting with NES/NNES to interpret L2 English speakers' beliefs in NES/NNES. The second section focuses on the second research question: *In what way and to what extent does the interlocutors' nativeness influence L2 English speakers' self-perception on speech production? B*esides providing the answer, this section will also explain the potential reasons. The last section answers the final research question: *"In what way and to what extent does the interlocutors' nativeness influence L2 English speakers' actual speech production?"* This section also discusses why participants' actual performance was not consistent with their self-perception reflected in the survey.

How Do L2 English Speakers Understand the Notion of NESs and NNESs?

The first research question aimed to discover how L2 English speakers understand the notion of NESs and NNESs. The findings showed some disconnect between how L2 speakers understand this notion and how it is understood in current scholarship. For example, some participants believed in connotations of NESs that are criticized by

scholars. Alternatively, some features of NESs and NNESs addressed by previous literature were not recognized by participants. Furthermore, the data suggested that participants preferred to talk to NESs rather than NNESs for several reasons. Interpreting these findings is important because we can gain insight on L2 English speakers' understandings of NESs and NNESs.

Definition of NESs. The research findings in this study show that participants agreed, on average, with approximately half of the characteristics of NESs used in this study. Only two out of thirty-nine participants selected less than two statements in this survey. Their definitions of NESs were related to childhood acquisition, strong control of discourse and pragmatics, as well as intuitions about idiolectal grammar and the standard language grammar. It is interesting, however, to note that many participants selected two characteristics that have not been investigated much in other studies relating to the definition of NESs. Those two characteristics were "being familiar with the target language culture and tradition" and "being socially connected with an English-speaking community." The findings presented several points that are worth our attention.

The first point is that participants' definitions of NESs demonstrated that many L2 English speakers still share some perspectives that scholars have problematized. For example, some participants believed that NESs could manage the grammar without mistakes while speaking. Some also considered speakers who held citizenships of English-speaking countries as NESs.

Why is this belief so persistent? The first possible reason is that most L2 English speakers in this study did not realize the level of language proficiency NNESs could achieve and the real situations of NESs. Davies (2003) criticized the definition of NESs

by claiming that L2 learners could become native speakers of the target language. He argued that some NNESs would achieve the above-mentioned characteristics after hard work. He also denoted that some NNESs performed as well as NESs on a test, which showed NNESs' ultimate attainment. Additionally, due to NESs' educational and personal experiences, they may not read and write fluently in certain contexts if they do not receive enough training. Alternatively, people who are illiterate cannot read and write well in English but can speak proficiently. These exceptions further question the validity of many NES characteristics, such as "a person who can read and write in English in a variety of contexts" and "a person who can use the language completely in a variety of subjects and situations." Participants' adherence to those statements show that their understandings of NESs and NNESs were limited: they did not realize that NNESs acquire fairly high language proficiency only after hard work. They also did not realize that NESs might come from different backgrounds that made NESs possess different levels of language competencies. Instead, participants still believed that NESs had the all-well-rounded native-like English proficiency and strong pragmatic competence, as well as having acquired the language during childhood.

The second possible reason for participants holding such beliefs may be in line with the previous studies, which is about people's standard language ideology (SLI) (Lippi-Green, 1994). For instance, some characteristics in the survey, such as "Speakers who speak the standard language as opposed to a dialect" and "Speakers who do not have a foreign accent" were selected by the participants. We can see that participants perceived NESs' English as standard. According to Lippi-Green (1994), the idea of s*tandard English* was associated with SLI, a powerful construct that people use to define the norms

of a language. In fact, we should be aware that SLI is subjective because the norms are selected based on people's familiarity. Wolfram and Schilling (2016) also noted that standard English was quite an ambiguous label because NESs also have different accents in real life and make language choices that deviate from the standard. Therefore, we can infer that, although standard English is a myth, L2 English speakers in this study seem to be strongly influenced by this label and the SLI they hold.

The second interesting point is that two characteristics were selected by many participants but have not been investigated in the other studies. A decent number of participants related speakers' nativeness with being familiar with the target language's culture and tradition and being socially connected with an English-speaking community. We can see that from many L2 English speakers' perspectives, being familiar with the target language culture and interacting with the local community played a significant role in defining NESs. However, these two aspects were not commonly discussed in existing studies. Why did participants think culture and the connection with the target language community were part of the definition? What kind of culture and connection can L2 speakers have to enhance their nativeness? More studies need to be conducted to look at the relationship between culture and NESs in the future.

The third point in need of our attention is that the participants did not select some ethnic traits that scholars believed to be important factors in deciding one's nativeness, such as nationality and appearance. Why did this happen? One guess would be that judging by speakers' ethnicity and race is quite covert and subconscious. Participants may not select these characteristics, which does not mean they do not think in this way. As Tsuchiya (2016) explored, even though few participants associated speakers'

nativeness with one's appearance and name, they did express such beliefs during the interview. Another reason that potentially accounts for this finding is that participants' experience in using English in my study may be different from participants of other studies. The participants in my study attend a big public research university in the United States, where the student population is quite diverse. Thus, their views relating to NES/NNES may be critical and realistic compared with those from other studies.

Preferences for interacting with NESs and NNESs. The collected data shows that more people preferred to talk with NESs than NNESs. As I discovered from the survey, most participants preferred to talk with NESs for the following reasons: the opportunity for English learning, ease of understanding, and connection with the local community. This finding did not match participants' self-reported real-life experiences of interacting with NESs and NNESs. Additionally, the interactions between L2 English speakers and NESs were mainly about work and study, whereas the interactions between L2 English speakers and NNESs were mainly about study and social activities. Previous studies can explain some of these research findings. This study also presents some findings that can add to the current conversation.

This study presents three reasons why participants preferred to talk to NESs rather than NNESs. The first reason is that L2 English speakers viewed interacting with NESs as an invaluable opportunity for learning and practicing speaking English. This first reason demonstrates that participants still positioned themselves as *learners* during the interaction. In fact, participants often used *learn* in the answers and hoped to *improve* their English from their interactions with NESs. NESs, in this case, were considered as a rich linguistic resource, which aligns with the perspectives found in previous studies

(e.g., Park, 2007; Liddicoat, 2016). Park (2007), for example, noticed that L2 English speakers' position was shifted from language users to language learners during the communication. By observing two sets of interactions between L2 English speakers and NESs, the researcher found that participants' NES/NNES identities were invoked and sustained due to participants' unbalanced linguistic knowledge and backgrounds. L2 English speakers positioned themselves as language users at the beginning. Then, they started to "make an excuse for linguistic deficiency" (p. 348) and self-depreciate their linguistic abilities as the interaction continued. Similarly, Liddicoat's (2016) study also supported this argument by showing that L2 English speakers identified themselves as novice in the conversation with NESs. Liddicoat (2016) observed that during intercultural communication, NESs tended to use a "didactic voice" (p. 413) to interact with NNESs, which interfered with NNESs' speech and reinforced NESs' authority. Some NNESs in the study regarded NESs as the gold standard regarding using English. It is important to notice that existing studies also observed L2 English speakers' identity shift during the interaction. The current study adds to this conversation by demonstrating that identity and belief may have residual effects after the interaction and influence L2 English speakers profoundly.

The first reason why participants preferred to talk with NESs rather than NNESs also reflects that many L2 English speakers believe their English has many problems and place NESs' English in higher regard. As discussed in the previous section and in Chapter 2, L2 English speakers believed in the idea of Standard English and thought that NESs 'English equals Standard English, which made them look up to NESs' English and attempt to master the standard. The responses collected from the survey showed that the

idea that English in inner-circle countries represented the standard was still prevalent among L2 English speakers. At the same time, they deemed their current English as less proficient and wanted to make it more authentic and accurate by learning from NESs.

