Examining the effects of socio-economic status and language input on adolescent English learners' speech production outcomes

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ABSTRACT

Relatively little research has been devoted to examining the predictors of early foreign language learning outcomes despite the global trend of early foreign language instruction. The current study focused on two contextual predictors, learners' socio-economic status (SES) and input, both of which have been demonstrated to play a prominent role in first language development and second language (L2) development in an immersion context. The current study also investigated the relationship between SES, input and L2 learning outcomes and the mechanism through which SES influences L2 outcomes. Participants included 97 tenth and eleventh grade students from Taipei, Taiwan. All participants completed a story-telling task and a survey providing information about their language input in middle and high school. Their parents also filled out a survey providing information about their family profile and learner participants' input in preschool/kindergarten and elementary school. Results from the study showed that both SES and input play a role in adolescent learners' speech production outcomes, but the effects differed by speech dimensions (i.e., accuracy, fluency, and complexity). Although both SES and input predicted L2 speech production outcomes, the two variables are closely related to each other, and the effect of SES is indirect and mediated by input.

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1. Introduction

There is a rapidly growing trend worldwide to implement early foreign language (FL) education programs. The majority of these programs target English as a foreign language (EFL) because English has been associated with economic and political power (Enever, 2012; Huang, 2016; Nunan, 2003). Despite the global trend of early FL instruction, relatively little research has been devoted to examining the predictors of early FL learning outcomes. The current study focuses on two contextual predictors, learners' socio-economic status (SES) and language input and environment, both of which have been demonstrated to play a prominent role in first language (L1) and second language (L2) development in an immersion context.

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Although SES has been shown to be a robust predictor of L1 and L2 development, it remains unclear what role it plays in L2 development in a FL instructional setting. Research on L1 and L2 development has also revealed that SES' effect on language outcomes is indirect and mediated by other variables (e.g., Hoff, 2003; Paradis, 2011; Sun, Steinkrauss, Tendeiro, & De Bot, 2015). However, to the best of our knowledge, no empirical studies have attempted to verify whether the same patterns also hold in a FL instructional context. On the other hand, research has demonstrated the critical influence of input on L1 and L2 development as well as a strong relationship between input and SES (Chen, 2013; Feng, 2012). However, no research has directly investigated the relationship between SES, input and L2 learning outcomes and the mechanism through which SES influences L2 outcomes in FL learning contexts.

The current study aims to address these gaps in the literature using a sample of Mandarin-speaking adolescent EFL learners in Taiwan. All participants are from Mandarin L1 backgrounds who learned English as a FL at varying ages and with different amounts of EFL input. Regression and mediation analyses are conducted to clarify the relationships among SES, input and EFL speech production outcomes.

2. Literature review

2.1. SES and second language acquisition

According to Bronfenbrenner's (1979) human ecology theory, human development is influenced by five different types of environment in a hierarchical structure. As a factor at one of the five levels (i.e., macrosystem), SES′ effect on human development is indirect and mediated by other proximal factors (Bradley & Corwyn, 2002). SES has been operationalized in the literature as parental income, parental educational level and parental occupation (e.g., Gottfried, 1985; Mueller & Parcel, 1981), with parental education level having been the strongest indicator. Although the importance of SES in language and literacy development is well-established in previous research (e.g., McLoyd, 1998; for a review, see; Hoff, 2006), most studies have focused on L1 rather than L2 development (Liu, Chung, & McBride, 2016). SES has been found to correlate with the acquisition and growth of various language domains in L1, such as vocabulary (Hoff, 2003; Paradis, 2009; Rowe, 2008), syntax (Eigsti & Cicchetti, 2004) and literacy skills (Duncan & Seymour, 2000; Netten, Luyten, Droop, & Verhoeven, 2014).

Compared to the literature of SES on L1 development, research on the topic of SES and L2 acquisition is relatively limited (Butler, 2013) with the majority examining English as a second language (ESL) outcomes in an immersion learning context (Carhill, Suárez-Orozco, & Páez, 2008; Cobo-Lewis, Eilers, Pearson, & Umbel, 2002; Golberg, Paradis, & Crago, 2008; Kieffer, 2008; Paradis, 2009, 2011; Scheele, Leseman, & Mayo, 2010). This body of research reveals that ESL students in North America are generally from a lower SES background compared to their non-ESL peers. Furthermore, compared to their peers from higher SES backgrounds, ESL students from lower SES background learned English at a slower pace and were at a higher risk for reading difficulties.

Turning now to research on the relationship between SES and L2 outcomes in a foreign language instructional context, only a few studies have investigated this topic (Alidoost, Paknejad, Toulabi, Mirchenari, & Nokarizi, 2014; Butler, 2013; Hamid, 2011; Sun, et al., 2015), and the results are mixed. For example, both Hamid (2011) and Butler (2013) found a positive effect of SES on EFL learners' English proficiency outcomes, while Sun et al. (2015) did not find SES to be a significant predictor. Hamid's (2011) study focused on secondary school EFL learners in rural Bangladesh. The author argued that children from higher SES backgrounds may have access to more input and resources, such as EFL books, media and private lessons, which contributed to their higher English proficiency. Butler (2013) also found a significant effect of SES on elementary and middle school EFL learners in China, though the effect was limited to speaking and pronunciation and not listening, reading or writing.

In contrast, Sun et al. (2015) examined the predictors of EFL outcomes among young EFL children in China but did not find a significant SES effect. The most important predictors of EFL learners' vocabulary and grammar outcomes were input quantity (total hours of school input) and input quality (number of English media at home). The discrepancies in the results may be attributed to the operationalization of the SES variable across studies, and the potential lack of variability in the SES variable in Sun et al. (2015). While Hamid (2011) and Butler (2013) both used parental income as a proxy of SES, Sun et al. (2015) operationalized SES as maternal education level. However, Sun et al. (2015) pointed out that, if they also considered parental occupations and income rather than maternal education alone as a measure of SES, most children in their study would be from middle class families. In other words, their sample could be fairly homogenous in terms of SES had they used a different measure of SES. The lack of variability in their SES measure could have influenced the results of the statistical tests (Goodwin & Leech, 2006). Furthermore, despite the variation in maternal education level, most of the mothers in their study have low oral English proficiency and were hesitant about using English with their children (Sun et al., 2015, p. 561). Therefore, the SES variable may not make a difference in the young EFL children's English outcomes.

2.2. Input and second language acquisition

In addition to SES, language input and environment (input hereafter) have also been shown to play a major role in L1 development (e.g., Huttenlocher, Haight, Bryk, Seltzer, & Lyons, 1991; Huttenlocher, Vasilyeva, Cymerman, & Levine, 2002) and L2 development in both immersion and FL instructional settings (Butler, 2013; Flege, 2007; Huang, 2014; Muñoz, 2014; Place & Hoff, 2011; Saito & Hanzawa, 2016; Sun et al., 2015; Unsworth, 2013). Although the operationalization of input varies