Research Article

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Relationships between formal and informal input, listening motivation, and listening proficiency among young EFL learners in Hong Kong

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Abstract: Increasing attention has recently been given to extramural exposure in foreign language (FL) learning. The study examined the relationships between input (extramural informal; instructional formal), listening motivation, and listening proficiency (test scores; self-rated scores) among 94 Grade-5 English-as-a-foreign-language learners in Hong Kong. Formal input was not found to be related to any of the variables investigated while informal input positively correlated with proficiency, but not motivation. Motivation was only found to be positively related to proficiency. Using hierarchical regression, informal exposure was found to significantly predict both test and self-rated listening scores. However, abundant informal (and also formal) target language input over a one-year period did not show a significant association with higher intrinsic motivation to listen to the language. Overall, these findings underscore the importance of capitalizing on extramural informal input for developing listening competence. Empirically and theoretically, the antecedents and effects of listening motivation warrant further investigation.

Keywords: language learning beyond the classroom; foreign language learning; input; listening motivation; listening proficiency; young learners

1 Introduction

Due to limited classroom instructional time and the advocacy of ideologies such as self-directed, technology-supported, and contextual learning, target language

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exposure beyond the walls of classrooms has gained wide currency in the field of foreign language (FL) learning. The significance of exposure lies in the fact that input is one of the indispensable elements for learning a language (Krashen 1985; Saito and Hanzawa 2018; Tsang 2022a, 2023a, 2023b). Without exposure to a language, it is not possible to master it. Also, the amount of input matters. Many scholars have stated the need for language learners to be exposed to a language abundantly (e.g. Renandya 2013; Scheffler et al. 2021; Tsang 2023c; Webb 2015). However, FL learning is very different from first and second language acquisition in that FL input does not come naturally, as the word *foreign* implies. A FL learner does not often have the opportunity to receive extensive exposure to the target FL beyond the classroom since the FL is unlikely to be used widely in the learner's environment. There is an exception to this: Some *deliberate* actions can be taken, by the learner themself or related persons (e.g. a young learner's parents), such that the learner receives regular FL input even in an otherwise primarily first language (L1) environment. Examples of these actions include watching videos, listening to songs, reading books, and playing games in the FL (e.g. Sylvén and Sundqvist 2012; Tsang 2023b; Tsang and Lam 2024; see also Reinders et al. 2022).

Different from the above, FL input in the classroom tends to be more formal (e.g. teacher instruction and explanations). Apart from FL lessons in mainstream education, formal exposure can also take place when a learner receives supplementary education (e.g. tutorial classes; this can be considered a type of extracurrcular activity, see Sylvén and Sundqvist 2017), which is common in many places globally (e.g. Bray and UNESCO 2009; Ireson and Rushforth 2011; Smyth 2008; Tsang et al. 2019). In contrast, informal FL learning (some examples given above) often takes place outside FL lessons. This type of learning is described using a range of expressions, such as "autonomous, extracurricular, extramural, informal, naturalistic, non-formal out-of-school, and self-directed language learning" (Sundqvist and Uztosun 2024: 1639). In light of the crucial importance of input for successful mastery of the language and the dearth of studies comparing informal and formal FL exposure, the current study set out to investigate the relationships between these two general kinds of exposure and listening motivation and proficiency. There are subcomponents under each type of exposure, such as whether informal language learning is incidental or intentional (see Sundqvist and Sylvén 2016), but these were beyond the scope of the current study, which homed in on the amount of formal and informal exposure.

Language learning motivation has received substantial attention for decades in the field of L2/FL education. The term motivation is derived from *movere*, a Latin word denoting to move; it can generally be defined as "a driving force or forces responsible for the initiation, persistence, direction, and vigour of goal-directed behaviour" (Colman 2015: n.p.). Reading and listening constitute the two channels through which learners receive linguistic input. Compared with reading, listening

has received much less attention in FL research and education; to date, very little is known especially about listening motivation, which is in stark contrast to reading motivation. Investigating sub-categories of motivation is important since learners naturally have different degrees of motivation to engage in different FL activities (e.g. reading a novel versus watching a TV program). In view of the above and given that listening is one of the four macro-language skills and one of two possible channels of linguistic input, the current study focused on listening-related variables. Although listening and reading are two fundamental channels of receiving input, it is not uncommon for learners to be exposed to multimodal input such as listening to characters speaking and reading captions simultaneously when watching movies. For a more thorough discussion of the different channels of multimodal input, see the multi-channel FL learning input framework in (Tsang in press).