The second reason widely held by many participants was that they believed that communication would go more smoothly with NESs rather than with NNESs. They seemed to assume that communication would go more smoothly because NESs would understand them better than NNESs would. This can be interpreted from two aspects. First, L2 English speakers in this study deemed that, with high English proficiency and rich pragmatic knowledge, NESs could easily comprehend participants' English, even with mistakes. This would create a more pleasant environment for L2 English speakers to participate. Participants also seemed to assume that NESs are better facilitators of conversation. However, we need to be aware that this may not always be the case in intercultural communication. Cultural impairment, linguistic deficiency, and lack of attention could create more difficulties in understanding each other (Romero-Trillo & Lenn, 2011). Successful communication and easy understanding can only be achieved through an effort on both sides and an intention of managing the relationship. It seems that most participants in this study have had positive experiences interacting with NESs. Still, we cannot conclude that NESs are always beacons of good and smooth communication because those experiences are limited to contexts.

Participants seemed to believe that the communication would also go more smoothly because they would understand NESs' English better than NNESs' English. The reason they had such a belief was because of the speakers' accent. Many expressed in the survey that they could understand NESs more easily because NESs did not have

strong accents. They also pointed out that NNESs' accents discouraged them from talking with NNESs. Studies have proven that unfamiliar accents have contributed to speakers' loss of intelligibility, or" how much the listeners actually understand" (Derwing & Munro, 2009, p. 480). Therefore, it is understandable that L2 English speakers tend to interact with speakers they understand better with less effort due to their limited language proficiency. Furthermore, the Standard Language Ideology (SLI) can also explain this situation. This concept explains that people tend to favor language norms that they are most exposed to and judge usage that strays away from the norms they to which they have been exposed. Therefore, we can conclude that being less tolerant of some accents may also be attributed to less exposure to different accents.

The third reason participants preferred to talk to NESs rather than NNESs was that they assumed NESs have a stronger connection with the local community. Although only a few mentioned it, it is interesting to note that participants hoped to be involved in the local community by interacting with NESs. For some L2 English speakers who were interested in the target language community, they chose to interact with NESs because they could learn the social etiquettes and understand why people behave in certain ways. This will help them study and work in the U.S. more easily in the long run. This also echoes participants' definition of NESs, in which being socially connected with the English-speaking community was a significant feature. Hence, it is reasonable to interpret that many L2 English speakers considered NESs a cultural and social resource as much as a linguistic one. Interacting with NESs allows them to be involved in the local community.

Although more L2 English speakers in this study clearly indicated that they preferred to interact with NESs, their answers to the types of speakers they actually interacted with and the purposes of interacting with NESs and NNESs did not align with their preferences. For example, the majority of participants stated that they interacted with approximately half NESs and half NNESs. Their purposes of interacting with NESs and NNESs also support this. The findings showed that the interactions between L2 English speakers and NESs were mainly about work and study. They interacted with NESs less often for social purposes compared with their interaction with NNESs. Therefore, we can conclude that there was a misalignment between participants' expectations and their real-life experiences. There must be something that limits their opportunities to interact with NESs. The reasons can be traced back to studies in international students' overseas experience. Many have shown that students' target language proficiency (Hayes & Lin, 1994; Meng et al., 2018), knowledge and attitudes towards the target community (Ying, 2002), and interpersonal skills (Hammer et al., 1979) could cause poor adaptation to the local community. Another possible reason can be the amount of NESs present in participants' surroundings. For example, if L2 English speakers enroll in a program that has many international students, they may interact with NNESs more than those who enroll in a program that has mostly NES students.

Overall, by looking at participants' definitions of NESs and their preferences for NESs and NNESs, we can have a holistic understanding of how participants understand the notion of NESs and NNESs. Firstly, childhood acquisition, strong control of discourse and pragmatics, as well as intuitions about idiolectal grammar and standard language grammar, were important characteristics of being NESs. Secondly, culture and

the connection with the target language community were also a part of the definition of NESs. Third, NESs carried more positive connotations that attracted L2 English speakers to interact with them. L2 English speakers in this study considered NESs as linguistic, cultural, and social resources from which they could improve their English, have clear and easy communication, and better understand the local culture. Moreover, L2 English speakers' perceptions of NNESs tended to be more negative, which was associated with accent and relatively lower language proficiency. Overall, participants' expectations did not align with their real-life experiences, which was attributed to reasons discussed in previous studies.

In What Way and To What Extent Does the Interlocutors' Nativeness Influence L2 English Speakers' Self-perception on Speech Production?

The second research question investigated how L2 English speakers perceived their own speech complexity, accuracy, and fluency in front of NESs and NNESs. On average, the survey responses showed that participants did not believe that interlocutors' nativeness affected their speech complexity, accuracy, and fluency. However, if we look at the deviation of each dimension of speech production, some believed their English was "better" when talking to NESs, and some believed their English was "worse." For instance, most of the participants acknowledged the influence of interlocutors' nativeness, thinking that they would produce either more complicated or less complicated speech when talking with NESs. Similar to that, most L2 English speakers in this study believed they would either produce more accurate or less accurate speech depending on their interlocutors' nativeness. Interlocutors' nativeness made a difference in most participants' self-perceptions of their speech fluency. How participants viewed their own

speech production adds some interesting discussion to the study of the relationship between interlocutors' nativeness and L2 English speakers' self-perception as well as the concept of *self-perception*.

Regarding participants' perception of their own speech complexity and accuracy, this study shows that, although more participants considered themselves to be using smaller vocabulary, fewer forms of the same English words, poorer word choice, and less complicated sentence structure while talking with NNES, they also felt less nervous in that situation. Furthermore, they believed they made fewer grammatical mistakes and used more accurate expressions during interactions with NNESs. Similarly, they worried less about making mistakes in front of NNESs. According to sociocultural theory, environment and previous individual experience would mediate their mental activity. Therefore, I speculate that participants' self-perception of their own speech complexity and accuracy may derive from their impression of NESs/NNESs discussed in Chapter 4. Many participants mentioned that NESs could understand them easily even when they made many mistakes, whereas NNESs' language proficiency was limited, which discouraged them from communication. Therefore, worrying that NNESs may not understand them clearly, participants may think that they use easy sentence structure and simple vocabulary to facilitate smooth communication with NNESs. Moreover, to make sure that NNESs understand what they mean, participants in this study may think that they need to focus more on accuracy while articulating, which contributes to how they perceive their speech accuracy. In addition, since, as mentioned in Chapter 4, participants had a positive impression of NESs and a relatively negative impression of NNES, these impressions may gloss over their self-perception of speech complexity and accuracy.

Thus, many may think that they speak more accurately and complicatedly while talking with NESs.

As for participants' self-perception of speech fluency, more participants thought that they spoke more fluently, paused and repeated less, expressed more ideas, and stayed more engaged in conversations with NNESs. One possible reason for this is that participants' positive affections while interacting with NNESs play a role in their self-perception of speech fluency. Unlike participants' self-perception of speech complexity and accuracy, their perspective on speaking fluency and view of self seems to be positive. Therefore, I infer that individuals' affective reactions may be more closely associated with their self-perception of speech fluency.

The findings also showed that interlocutors' naiveness influenced speakers' self-perception of speech complexity, accuracy, and fluency in different ways. Participants, in this study tended to have a more positive self-perception of speech complexity and accuracy while interacting with NESs, whereas they tended to have a more positive self-perception of speech fluency while interacting with NNESs. The statistical analysis also showed that their self-perceptions for different dimensions of speech production were not all strongly correlated with each other.

Why did it happen? Two factors may account for this situation. First, L2 English speakers may understand these components as entirely separate concepts. In academia, scholars consider complexity, accuracy, and fluency as three dimensions of individuals' speech production and explain the relationship between them. However, in this study, participants may consider these three elements as three unrelated concepts. From their perspectives, speaking complicatedly may have nothing to do with speaking fluently and

accurately. This idea may interfere with the way participants recognize the influence of interlocutors' nativeness on their self-perception of speech complexity, accuracy and fluency. That is why interlocutors' nativeness influenced the three dimensions of speech production differently.