In this article, it is important to distinguish between FL and second language (L2). Concisely, a FL can be understood as "[a] language not spoken in a learner's environment" (Alderson et al. 2016: 853) while a L2 denotes a language that one is exposed to "in various everyday contexts" (Gilquin 2023: 1). It is controversial whether English is a L2 (ESL) or a FL (EFL) in Hong Kong. Although both English and Chinese are official languages used by the Government and different industries in Hong Kong, the locals are seldom naturally exposed to much spoken English on a daily basis unlike ESL contexts such as India, Singapore, and South Africa (Gilquin 2023). Scholars have defined EFL as English where it is not the primary spoken language (McArthur et al. 2018). Such a distinction has been adopted by researchers who conducted studies with both ESL and EFL learners (e.g. Taguchi 2008). Therefore, EFL generally fits the context of Hong Kong better, especially when considering spoken English. It is important to underscore that most EFL learners in Hong Kong do not have abundant opportunities to listen to spoken English in natural extramural contexts unless, as discussed, they deliberately choose to do so.

2 Input and FL proficiency

As obvious as it seems, it is impossible to learn a language without sufficient exposure to it. Multiple cognitive, linguistic, and psycholinguistic theories related to L2/FL learning such as the noticing hypothesis, the output hypothesis, and usage-based theory, all highlight the crucial role input plays (Lichtman and VanPatten 2021). Not only is exposure per se essential, it is also important to be exposed to the target language *extensively* in order to master the language (Ellis 2002; Renandya 2013; Tsang 2023b, 2023c). Ellis (2002), in his review article, discusses how frequency of input relates to multiple aspects of language learning (e.g. lexis, morphosyntax,

phonology, and comprehension), concluding that "the knowledge underlying fluent use of language is … a huge collection of memories of previously experienced utterances' (pp. 166). All these mark the centrality of linguistic input in language learning.

Unlike first language acquisition, learners face greater difficulties in FL learning since exposure to the target language in school (e.g. FL lessons) and natural exposure outside class can be rather limited. Despite the somewhat small number of studies, clear evidence has been presented to demonstrate the significant positive relationship between input and L2/FL learning (e.g. De Wilde et al. 2020, 2022; Leona et al. 2021; Puimège and Peters 2019; Tsang 2023b; Tsang and Lam 2024; Tsang and Lee 2023; ;). For example, investigating 560 Dutch-speaking 10-to-12-year-old children in Belgium, Puimège and Peters (2019) found positive relationships between the participants' informal exposure to English through games, television, and songs and their performance on English vocabulary tests. Most noteworthy was that these participants had *not* received formal English instruction at that time; therefore, English was acquired through the various channels of informal exposure. Similar findings were reported by De Wilde et al. (2020), who conducted a study with 780 10-to-12-year-old English learners also in Belgium. Even before English was taught at school, the participants were found to have been able to acquire English informally such that a positive relationship was found between exposure to English through social media/games and overall English proficiency.

Very few relevant studies have been conducted in Asia where a large number of EFL learners reside. Tsang (2023b) conducted a mixed-methods study with Chinese-speaking EFL children in Hong Kong. Spoken input outside class (i.e. exposure through listening) was found to correlate more strongly with English proficiency than written input outside class did, although both modes of input significantly predicted proficiency. Unlike those in Puimège and Peters (2019), the children participants in Tsang (2023b) had received years of formal English instruction at school. Yet, large differences in proficiency levels were found between those receiving input outside class voluntarily versus those receiving little or no such input. The findings here corroborate those reported by De Wolf et al. (2017), who examined the oral fluency of 52 10-to-12-year-old English learners in the Netherlands. Using a picture description task and a questionnaire, they found that exposure to extramural English seemed to have a greater effect on oral fluency than early English instruction. This led to their conclusion that "early foreign language teaching will only be successful if out-of-school exposure complements EFL instruction in elementary schools" (348).

Much research is still needed in this burgeoning area before more definitive conclusions can be drawn regarding the nature of out-of-class input for FL proficiency development. For instance, whether *linguistic engagement*, that is "the extent

to which learners consciously focus on processing linguistic features and improving their language skills" (Arndt 2023: 1461), is essential for proficiency development when engaging with a FL outside class remains to be investigated. Nonetheless, the general patterns of findings reported in previous studies paint a rather clear picture of the usefulness of extramural input for language proficiency development.

3 Input, motivation, and FL listening

There are various motivational theories applied to the field of L2/FL education such as expectancy-value theory (Eccles-Parsons et al. 1983), the L2 motivational self system (Dörnyei 2009), and self-determination theory (Ryan and Deci 2017). Motivation is especially important in the context of FL learning since it does not naturally occur in learners' environments, and deliberate effects often have to be made to engage with the FL (Tsang 2022b). Both intuitively and theoretically, the relationship between input and motivation can go either direction. A higher level of motivation is likely to propel learners to engage in wider exposure to the target language, but the influence in the other direction (input → motivation) is less studied. Receiving a large amount of input constantly enables one to become familiar with the target language, which in turn potentially results in the development of positive emotions and perceptions towards the language. This is known in psychology as the *mere exposure effect*, defined succinctly as "the tendency for repeated exposure to a stimulus to be sufficient to enhance an observer's liking for it or attitude towards it" (Colman 2015: n.p.). According to Montoya et al. (2017), this effect has been substantiated in multiple empirical studies. Summarizing the literature, Montoya et al. (2017) state that processing an input fluently potentially leads to a positive affect due to (1) a decreased level of fear, (2) familiarity, and (3) one's belief in their competence in handling the stimuli. Such positive affect and self-efficacy (Bandura 1997), as illustrated in many motivation theories such as expectancy-value theory (Eccles-Parsons et al. 1983) and self-determination theory (Ryan and Deci 2017), are key ingredients of motivation in language learning.

As discussed, an all-important first (and ongoing) step to mastering a language is receiving abundant linguistic input of the target language, and for humans, this is mostly possible through listening and reading. Therefore, the motivation to listen to and read a target FL is one of the indispensable ingredients for mastering the language. However, listening motivation has largely been neglected (Lau 2017; Qiu and Xu 2023; Tsang 2022b) even though we are currently in an era where opportunities for receiving spoken target FLs are abundant thanks to technology and the Internet.

It is therefore important to investigate variables that are related to listening motivation.

The two major channels of input FL learners are exposed to (in the classroom and out-of-class settings) were hypothesized to relate differentially to listening motivation. Although no relevant studies have been conducted, the level of motivation is likely affected by the differences in the nature of the two categories of input. Applying the four dimensions of language-learning-beyond-the-classroom framework by Benson (2011), FL exposure taking place in FL classrooms (location) is mostly formal (formality), and is likely teacher-guided (pedagogy; locus of control). The other type of exposure occurs outside class (location), can be formal or informal (formality), is learner-driven and/or naturalistic (pedagogy), and often independent (locus of control). The levels of learner-centredness, autonomy, and relatedness are very likely to be higher in out-of-class input compared with that in the FL classroom. Making reference to self-determination theory (Ryan and Deci 2017), extramural input is thus likely to be more positively related to motivation. The current study set out to investigate the two types of input in relation to listening motivation.

4 The study

This study is part of a project about input, emotions, and FL learning among young children in Hong Kong. This part of the investigation set out to answer the following research questions: (RQ1) *What are the correlational relationships between listening proficiency, listening motivation, and exposure to English?* (RQ2) *How does one-year of exposure to English predict listening proficiency and motivation?.* The focus was timepoint two (T2), one year after the initial timepoint (T1) in this study. Three instruments were employed: a listening test, a questionnaire, and an individual interview.

Nonverbal intelligence, defined concisely by Lázaro-Ibarrola (2024: 6) as "thinking skills and problem-solving abilities that do not rely on verbal language production or comprehension", was not a key variable in the study. However, for methodological rigour and in view of the close connection between intelligence and language learning and performance, it has been suggested to be included in studies as a covariate when measuring language-related outcomes (Lázaro-Ibarrola 2024; Nikolov and Csapó 2018). Indeed, nonverbal intelligence is a common individual difference variable investigated in language learning studies especially with young language learners (e.g. Tong et al. 2011; Tsang and Yeung 2024; Yeung and Chan 2013). This variable was hence examined as a covariate (an extraneous variable to control for) in the current study.