The second factor may come from the conflict between participants' impression of NES/NNES and their affective reactions during the interaction. As mentioned in Chapter 4, participants had positive impressions of NESs and negative impressions of NNESs. Meanwhile, many L2 English speakers in this study were motivated to learn English from NESs and felt less motivated when talking with NNESs. However, the survey responses regarding participants' self-perception of speech production showed a different image. Participants seemed to be more anxious and stressed while interacting with NESs. Therefore, participants' self-contradictory reactions while interacting with NESs and NNESs problematize how they perceived their speech production. This may cause that interlocutors' nativeness influenced participants' self-perception of speech complexity, accuracy, and fluency differently.

The findings also contribute to studies of self-perception. As mentioned in Chapter 2, unlike studies in self-concept and self-efficacy, there were limited studies regarding self-perception as an independent construct. This study applied this concept as preliminary research, addressing a more systematic definition of self-perception with the help of previous studies. In addition, the findings also contribute to the studies of the relationship between individual factors and self-perception. As I presented in Chapter 4, among various demographic information and experiential factors, participants' preferences for NES or NNES and gender were the only two predictors of their self-

perception of speech fluency. Female participants tended to have lower self-perceptions of speech fluency compared with their male peers. Moreover, participants who preferred to talk to NESs tended to have higher self-perceptions of their own speech fluency as opposed to speakers who preferred to talk to NNESs. This reveals a complex image where individual differences seem to be less influential with the self-perception of speech complexity and accuracy but more influential with self-perceptions of speech fluency. Since no study in self-perception has ever verified the relationship between gender, preference for NES or NNES, and one's self-perception, the current study opens a door for future scholars to explore the interplay of individual factors and one's own self-perception.

Overall, participants' impressions of NESs/NNESs discussed in Chapter 4 may influence how they perceived their own speech production. In addition, the findings showed that interlocutors' nativeness did impacted L2 English speakers' self-perception of speech complexity, accuracy, and fluency to different degrees, which can be explained by two factors. First, L2 English speakers may understand the three dimensions of speech production as entirely separate, unrelated concepts. Second, the conflicts between participants' impressions of NESs/NNESs, and their affective reactions during the interaction, problematize the relationship between interlocutors' nativeness and one's self-perception of speech production. Furthermore, the findings add to studies of self-perception by addressing a more systematic definition of self-perception in questionnaires. The findings also contribute to studies of the relationship between individual factors and self-production.

In What Way and To What Extent Does the Interlocutors' Nativeness Influence L2 English Speakers' Actual Speech Production?

The third research question explored whether or not L2 English speakers' speech complexity, accuracy, and fluency would change in front of NESs and NNESs. The Wilcoxon Signed-Rank test conducted in the analysis demonstrated that, statistically, interlocutors' nativeness did not significantly influence L2 speakers' actual speech production. Furthermore, if we only look at the average of participants' speech complexity, accuracy, and fluency, the findings reveal an interesting situation. The average of individuals' speech complexity with the NES interviewer were lower than the average of individuals' speech complexity with the NNES interviewer. The average of individuals' speech accuracy and speech fluency with the NES interviewer were higher than that with the NNES interviewer. This means that, on average, participants in this study produced less complicated, but more accurate and fluent speech when talking with the NES interviewer than with the NNES interviewer. Although no statistically significant differences were found, the findings shed light on a few issues that may be worth further discussion.

The first observation is that it appears that the interlocutor's nativeness may impact speakers 'speech complexity, accuracy, and fluency differently, which can be explained by the Trade-off Hypothesis. This hypothesis states that "committing attention to one area, other things being equal, might cause lower performance in others" (Skehan, 2009, p.511). Following this hypothesis, we can interpret speakers' different levels of CAF as the reflection of the different cognitive demands posed by different tasks (Skehan, 2009). If speakers perform better in some dimensions of speech production, the

required higher cognitive demand neglects performance in the rest of the dimensions. That is why it is difficult for L2 English speakers to produce speech with high complexity, accuracy, and fluency simultaneously. Scholars (e.g., Skehan, 2009) have particularly mentioned that there was a tension between accuracy and complexity, which means that if speakers produce more accurate speech, their speech complexity tends to be lower. The tension between accuracy as well as complexity and fluency cannot be ignored either. Therefore, in front of NESs/NNESs, L2 English speakers may subconsciously emphasize different dimensions of speech production based on their perceptions.

The second notable observation was that L2 English speakers 'self-perception was not consistent with their actual speech production. To be more specific, more participants believed that they would use smaller vocabulary and fewer forms of the same English words when talking with NNESs. They also felt less satisfied with their word choice and less nervous while interacting with NNESs. However, the speech analysis showed that, on average, participants' speech was more complex with the NNES interviewer was better than with the NES interviewer. As for speech accuracy and fluency, although more participants thought they would generate fewer errors and speak more fluently when talking with NNES, the actual speech production showed that their speech included more errors and was less fluent during the interaction with NNES.

There are several possible explanations for this gap. First is that affective factors may influence speech complexity, accuracy, and fluency to different degrees, which is supported by previous literature. For instance, Abdolrezapour (2018) explained the relationship between emotional intelligence (EI) and complexity, accuracy, and fluency

among EFL learners. In the study, they discovered a significant correlation between affective factors and complexity and accuracy. They also noticed that there was a positive correlation between emotional factors and fluency. Dabaghi Varnosfaderani et al. (2021) discovered that happy background music influenced English language learners' speech fluency and accuracy, whereas it had a limited influence on their speech complexity. The researchers concluded the emotions aroused by the music might impact speakers' speech production differently. As we can tell, the core concepts of emotional intelligence and background music in these studies were not exactly the same as the emotions and affective reactions discussed my research. Furthermore, the findings in previous literature present a conflicted argument regarding the relationship between affective reactions and speech complexity, accuracy, and fluency. However, they inspire us to think about the potential role of affective reactions in individuals' speech production. Since L2 English speakers in this study experienced more negative emotional reactions while interacting with NESs, their actual speech production may be influenced by those emotional reactions. Therefore, we need more studies to further discuss to what extent emotions and affective reactions influences speakers' speech production.

The second explanation may derive from an underlying alignment of speakers' linguistic representations. Scholars have proven that speakers mutually adapt to each other's linguistic behaviors subconsciously in conversation, which is called linguistic alignment (Kim et al., 2019). This alignment occurs in both written and oral contexts at various linguistic levels, such as lexical, syntactic, phonetic, and prosodic (Garrod & Pickering, 2007). Suffill et al. (2021) have stated that nonnative speakers tended to "align less with other nonnative speakers than with native speakers" (p. 748). Although

nonnative speakers had limited linguistic resources (Ferreira & Pashler, 2002) and great cognitive load when speaking an L2 (Housen et al., 2012), they were quite sensitive to native speakers' linguistic behaviors and attempted to accommodate accordingly. Since fluency is more obviously observed compared with complexity and accuracy, L2 English speakers are more likely to align their own speech fluency with the NESs compared with NESs. This can also explain why participants' self-perception of their own speech production was different from actual speech production, especially with speech fluency.

Two notable observations were found in this study regarding the influence of interlocutors' nativeness on L2 English speakers' actual speech production. The first one was that the interlocutors' nativeness might impact speakers' speech complexity, accuracy, and fluency differently, which could be explained by the trade-off hypothesis. The second observation was that L2 English speakers' self-perception was inconsistent with actual speech production. Two reasons can explain this. First, affective factors may influence speech complexity, accuracy, and fluency to different degrees. Second, an underlying alignment of speakers' linguistic representations may influence participants' actual speech production.

Summary

Chapter 5 revealed the dynamic relationship between behavior, cognition, and environment. Many variables may interact with each other simultaneously to influence how individuals behave. I answered my research questions and explained those answers by drawing from theories and existing studies.

In the first section, I revisited the participants' views of NESs/NNESs, compared and contrasted them with findings from existing studies, and speculated on what contributed to the perceptions they have.