5 Methods

5.1 Participants

At T2, 94 Grade-5 EFL children in Hong Kong participated in this study. Their ages ranged from 9.100 to 12.220 (M = 10.523, SD = 0.531). There were 45 females and 46 males (3 did not state their gender). These participants were from three mainstream EFL primary schools located in different areas in Hong Kong. They were all native Cantonese (a dialect of Chinese) speakers who had been learning English formally in school settings for around seven years starting from about three years old at kindergarten one (three years of kindergarten and four years of primary education). Informal interviews with the English education team panel heads at each school were conducted, focusing on the EFL educational practices at their school. The three schools were largely comparable in terms of EFL education (e.g. adhering to the local EFL curriculum; adopting major publishers' textbooks (see e.g. Oxford University Press n.d.; Pearson Education Asia Limited 2024) similar to most other mainstream EFL primary schools in Hong Kong. However, the head teachers reported different amounts of instruction time (see below), which was taken into account in the analysis.

5.2 Measures

5.2.1 T2 EFL listening proficiency

Listening proficiency was measured in two ways: Self-rated proficiency and the Cambridge Assessment English Flyers listening test scores (Cambridge University Press and Assessment 2023). The self-rated listening competence item was on a five-point scale, from least (1) to most proficient (5). The participants self-rated their English listening abilities on this scale. The Flyers listening test comprised five sections (e.g. matching; filling in the blanks) with a total of 25 marks. This Common European Framework of Reference for Languages (CEFR) A2 level listening test was appropriate in terms of the proficiency level for the target group of participants in this study, as endorsed by in-service primary school EFL teachers in Hong Kong. Based on the researcher's and the teachers' extensive experience working with Hong Kong primary school EFL learners, we thought that this test would be highly appropriate for the vast majority of participants such that floor and ceiling effects were minimal.

5.2.2 T2 EFL listening motivation

Since there is an absence of a widely-used validated FL listening motivation scale for young learners, a listening motivation scale was adapted from the Elementary School Motivation Scale by Guay et al. (2010). These researchers employed a concise three-item scale to measure their Grade 1–3 participants' intrinsic motivation in reading and writing. The scale was used in this study with minor modifications such as changing read(ing)/writ(ing) to listen(ing). The three items in the scale were *I like listening, listening interests me a lot,* and *I listen to English even when I don't have to*. The participants rated each item from 1 (strongly disagree) to 5 (strongly agree). The reliability of the scale was high, $\alpha = 0.888$.

5.2.3 Extramural informal exposure (i.e. from T1 to T2)

Extramural exposure over a one-year period was elicited during the individual interview at T2 with each child *and* their parent(s)/guardian(s). The trained interviewers guided the interviewees to reflect on the child's exposure to English outside class in a structured manner (e.g. academic such as taking tutorial classes versus non-academic such as watching cartoons), and co-constructed a holistic picture of English input for each child. At the end of the interview, the interviewer and interviewees checked the list of input and the different amounts of exposure as a form of member check. As Tsang (2023b) has stated, the *regular* habits and timetables these young learners had and the long-term daily observations by the parent(s)/guardian(s) increased the accuracy of such recalls. Given the budget, time, and other practical constraints, such oral surveys were more feasible than close monitoring of individual learners throughout the year (e.g. asking them to carry a recorder all the time). Further details about the interviews in this project have been published in Tsang (2023b). The total amount of time devoted to non-academic exposure to English outside class (e.g. videos; games; storybooks) for each child was calculated as the one-year informal extramural English input. The different categories of exposure were not further examined due to the many low counts among the 94 participants (e.g., only 11 had experiences in being exposed to English through songs).

5.2.4 Formal EFL instruction exposure (i.e. from T1 to T2)

The total formal EFL instruction exposure over the one-year period was calculated based on their *total hours of instruction at their primary school* plus *total hours of supplementary instruction received outside school (e.g. private tutorial lessons).* The English education team heads at the three participating primary schools were

interviewed about their hours of instruction (calculations based on school-based timetables and calendars) between T1 and T2. The total hours of instruction for these three schools were estimated to have been 109 (School S), 118 h (School T), and 158 (School Y). The total hours of supplementary instruction were calculated by the reports from the interviewee(s), as described previously. The range of such instruction was from 0 (i.e. none) to 260 h, M = 37.901, SD = 45.234, Mdn = 28.667.

5.2.5 T1 nonverbal intelligence

Seventeen items of various difficulty levels from Raven's Progressive Matrices (Raven 1958) were randomly selected to measure the participants' nonverbal intelligence. 1 mark was awarded to each correct answer, hence a full score of 17. This was conducted at T1 but not at T2.

5.3 Procedures

A questionnaire was administered to the participants at T2 in groups, with trained assistants in each room, giving instructions in the participants' mother tongue and providing clarification and help. The relevant parts of the questionnaire were the participants' self-rated listening proficiency and listening motivation. The listening and nonverbal intelligence tests were also implemented in groups alongside the questionnaire. After completing these, trained assistants contacted each child's parent(s)/guardian(s) based on the contact information they provided on the research project consent form. Those who had a good knowledge of the child's English learning experiences were invited for an interview. Should the contacted parent/guardian not have had such knowledge, the assistant would encourage them to recommend another family member or guardian who was aware of the child's input to English outside their mainstream school (including the engagement with supplementary classes) to take part in the interviews. Each interview generally lasted around 25–45 min, depending on whether the child had little or much English exposure. The data from the questionnaires were entered into a spreadsheet and checked for accuracy by an assistant. The nonverbal intelligence test was marked according to the answer key. The interviewers completed a report for each interview, detailing clearly the quantity (time) and quality (content) of the child's total exposure from T1 to T2. The listening test papers were first marked by an assistant and then remarked and checked by another for accuracy. The scores were then converted into percentages.

5.4 Analysis

To examine the relationships between listening proficiency, listening motivation, and exposure to English (RQ1), Pearson and Spearman correlations, respectively, were used for normally and not normally distributed data. To address RQ2, hierarchical regression analyses controlling for nonverbal intelligence as a covariate, and listening proficiency and motivation being the dependent variables were employed.

6 Results

6.1 Descriptive statistics and correlations

The descriptive statistics for the variables examined in the study are shown in Table 1. The ranges of scores for the listening test, self-rated listening, and listening motivation were wide. The skewness and kurtosis values showed that all three variables could be regarded as normally distributed (i.e. skewness/kurtosis within ± 2, Roever and Phakiti 2017). Informal extramural exposure had an extreme range, from none to 3692 h over the one-year period. The range for formal English instruction was also large, from about 109 h to almost four times as much, 418 h. The skewness and kurtosis scores revealed that the data were not normally distributed for these exposure variables.

Table 1: Descriptive statistics for the variables investigated in this study.

	Listening test scores (%)	Self-rated listening scores	Listening motivation	Extramural informal exposure (hours)	Formal EFL instruction exposure (hours)	Nonverbal intelligence
M	59.087	3.707	3.187	242.018	168.663	10.624
Mdn	58.333	4.000	3.333	82.000	158.400	11.000
SD	24.149	1.172	1.140	485.905	53.726	2.330
Skewness	−0.298	−0.659	−0.143	4.811	1.770	−0.091
Kurtosis	−0.629	−0.388	−0.906	30.243	4.875	−0.706
Data range	4.167–100	1–5	1–5	0–3692	108.500–418.400	5–15
Possible range	0–100	1–5	1–5	/	/	0–17

The correlations between the six variables investigated in this study are shown in Table 2. All significant correlations were positive. Following Plonsky and Oswald (2014), who provide guidelines on interpreting effect sizes in L2 research, self-rated listening was rather strongly correlated with actual listening test scores (r = 0.581, p < 0.001). Both listening scores were moderately to somewhat strongly correlated with listening motivation: Test scores and motivation, r = 0.360, p < 0.001, and self-rated scores and motivation, r = 0.488, p < 0.001. Although negative correlations were found between formal instruction exposure and all other variables (except for nonverbal intelligence, with which the relationship was positive), none of these relationships was significant. Informal exposure was moderately associated with test scores (r = 0.354, p < 0.001) and self-rated scores (r = 0.327, p = 0.002), but not listening motivation. The covariate, nonverbal intelligence, was found to be mildly correlated with listening test scores (r = 0.294, p = 0.006) and self-rated scores (r = 0.291, p = 0.007).

6.2 Hierarchical regression 1: listening test scores as the DV

Based on the significant correlations found, a hierarchical regression analysis with listening test scores as the dependent variable was performed with the covariate (nonverbal intelligence) entered in model one and the extramural informal exposure

Table 2: Correlations between the variables investigated.