In the second section, I briefly presented how participants perceived their own speech production while talking with NESs and NNESs. I also referred to previous studies to explain why interlocutors' nativeness influenced participants' self-perception of speech complexity, accuracy, and fluency to different degrees. In the end, I stated how the findings contributed to studies of self-perception.

In the last section, I revisited the findings on how interlocutors' nativeness influenced participants' actual speech production. Drawing from previous literature, I inferred what led to the different levels of impacts of interlocutors' nativeness on three dimensions of speech production as well as the inconsistency between L2 English speakers' self-perception and their actual speech production.

CHAPTER 6

CONCLUSION

The last chapter will conclude the entire research. In the first section, *Summary of the Study,* I will restate the research background, research design, findings, and main discussions. Next, the section *Limitation of the Study* will discuss some factors that may have limited the reliability of the study. Then, the section *Implications Theory, Future Research, and Pedagogy* will propose some possible directions for theory, future research, and teaching to help L2 English speakers develop their language proficiency and awareness. In *Final Conclusion*, I will share my final reflection on this dissertation project.

Summary of the Study

This study was designed to discover if interlocutors' nativeness influences how L2 English speakers perceive their own speech production and how they actually speak. Sociocultural Theory and Social Cognitive Theory propose a triadic relationship between the environment, one's own cognition, and behavior. Furthermore, some studies have already verified the relationships between two of those components (e.g., Choi & Lee, 2016; Dornyei & Kormos, 2000; Mora & Valls Ferrer, 2012; Leonard & Shea, 2017; Piechurska-Kuciel, 2013; Robinson, 2005). My study built upon such studies and attempted to further explore the relationship among all three of those components.

Some research gaps that observed in the literature review demonstrate the necessity for this study. The first research gap is that current studies on L2 English speakers' perspective of NESs/NNESs are mostly situated in English Language Teaching (ELT) with a focus on teachers. The second research gap is that self-perception has not

been extensively studied as an independent construct yet. The third research gap is that no study has specifically examined how interlocutors' nativeness influences L2 English speakers' speech production. The last research gap is that existing studies do not fully explore the triadic reciprocal relationship between behavior, cognition, and environment.

Therefore, to address these research gaps, several research questions were proposed to guide the research design:

1. How do L2 English speakers understand the notion of native English speakers (NESs) and nonnative English speakers (NNESs)?
    1. How do they define NESs?
    2. Do they prefer to speak with NESs or NNES?
2. In what way and to what extent does the interlocutors' nativeness influence L2 speakers' self-perception of their own speech production?
3. In what way and to what extent does the interlocutors' nativeness influence L2 speakers' actual speech production?

Under the guidance of the above-mentioned research questions, I chose interviews and surveys to collect the data. The participants in this study were Chinese international students who had been in the U.S. for less than three years. A total of eight participants took part in the interviews. Their speech was recorded through semi-structured interviews, where two interviewers, one NES and one NNES, asked about participants' college life during the pandemic. A total of 39 participants completed the survey sharing their beliefs on the definition of NESs, their self-perceptions of speech complexity, accuracy, and fluency regarding interlocutor's nativeness, and experiences of interacting

with NESs/NNESs. Statistical analysis and contextual analysis were then carried out to answer the research questions.

The research findings first showed an enlightening image of how L2 English speakers defined NESs/NNESs and their experiences interacting with NESs and NNESs. It is not surprising that L2 English speakers' definitions of NESs and NNESs are similar to previous studies. Childhood acquisition, intuitions about grammar, discourse, and pragmatic control were critical elements defining NESs. In addition, culture mastery and connection with the local community were also important factors in defining NESs. In addition, most L2 English speakers in this study preferred to interact with NESs due to the positive features associated with NESs. However, in real life, it seems that they did not interact with NESs that much as desired. Some possible reasons are, but are not limited to, students' target language proficiency, knowledge and attitude towards the target community, interpersonal skills, and availability of NESs in L2 English speakers' surroundings.

More L2 English speakers in this study tended to think interlocutors' nativeness influenced their self-perception of their own speech production. However, each dimension of speech production was influenced by interlocutors' nativeness in different ways. The findings showed that two variables, NES/NNES preference and gender, impacted one's perception of speech fluency. These research findings also present some interesting perspectives. For instance, participants' self-perception of their own speech complexity and accuracy may derive from their impressions of NESs and NNESs, and their self-perception of fluency may be influenced by experiencing positive emotions while interacting with NNESs. Also, participants' self-perceptions for the different

dimensions of speech production were not all strongly correlated with each other. This can be explained by two reasons. First, L2 English speakers may understand these dimensions as entirely separate concepts. Second, L2 English speakers' impressions of NESs/NNESs influenced their affective reactions during the interaction.

Participants' actual speech production showed that their speech production changed depending on their interlocutors. More specifically, participants in this study produced less complicated, but more accurate and fluent, speech when talking with the NES interviewer than with the NNES interviewer. However, we should be aware that, statistically, interlocutors' nativeness did not significantly influence L2 speakers' actual speech production. I speculated that the Trade-off Hypothesis contributes to participants' speech production change. In addition, two possible reasons can explain why L2 English speakers' self-perception was not consistent with their actual speech production:

1. Affective factors may influence one's speech complexity, accuracy, and fluency to different degrees.
2. Speakers align their linguistic representations in the conversation.

Limitations of the Study

This research utilized both surveys and interviews to explore the relationship between interlocutors' nativeness, L2 English speakers' self-perception of their speech production, and their actual speech production. Several limitations may have potentially influenced the generalizability and reliability of this study.

The first limitation is that this research had a relatively small sample size. The current study is an exploratory study aiming to discover and identify the issue. Only thirty-nine participants were included in the survey, and eight participants were

interviewed. From a statistical perspective, a small sample size was a major cause for a Type II error (Columb & Atkinson, 2016). Therefore, this research design may not fully capture L2 English speakers' self-perceptions and their speech production.

The second limitation is that the participants for interviews and the participants for questionnaires were not identical. Since the participants for interviews and the participants for questionnaires were not identical, the speech production data might not fully represent the population that participated in the survey. So, this may also have contributed to the gap between L2 English speakers' actual speech production in the interview and their self-perception expressed in the survey responses.

The third limitation concerns the interview platform. Due to the interviews being conducted on Zoom, and although the other interviewers remained muted and turned off the camera during the interview, the view setting showed all the members in the Zoom meeting. The participants were notified when the other interviewer first joined the meeting, which was pointed out by one of the participants. Knowing that another person joined the meeting room and listened to the conversation may have interfered with participants' speech production at that moment.

The fourth limitation is that the phrasing in the survey was a bit ambiguous. For example, one open-ended question asked why participants preferred to talk to NESs or NNESs. The intended meaning of this question was to explore their experiences using English to communicate with people from different linguistic backgrounds. However, at least one participant considered speaking with Chinese speakers in Chinese a part of this scenario. This interpretation may influence their judgment on their preferences for NES or NNES and their self-perceptions of speech production.

The last limitation is that this study targeted Chinese international students. Therefore, the findings and discussions in this study may not represent the entirety of L2 English speakers with different linguistic and cultural backgrounds. As mentioned earlier, studies have shown that culture played a role in speakers' behaviors (Schwarzer & Born, 1977). Therefore, to avoid the influence of culture, I excluded participants from other cultures, which was the most practical and feasible solution at that stage. In this case, whether or not the findings from this study also apply to L2 English speakers from other linguistic and cultural background need is open to question. However, I have to admit that what L2 English speakers from Chinese cultures believe may be different from L2 English speakers from western cultures, which needs further investigation.

If we address these limitations, future studies could bring further understanding of the same topic. First, more participants should be recruited in the future, which will decrease Type II errors and allows for a more robust statistical analysis. Second, a study where the same participants complete both the survey and interviews would be useful because it would allow the researcher to make direct comparison between the self-perception and their actual speech production. Third, a study that utilized another interview method, such as in-person interviews, would further develop and complement the findings from the current study. In that case, the interview between the participants and the interviewer could be more intimate. That being said, the other interviewer would also not show up in the middle of the interview, allowing the participants to focus on their conversation. Moreover, participants would not be interrupted by the technology notifications. Fourth, to avoid language ambiguity on the questionnaire or interviews, we should pilot the instruments with more people similar to the participants. Last but not

least, I hope to recruit L2 English speakers from diverse linguistic backgrounds to capture a more holistic view of L2 English speakers' self-perception and speech production. Overall, these efforts would contribute to a more robust research design and collect more solid data.

Implications for Theory, Future Research, and Pedagogy

Although the data collected from this study does not show a strong correlation between interlocutors' nativeness, L2 English speakers' self-perception, and their actual speech production, the research design and the findings generate some substantial discussions. These discussions inspire scholars and educators to advance research, as well as find effective pedagogies for foreign language teaching.

Implications for theory. Drawing from sociocultural theory and social cognitive theory, this study preliminarily reveals how the environmental factor of the interlocutors' nativeness influenced L2 English speakers' cognition, or self-perception, and their behavior, or speech production, to some extent.

Cognition, environmental factors, and behavior are, however, such general components that contain many variables. The variables in each component offset each other's influence on the other components. For example, *cognition* contains not only one's self-perception, but also one's reflections on their past experiences. In this study, participants' past experiences interacting with NESs and NNESs may influence how they think about their speech production and how they actually speak. Thus, this variable potentially impacted the relationship between self-perception and speech production, which is what this study is specifically looking at. Therefore, this study has added to the

theory that the triadic relationship of environment, cognition, and behavior is extremely dynamic and may not be that strong due to the interference of different variables.

Directions for future research. This study generates some inspiring discussions that have meaningful research implications that could advance the studies in NESs/NNESs, self-perception, and speech production.

First, it was surprising to find that many participants associated being NESs with knowing the target language culture and interacting with the local community. These two attributes also elicited the participants' preferences for NESs. However, these two aspects have barely been discussed in existing studies on the definition of NESs/NNESs. Therefore, more studies could be conducted in future to answer the following two questions: How are culture, and the interaction with the local community, associated with the definition of NESs? Can these two aspects indicate speakers' nativeness?

In addition, this study opened the door for the studies of *self-perception*. The current study generated a more systematic definition of self-perception and applied it in survey design, showing that participants' preferences for NESs or NNESs and gender were related to their self-perception of speech fluency. Since no study in self-perception has ever verified the relationship between gender, preference for NESs or NNESs, and one's self-perception, the current study opens a door for future scholars to explore the interaction of individual factors and one's self-perception.

Another topic related to self-perception that should be advanced are the attributes of self-perception. Studies in the other self-related concepts have explored the stability, structure, and dimensionality of those concepts. However, no studies have ever investigated those attributes of self-perception. Current research speculates that self-

perception is a dynamic notion that includes multiple layers. Therefore, it is meaningful to create a framework to examine the stability, structure, and dimensions of self-perception in the future. Longitudinal and qualitative studies can capture more dynamic details of individuals' self-perception in different dimensions. We could then see a more complex and holistic development of one's self-perception.

The relationship between individuals' differences and their self-perception is also quite obscure. For example, the current study indicated that one's gender and preferences for NESs/NNESs somewhat influenced one's self-perception of speech fluency. However, there are limited studies exploring this topic. Quantitative studies with a bigger sample size are needed to statistically analyze the correlation between individuals' differences and their self-perception in the future. In the meantime, some qualitative studies are also helpful in revealing how different individual factors interact with self-perception.

The findings also provide some meaningful insights into the studies of speech production. This study reveals that the same factor, the interlocutor's nativeness, may impact one's speech complexity, accuracy, and fluency differently. Therefore, we could organize more complex research involving the varieties of speaking tasks, individual differences, and interlocutors' nativeness to explore how those variables interact to influence one's speech production. Similarly, how, and to what extent, one's affective reasons influences their speech complexity, accuracy, and fluency should be further investigated in the future. We can approach one's speech production from the perspective of intra-individual variability (Dewaele & MacIntyre, 2014; Butler, 2017; Yashima et al.,

2018). Since individuals' behaviors vary, looking at how each person speaks would help to examine the role of the variables in a dynamic fashion.

Identifying the area of further research as discussed above, the study also encourages us, scholars, to explore ways to connect our scholarly insights with laypeople's real life. This study shows that, although scholars have been problematizing the concept of NESs/NNESs and advocating for pedagogical change that would promote a more realistic and nuanced view of various English users, such perspectives have not made any differences on what L2 English speakers believe in and how they behave. This is not unique to this study. In fact, some scholars have expressed concerns about such disconnect recently. For example, Kubota (2021) stated that scholars' orientation had been detached from the general public's daily life. Matsuda (2021) also reminded us that some of the scholarship had moved far from the real-life situation and was less grounded in the real context. This detachment will eventually make academic work less relevant to laypeople, causing the work less impactful than it could be. Therefore, I argue that scholars should not let this disconnect grow. Instead, we should think about what we can do to bridge the gap and make our further discussion more helpful. To start, the bottom-up approach should be used more in our further research (Holliday, 2021; Kubota, 2021). Rather than talking among ourselves about the knowledge and perspectives already accumulated, we should approach the problems and topics by finding more small instances in real-life situations. Moreover, in addition to exploring the "what," scholars should never stop asking "why." For example, where do L2 English speakers' behaviors come from? Why do L2 English speakers have this kind of belief? Both qualitative and

quantitative approaches are needed to explore these questions further. After understanding society's needs and concerns, we can start to make a difference.

Pedagogical implications. This study shows that L2 English speakers held a rather positive impression toward NESs compared with their impressions towards NNESs, which may have influenced how they perceived their speech and how they actually spoke to some extent. The reality, however, is that given its status as a global language, L2 English speakers will eventually encounter speakers from various linguistic backgrounds. Therefore, it is necessary to help L2 English speakers build a healthy attitude towards NESs and NNESs and develop the ability to speak proficiently, regardless of interlocutors' nativeness. Based on this idea, some pedagogical implications are proposed here.

First, to help L2 English speakers build a healthy attitude towards NESs and NNESs, teachers and educators should expose students to more realistic and dynamic intercultural communication. Some of L2 English speakers' positive impressions towards NESs and negative attitudes towards NNES accents may come from current teaching practices, which rely exclusively on native varieties of English (Galloway & Rose, 2015; Si, 2019) and may pressure students to be "native-like." This may cause L2 English speakers to devalue other English varieties and take native varieties of English as the golden standard. To break this misconception and reveal the real-life communication environment to students, teachers and educators may discuss English diversity and how English coexists with other languages in class. For example, some discussions on histories, sociolinguistic use, and different descriptions of English varieties can be provided in the classroom. Some videos and audio materials can be used to supplement

this discussion. Furthermore, teachers can introduce how English dynamically merges with other languages in different contexts. Through such discussions, students can develop the understanding that English often absorbs other linguistic features due to speakers' needs and the social contexts where speakers are. Thus, the native varieties of English that L2 English speakers learn may not be the standard or may be fluid according to context. In addition, teachers can incorporate ELF corpora into teaching materials design, which can help to prepare learners for intercultural communication (Seidlhofer, 2011). Overall, the ultimate goal of addressing English diversity in the classroom is to have students realize that many English varieties spoken by so-called NNESs are, in fact, legitimate. Moreover, by being exposed to different English varieties, students should know that native varieties of English are not superior to one another and all English varieties exist for specific reasons and carry significant values.