	Listening test scores	Self-rated listening scores	Listening motivation	#Extramural informal exposure	#Formal EFL instruction exposure	Nonverbal intelligence
Listening test scores	1					
Self-rated listening scores	0.581*** p < 0.001	1				
Listening motivation	0.360*** p < 0.001	0.488*** p < 0.001	1			
#Extramural informal exposure	0.354*** p < 0.001	0.327** p = 0.002	0.108 p = 0.331	1		
#Formal EFL instruction exposure	−0.015 p = 0.883	−0.030 p = 0.773	−0.051 p = 0.630	−0.143 p = 0.190	1	
Nonverbal intelligence	0.294** p = 0.006	0.291** p = 0.007	0.051 p = 0.648	0.015 p = 0.894	0.109 p = 0.319	1

# indicates Spearman correlations; the others are Pearson correlations; ***$p \leq 0.001$, **$p \leq 0.01$.

entered in block two (i.e. the second step) to construct model two. Variance Inflation Factor (VIF) = 1.002, indicating that multicollinearity was not a concern. The results showed that both models were significant (see Table 3). The change in R^2 was significant from model 1 to 2 ($\Delta R^2 = 0.108$, $p = 0.002$) and both nonverbal intelligence and informal extramural exposure were significant predictors in model 2. This indicated that the model fit improved significantly after the predictor, extramural informal exposure, was added in model 2.

6.3 Hierarchical regression 2: self-rated listening scores as the DV

Another hierarchical regression analysis was performed also with nonverbal intelligence in step one (Model 3) and extramural informal exposure added in the next step (Model 4). VIF was also 1.002, indicating that multicollinearity was not a concern. The results also showed that both models were significant (see Table 4). The change in R^2 was significant from model 3 to 4 ($\Delta R^2 = 0.064$, $p = 0.020$) and both nonverbal intelligence and informal extramural exposure were significant predictors of self-rated listening scores in model 4. Again, this indicated that the model fit improved significantly after extramural informal exposure was added in model 4.

7 Discussion

In this study, the relationships between listening proficiency, listening motivation, and exposure to English were investigated. Considering the importance of language exposure in FL learning, the investigation also focused on whether two kinds of

Table 3: Hierarchical regression analysis of listening test scores as the dependent variable.

	F ($df_{regression}$, $df_{residual}$)	p	R^2	ΔR^2	b	β	SE	p
Model 1	6.875 (1, 75)	0.011	0.084					
Nonverbal intelligence					2.932	0.290	1.118	0.011
Model 2	8.804 (2, 74)	<0.001	0.192	0.108, $p = 0.002$				
Nonverbal intelligence					2.801	0.277	1.058	0.010
Extramural informal exposure					0.015	0.329	0.005	0.002

Table 4: Hierarchical regression analysis of self-rated listening scores as the dependent variable.

	F ($df_{regression}$, $df_{residual}$)	p	R^2	ΔR^2	b	β	SE	p
Model 3	8.285 (1, 74)	0.005	0.101					
Nonverbal intelligence					0.167	0.317	0.058	0.005
Model 4	7.214 (2, 73)	0.001	0.165	0.064, p = 0.020				
Nonverbal intelligence					0.162	0.307	0.056	0.005
Extramural informal exposure					0.001	0.254	<0.001	0.020

exposure, namely extramural informal exposure (e.g. watching movies) and exposure through formal EFL instruction over a one-year period, were related to the outcome variables: listening proficiency and listening motivation. Answers to the two research questions are discussed, followed by a discussion of implications based on the findings.

With regard to RQ1 on the general relationships between the three variables, listening motivation was found to correlate moderately to strongly with listening proficiency. This is in line with what various motivation-related theories suggest. For instance, higher motivation is posited to be positively related to engagement, effort, persistence, and achievement, making reference to expectancy-value theory (Cook and Artino 2016; Eccles-Parsons et al. 1983). It should, however, be noted that a heightened motivation may not directly lead to higher attainment. An example is shown in Tsang 2022b, in which listening motivation was shown not to predict proficiency directly; rather, it did so indirectly via interest and confidence. Surprisingly, motivation was not found to be related to informal exposure in the current study. Contrary to the expectation that more motivated individuals would likely demonstrate greater informal engagement with the FL outside class, no such relationship was found. The lack of relationship between listening motivation and formal instruction exposure is easier to understand since such exposure is most often compulsory (English lessons at mainstream schools) or determined by parents/guardians (e.g. supplementary classes at tutorial schools). Informal exposure was found to be associated moderately with listening proficiency, corroborating previous studies (e.g. Leona et al. 2021; Puimège and Peters 2019). The positive relationship can be explained from at least two perspectives. Linguistically, extensive (and at times also repeated) exposure through reading and listening extensively facilitates the uptake of the language (Ellis 2002; Patterson 2021). Psychologically, as explained

previously, receiving more input enables one to become more familiar with the language, which may lead to positive feelings and perceptions. These, in turn, can lead to higher engagement (e.g. Tsang 2023a; Zeng 2021) and perseverance of effort (Pawlak et al. 2024), ultimately resulting in higher attainment.