Second, to empower L2 English speakers when they interact with speakers from diverse linguistic backgrounds, teachers can also include a discussion of accents in the classroom. Some participants in this study specifically indicated that they did not prefer to talk with NNESs due to their accents. They had negative impressions of accents and were uncomfortable with different accents. This may come from the English education they have received. English education in many countries still has a strong orientation towards native Englishes that include British English and American English (Kaur, 2014; Qian, 2016; Wang, 2018), thus positioning native English as the ultimate goal. Therefore, it is not surprising to note that L2 English speakers tend to have a negative attitude towards accents that deviate from the standard accent they are taught. Rather than teaching pronunciation by following the rules of native speakers, teachers should first

focus on the relationship between accents, intelligibility, and comprehensibility (Derwing & Munro, 2009). Discussions on basic phonology and phonetics knowledge may be helpful. For instance, some segmental contrasts can be emphasized in teaching (e.g., /s/ for /ʃ/) if they cause problems in understanding. Furthermore, teachers are encouraged to recognize students' different accents rather than advocating for speaking like a native English speaker. This will not only build up students' self-confidence, but also enable L2 English speakers to be more tolerant and flexible with accents.

The findings from this study also encourage teachers to strategically involve NESs and NNESs in a language class to facilitate L2 English speakers' development. Although this study did not present a significant influence of interlocutors' nativeness on participants' overall speech production, the research findings did show that participants spoke more fluently while interacting with NESs than with NNESs. Also, they generated more complicated speech when interacting with the NNESs than with the NES. Therefore, even though NESs/NNESs are still problematic terms at this stage, teachers can evaluate the goal of the activities, thus involving different speakers in instruction strategically to make teaching more effective. To be more specific, if the activity aims to develop students' speaking complexity or practice using complicated sentence structures in speaking, teachers could encourage students to organize conversations with their nonnative peers. By doing that, students are more likely to generate more complicated speech and apply what they have learned into practice. If teachers want to develop students' speaking fluency, native speakers of some English varieties come into play. For example, teachers could invite some NESs to the classroom and create opportunities for students to talk with them. Or teachers could require students to talk with NESs after

class as an assignment. In this way, students tend to align their speech with NESs, thus developing their speaking fluency.

Final Conclusion

As an L2 English speaker, I often question myself and observe other L2 English speakers, trying to detect how other speakers' nativeness influences how we think and behave. This curiosity drives me to conduct this exploratory study to find out if my reflection and observation are really the case. The statistical analysis of the survey responses shows that, on average, participants perceived that there was no difference between their speech production with NESs and with NNES. However, if we take a closer look at the data, we can see that about two-thirds of the participants still believed that speakers' nativeness might have either positive or negative influence on their speech production. The speech data shows that L2 English speakers' speech complexity, accuracy, and fluency may change based on interlocutors' nativeness.

Looking at the findings generated from the research, particularly the way L2 English speakers seemed to conceptualize NESs and NNESs, I could not stop thinking why there was a gap between what scholars advocated for and what laypeople believed in. It seems that either the scholarly discussions did not fully reach the laypeople, or laypeople chose not to accept those discussions for some reasons. Therefore, if our goal is to make a real difference in people's life, we need more work in the future to explore where such a gap originates from and how to build a bridge between. As scholars in applied linguistics, we need to not only facilitate in depth discussions in academia, but also use our work to guide people to solve real-life problems. Apart from advancing the studies of NESs/NNESs, speech production, and self-perception, I hope this study will

raise awareness among scholars: we should reexamine our mindset and ways of researching in the future so that our work will be grounded in people's daily lives and create meaningful impact.

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APPENDIX A

INTERVIEW QUESTIONS

Part 1: Your college life (NNES)

- What's your major? Tell me a little bit about your major
- Why did you choose this major?
- What are the difficulties you had so far while studying this major?
    - How did you deal with them?
- What do you usually do during the free time?
    - If they answer with joining clubs and groups: what are they? Why do you join them?
    - If they answer with doing other activities: why do you choose these activities?
- Do you think the current college life meets the expectations you had before coming to the US? How?
- Overall, do you think if it's worth it to study in the US? Would you recommend it to parents or younger generations?

Part 2: Your life during the pandemic (NES)

- Are you in China or the US now?
    - China: why do you decide to go back to China?
    - US: Why do you decide to stay here
- How does your day look like now?
    - In the US: the school offers us the option to take either synchronous or asynchronous classes. Which one did you choose? Why? How does your day look like now?
    - In China: you are taking classes online, right? How does your day look like now?
- From your perspective, which one is better – online learning or learning in person?
- What are your strategies to manage the study during this pandemic?
- How has Covid-19 affected your life?
- What do you wish to do the most after the pandemic? Why?

[Insert text of appendix here. Do not repeat appendix title.]

APPENDIX B

SURVEY (ENGLISH)

Does “native/nonnative speakers” influence Chinese speakers of English beliefs in English-speaking Proficiency

Introduction: Hello! My name is Rong Ren, a Ph.D. student in Linguistics and Applied Linguistics at Arizona State University.

I would like to invite you to help me understand – how Chinese speakers of English interpret “native/nonnative speakers” and if this term influences their beliefs in English-speaking proficiency. There are no “right” or “wrong” answers in this questionnaire. All the information you put in this questionnaire is confidential, which will only be used for research.

Since I am interested in how you truly feel, please answer the questions sincerely. Thank you very much for your participation! If you have any questions, feel free to reach out to me: rren11@asu.edu

First, please answer the following questions so that we can ensure that you are qualified for the research.

1. Are you Chinese?
   A. Yes B. No
2. Are you over 18 years old?
   A. Yes B. No
3. How long have you been in the United States?
   A. Less than 3 years B. more than 3 years

- If students pick “B” for any of the questions above: Unfortunately, you do not meet the criteria to participate in the study. Thank you very much for your willingness to participate!
- If students pick “A” for all the questions: Please sign the following consent form if you would love to participate in this study.

Section 1: What are “native English speakers”?

In your definition of a native speaker of English, would you include the following characteristics? Please choose one for each row.

	Yes	No
A person who learns English since birth/early childhood.		
A person who holds citizenship of an English-speaking country.		
A person who is born in an English-speaking country.		
A person who looks like a native English speaker from appearance.		
A person who has English name (e.g., Sarah, Max).		

A person whose English is without foreign accent.		
A person who can only speak English.		
A person whose English is not influenced by another language they speak.		
A person who can read and write in English in a variety of contexts.		
A person who can manage to use grammatical patterns without mistakes, regardless of various factors such as stress and anxiety.		
A person who can use idiomatic expressions in a variety of contexts.		
A person speaks the standard language as opposed to a dialect.		
A person who can use the language completely in a variety of subjects and situations (e.g., education, politics, science, parenting, etc.).		
A person receives all the education in English.		
A person who can act appropriately in situations where English is widely spoken.		
A person who is socially connected with the English-speaking community.		
A person who is familiar with English-speaking culture and tradition.		

Section 2: Do you speak differently when you talk with different types of people?

Please read the following statements carefully and make an accurate evaluation of your experiences of talking with nonnative English speakers and native English speakers. Then circle the following responses that best fit your perception.

Statement	Strongly Disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
When I speak English with nonnative speakers, I use a larger vocabulary compared with when I speak with native speakers.					
Compared with speaking to native speakers, I try to use different forms of the same word when speaking English with nonnative speakers (e.g., I use “work”, “working”, “worked”, and “works” accordingly in the sentence).					

When I speak English with nonnative English speakers, I feel more satisfied with my word choice compared with when I speak with native English speakers.					
When I speak English with nonnative speakers, using more complicated and longer sentences is easier for me compared with when I speak English with native speakers.					
When I speak English with native speakers, I feel more nervous compared with speaking with nonnative speakers.					
When I speak English with nonnative speakers, I make fewer grammatical errors compared with speaking with native speakers.					
When I speak English with the nonnative speakers, I use more accurate words to express myself compared with speaking with native speakers.					
When I speak English with nonnative speakers, I worry less about making mistakes compared with when I speak with native speakers.					
Compared with talking with native speakers, I try to use more accurate expressions when I talk with nonnative speakers.					
When I speak English with nonnative speakers, I speak English more fluently compared					

with speaking with native speakers.					
When I talk with native speakers in English, I have to pause or repeat more compared with talking with nonnative speakers.					
When I speak English with nonnative speakers, I express more ideas in the conversation compared with talking to native speakers.					
When I talk with native English speakers, I feel less engaged in the conversation compared with when I talk with nonnative speakers.					

Section 3: Your experience with "native English speakers" and "nonnative English speakers"

Please answer the following questions according to your own experiences.

1. The people you interact with in English are mostly _____.
   A. Native English speakers B. Nonnative English speakers
   C. About half of them are native English speakers, half are nonnative English speakers
2. For what purposes do you usually use English with "native English speakers"? (Pick any that applies to you)
   A. Study (e.g., group discussion, presentation, etc.)
   B. Work
   D. Social activities (e.g., play games, party, make friends, etc.)
   E. Daily chores (e.g., haircut, grocery shopping, etc.)
   F. Other: _____
3. For what purposes do you usually speak English with "nonnative English speakers"? (Pick any that applies to you)
   A. Study (e.g., group discussion, presentation, etc.)
   B. Work
   D. Social activities (e.g., play games, party, make friends, etc.)
   E. Daily chores (e.g., haircut, grocery shopping, etc.)
   F. Other: _____

4. If you can choose whom you can talk to
    a. which type do you prefer – native or nonnative English speakers?
    b. Why do you choose the type you indicate?
5. Are there anything else that you want to tell me about your experiences with native and non-native speakers?

Section 4: Who are you?

Based on your personal experiences, please answer the following questions by circling the answer

1. Your gender
   A. Male B. Female C. Non-binary D. Prefer not to say
2. How old are you?
   A. 18 – 24 B. 25 – 34 C. 35+ D. Prefer not to say
3. How long have you learned English?
   A. 0 – 2 years B. 3 – 7 years C. 8 – 12 years D. More than 12 years
4. What is your recent TOEFL/IELTS score?
   A. TOEFL below 60/ IELTS below 6
   B. TOEFL 60 – 78/ IELTS 6
   C. TOEFL 79 – 93/ IELTS 6.5
   D. TOEFL above 93/ IELTS above 6.5
5. Your email: _____

Thank you for your participation!

APPENDIX C

SURVEY (CHINESE)

“native/nonnative speakers”是否会影响

说英语的中国人对自己英语口语的理解

您好，我是任蓉，亚利桑那州立大学语言学专业在读博士。

本调查问卷是关于说英语的中国人如何理解“native/nonnative English speakers”这个概念，以及这个概念如何影响说英语的中国人对自己英语口语水平的判断。您的回答无所谓对错，真实反映您的想法即可。我们将对您的回答进行严格保密。

非常感谢您的参与和支持。如有任何问题，请通过邮箱联系我： rren11@asu.edu

首先，请回答以下的问题，以判断你是否是我的目标研究对象：

4. 你是中国人吗?

   B. 是　　B. 否

5. 你超过18岁了吗?

   B. 是　　B. 否

6. 你来美国多久了?

   B. 未满三年　　B. 超过三年

- 如果任意题选B: 对不起，你不在我的研究范围内，但还是非常感谢你的热心参与!
- 如果三道题全部选A: 非常感谢你的回答！如果你愿意继续参与这个研究，请在下一页的同意书上打勾。然后即可开始填写本调查问卷。

第一部分：什么是“native English speaker”和“nonnative English speaker”?

如果由你来定义“native English speaker”，你会包含以下的哪些叙述？请在“是”或“否”栏打钩。“是”表示包含，“否”表示不包含。

Native English speaker _____	是	否
自出生/幼年开始学习英语		
拥有官方语言是英语的国家的国籍		

出生于官方语言是英语的国家		
外貌像英语为母语的人		
有英文名字（比如 Sarah, Max）		
说英语时没有外国口音		
英语是其唯一语言		
在使用英语时不会被其他掌握的语言所干扰		
可以在各种情境下用英语读写		
使用英语时不会因某些原因（比如压力或焦虑）产生语法错误		
可以在各种情境下准确熟练地使用习语		
说标准英语而不是方言		
可以随时随地自如地用英语讨论各种话题（比如教育，政治，科学，育儿等等）		
用英语接受所有教育		
在英语环境中表现得当，行为符合英语社交习惯		
与周围英语社区保持频繁接触和联系		
极为熟悉英语文化和传统		

第二部分：与不同的人交谈的时候，你的说话方式是否有变化?

请仔细阅读以下的叙述，回忆你与native English speaker和nonnative English speaker交谈的经历，并选择最符合你看法的选项。

No	叙述	强烈不同意 1	不同意 2	中立 3	同意 4	强烈同意 5
1	相比与native English speaker交流，我在与nonnative English speaker交流时会更自如地使用更多不同的词汇。					

2	相比与native English speaker交流，我在和nonnative English speaker交流时会更能够根据具体语境和语法使用单词的不同形式。（比如，我会根据情况在句子中选择使用”work”, “working”, “worked”，或者“works”）					
3	相比与native English speaker交流，我与nonnative English speaker聊天时对自己的用词更加不满意。					
4	相比与native English speaker交流，我在和nonnative English speaker交流时能够说更长更复杂的句子。					
5	相比与native English speaker交流，我在和nonnative English speaker交流时更加紧张。					
6	相比与native English speaker交流，我在和nonnative English speaker交流时犯的语法错误更多。					
7	相比与native English speaker交流，我和nonnative English speaker聊天时用词更加精确。					
8	相比与native English speaker交流，我和nonnative English speaker聊天时更担心犯错。					

9	相比与native English speaker交流，我和nonnative English speaker聊天时的表达更加准确清晰。					
10	相比与native English speaker交流，我和nonnative English speaker聊天时的口语更加流利。					
11	相比与native English speaker交流，我和nonnative English speaker聊天时的停顿和重复更多。					
12	相比与native English speaker交流，我和nonnative English speaker聊天时会更加活跃地去表达自己的观点。					
13	相比与native English speaker交流，我和nonnative English speaker聊天时感觉更容易投入对话。					

第三部分: 你与"native English speakers" 和 "nonnative English speakers" 交流的经历

请根据自己的实际情况回答以下的问题。

6. 你用英语交流的对象大部分是_____.

   A. Native English speakers　　B. Nonnative English speakers

   C. 约一半为native English speakers, 另一半为nonnative English speakers

7. 你一般和native English speaker用英文交流的目的是什么？（可多选）

   A. 学习（比如：小组讨论，课上发言等等）

   B. 工作

   C. 社交活动（比如：玩游戏，和朋友聊天等等）

   D. 日常必需活动（比如：剪发，超市购物，与客服交流等等）

   E. 其他: _____

8. 你一般和nonnative English speaker用英文交流的目的是什么？（可多选）)

   A. 学习（比如：小组讨论，课内发言等等）

   B. 工作

   C. 社交活动（比如：玩游戏，和朋友聊天等等）

   D. 日常必需活动（比如，剪发，超市购物等等）

   E. 其他: _____

9. 如果你能选择交流的对象：

   a. 你会选择native English speaker还是nonnative speaker?

   b. 你为什么会做出以上的选择?

10. 你还有什么关于和native/nonnative English speaker交流的经历想和我分享的吗?

第四部分：个人情况

根据您的个人情况，请回答下列问题（请在选定处打勾）

6. 您的性别

   B. 男　　B. 女　　C. 不明　　D. 不愿透露

7. 您的年龄?

   A. 18 – 24　　B. 25 – 34　　C. 35+　　D. 不愿透露

8. 您学习英语多久了?

   B. 0 – 2 年　　B. 3 – 7 年　　C. 8 – 12 年　　D. 12年以上

9. 您最近一次的托福/雅思成绩是多少?

   E. 托福60以下/雅思6分以下

   F. 托福60 – 78/雅思6 分

   G. 托福79 – 83/雅思 6.5分

   H. 托福93分以上/雅思6.5分以上

10. 您的邮箱: _____

本问卷到此结束。数据收集完毕后，我们将抽取4名参与者，奖品为15美金的亚马逊礼品卡。非常感谢您的参与和支持!

APPENDIX D

SAMPLE TRANSCRIPT OF AS-UNITS AND CLAUSES

|I was majoring in business at the beginning of the college. 1 clause
|And then I actually changed my major to supply chain management. 1 clause
|when I first got into the college :: I did not really think much about my major 2 clauses
|so I got into college as a business major. 1 clause
|And then later on I figured out :: I had better find something :: that I am really interested in, :: so I switched my major to supply chain management. 4 clauses
|supply chain management 1 clause
|from what I know :: it is about sustainable 2 clauses
|you move stuff around 1 clause
|it is a good major to study during the pandemic 1 clause
|in the past year, many governments are facing a lot of problems :: because due to the covid, people are really hard to :: get stuff around 3 clauses
|and supply chain is a study of :: how to manage this, like transfers. 2 clauses
|And I just figured :: it is kind of interesting. 2 clauses
|I am a freshman 1 clause
|I took CIS one oh five 1 clause
|it is like computer informational system 1 clause
|I think :: it is a required course for business majors, all business majors 2 clauses
|so it teaches you :: how to use excel and sql 2 clauses
|and right now I am taking macroeconomics :: I believe 2 clauses
|so it is kind of related to my major. 1 clause
|So for my macroeconomics, my teacher goes really fast in class 1 clause

20 AS-units, 32 clauses

APPENDIX E

SAMPLE TRANSCRIPT OF SPEECH ACCURACY

1. |My major is computer science.
2. |I am in my senior year :: coz I complete this degree pretty fast
3. |so I am not sure :: which year I am in, :: but I am gonna graduate in this December.
4. |OK, so my major is computer science, bachelor's degree,
5. |and I am in my last year :: completing this program.
6. |So I graduate in this December (E)
7. |and I arrived in the US in twenty eighteen, August.
8. |So it is about two year and a half now.
9. |I am transfer student (E), :: but I did not use much of the credit from the previous institute (E).
10. |OK, so most of the credits is finished here (E)
11. |So this program is like the general computer science, :: but I am looking to :: get into the four plus one program
12. |so that one I am looking to the biomedical informatics track (E).
13. |so on the computer science, there is a several track like cyber security, big data, and this biomedical informatics part (E)
14. |so the coursework is general, :: but my personal interest is bioinformatics.
15. |Computer science for me is like a tool, like a really complex tool, really powerful
16. |so I tried to :: learn the programming skill and those theories,
17. |and most of them are technologies, not science (E), :: so I tried to :: learn those technology and that apply them to biomedical informatics (E)
18. |so I have been participating in those research.
19. |So doing about informatics research is just programming (E).
20. |So we use lots of programming tools and writing codes to (E):: analyze those gene and those data :: directed from patients (E).

20 AS-units, 33 clauses, 11 clauses with errors

APPENDIX F

SAMPLE TRANSCRIPT OF SPEECH WITH DYSFLUENCIES

1. |Before the May of the two thousand and twenty, my major is kinesiology.
2. |After that, I transferred to Taiwan, so my major is English major now.
3. |Freshman year.
4. |Coz {my} my parents send me back to Taiwan {in like}, put me in {like} a Christ's college
5. |so they only have three major in this college.
6. |The English major, communication major and music major
7. |so I choose the English major.
8. |{Yeah} I can hear you.
9. |Can you hear me?
10. |I can hear you.
11. |Shoot Internet.
12. |Okay cool.
13. |So I am not enjoying my major now so it is really frustrated.
14. |{Yeah} I do not mind it because I love sports, but I am not get that the lecture or something
15. |so {when I choose} in {English English} English major, {we} we always learn from British literature and America literature or America history, but it is not what I am good at.
16. |{Yeah} it is more about literature.
17. |Coz in the freshman year {we} {we}, most of our classes is more like literature
18. |in the sophomore year, we will learn some translation.
19. |I may transfer to another school coz this school is not fit for me
20. |coz I love sports, so I may want to go to a school,

20 AS-units, dysfluencies are in {}

APPENDIX G

SAMPLE TRANSCRIPT OF SPEECH WITHOUT DYSFLUENCIES

1. |Before the May of the two thousand and twenty, my major is kinesiology.
2. |After that, I transferred to Taiwan, so my major is English major now.
3. |Freshman year.
4. |Coz my parents send me back to Taiwan, put me in a Christ's college
5. |so they only have three major in this college.
6. |The English major, communication major and music major
7. |so I choose the English major.
8. |I can hear you.
9. |Can you hear me?
10. |I can hear you.
11. |Shoot Internet.
12. |Okay cool.
13. |So I am not enjoying my major now so it is really frustrated.
14. |I do not mind it because I love sports, but I am not get that the lecture or something
15. |so in English major, we always learn from British literature and America literature or America history, but it is not what I am good at.
16. |it is more about literature.
17. |Coz in the freshman year, most of our classes is more like literature
18. |in the sophomore year, we will learn some translation.
19. |I may transfer to another school coz this school is not fit for me
20. |coz I love sports, so I may want to go to a school,

20 AS-units

APPENDIX H

INTERVIEW CONSENT FORM

Your college life in the U.S. during Covid-19

I am a graduate student under the direction of Professor Aya Matsuda in the Department of English at Arizona State University. I am conducting a research study to understand Chinese international students' US college experiences and how Covid-19 influences their lives.

I am inviting your participation. The total participation time is estimated to be 40 min, including compensating the participants and an interview. There will be two interviewers, one interviewer will first ask you some questions about your college life in the US. After that, the other interviewer will ask you questions about your current life during pandemic.

Your participation in this study is voluntary. You have the right not to answer any question, and to stop participation at any time. At the beginning of the interview, your email will be collected so that you will receive an Amazon gift card (10 USD) as compensation for participating in the study. You must be 18 or older to participate in the study.

There are no foreseeable risks in the interview other than associated with participants' minimal or transitory feelings discussing about their own life events. Discomfort may be that of being videotaped. We cannot promise any benefits to you or others from your taking part in this research. However, possible benefits include knowledge that might help you better understand your college life.

The audio recordings and transcripts of the interview, the consent (no signature required), and participants' email addresses will be stored in ASU cloud storage (affiliated with the OneDrive). Although Zoom will also generate video recordings, they will not be stored by the investigators and will be deleted by Zoom after 30 days. Participants' email addresses will be deleted after the compensation is completed. The rest of the data will be stored till May 2024. The investigator and the principal investigator will have access to the data. To secure your personal information, please pick a pseudonym for yourself, so that your name will not be tied with the data. Your pseudonym will be written on each of the data form. The results of this study may be used in reports, presentations, or publications but your name will not be used. Results will only be shared in the aggregate form.

I would like to record this interview via Zoom. The interview will not be recorded without your permission. Please let me know if you do <u>not</u> want the interview to be recorded; you also can change your mind after the interview starts, just let me know.

If you have any questions concerning the research study, please contact the research team at:

Aya Matsuda: aya.matsuda@asu.edu

Rong Ren: rren11@asu.edu

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board, through the ASU Office of Research Integrity and Assurance, at (480) 965-6788.

Participating in the survey constitutes the consent. By checking the box below, you are agreeing to be part of the study.

☐ I consent

Date _____ 158

APPENDIX I

IRB APPROVAL

On 11/30/2020 the ASU IRB reviewed the following protocol:

Type of Review: Initial Study	
Title:	"Do I speak 'better' English?": Investigating the relationship between interlocutor's nativeness, L2 English speaker's self-perception, and their actual speech production
Investigator:	Aya Matsuda
IRB ID:	STUDY00012976
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	• Consent_Form_Interview, Category: Consent Form; • Consent_Form_Survey, Category: Consent Form; • Interview_Questions, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions); • Protocol, Category: IRB Protocol; • Recruitment_Material_Interview, Category: Recruitment Materials; • Recruitment_Material_Survey, Category: Recruitment Materials; • Survey, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 11/30/2020.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

If any changes are made to the study, the IRB must be notified at research.integrity@asu.edu to determine if additional reviews/approvals are required. Changes may include but not limited to revisions to data collection, survey and/or interview questions, and vulnerable populations, etc.