For RQ2, I attempted to answer if one year of exposure to English predicted current listening proficiency and motivation. Since it has been shown that (1) formal EFL instruction exposure was not significantly related to any other variables investigated and (2) listening motivation was not significantly associated with extramural informal exposure, these variables were not considered in the regression analysis. The one-year extramural informal exposure was shown to positively predict listening test scores and self-rated listening abilities even after nonverbal intelligence was controlled for. As explained previously, extensive and perhaps repeated exposure is likely to benefit FL learners linguistically and psychologically. To illustrate some concrete examples, the details of three participants with very high and another three with no extramural informal exposure respectively are shown in Table 5. Although listening motivation was found to be related to listening test scores or self-rated proficiency, it is interesting why listening motivation was not predictive of extramural informal exposure. For instance, in Table 5, it is intriguing why #WA13 had rather low motivation (1.667/5) even though the child was exposed to 1144 h of English outside class *informally*. Likewise, a high listening motivation does not guarantee any extramural informal exposure, as is the case with #TA4. Although there is a paucity of studies in FL listening motivation, the unexpected absence of such a relationship here echoes some negative findings reported in the FL reading literature. For instance, investigating EFL university learners in Italy, Crawford Camiciottoli (2001) found the participants typically held a positive attitude but engaged little with FL reading. In the context of the current study, one reason for the absence of a relationship could be related to the precise types of exposure learners

Table 5: The details of six participants with very high or no extramural informal exposure.

Participant	Extramural informal exposure (hours)	Listening test scores (%)	Self-rated listening scores (1 lowest to 5 highest)	Listening motivation (1 lowest to 5 highest)
#WD5	3692	95.833	5	5
#TC32	1586.5	83.333	5	3
#WA13	1144	100	5	1.667
#TA4	0	70.833	5	5
#WA15	0	16.667	3	2.667
#WC6	0	50	3	3.333

Note: #WD5, #TC32, and #W413 had the highest amounts of informal exposure among all the participants.

reported having. As discussed, there are two fundamental channels of input, listening and reading, but there are also a number of multimodal ones such as listening and reading simultaneously. Therefore, it could be the case that a participant was adequately exposed to written but not spoken English because the participant demonstrated low listening motivation. Similarly, as shown in studies about FL reading, learners' perceptions of reading can differ rather substantially depending on reading material genres (e.g. Duncan and Paran 2017). An important implication is that the findings here do not seem to chime in with the general understanding of the mere exposure effect (e.g. Montoya et al. 2017). This is because prior abundant informal (and also formal) input to the target language over a one-year period does not necessarily show association with higher intrinsic motivation to listen to the language. Instead, a more nuanced perspective needs to be taken. For example, rather than considering the overarching construct of listening motivation, specific types of motivation associated with different listening materials may need to be scrutinized.

8 Conclusions

Various limitations in this study need to be considered. First, despite the one-year-period of exposure, the study could not be considered a rigorous longitudinal study. A three-timepoint longitudinal study, for instance, could reveal how different variables interact and may uncover causal relationships. Second, a larger sample size could have given the study greater power to analyse the subcategories under informal and formal exposure. The subcategories were not examined since many had small counts. Researchers in future studies can consider recruiting a larger pool of participants and investigate more closely different kinds of exposure. Third, the lack of qualitative data made interpretation of some quantitative findings difficult, especially the absence of relationship between listening motivation and informal exposure. In-depth interviews with participants can likely yield useful insights. For instance, researchers can elicit learners' thoughts on and experiences in how prior abundant informal and formal target language input relate to their listening motivation. Based on the findings, it is also worthwhile conducting further research that expounds on the absence of a link between higher listening motivation and voluntary behavioural engagement with listening to the target language.

Despite the aforementioned limitations, the study generally illustrates that extramural informal exposure and listening motivation are positively related to listening competence (both test scores and self-ratings). In terms of implications, FL educators and learners are encouraged to focus more on language input beyond the classroom rather than merely on formal instruction. Formal instruction (including

supplementary tutorial sessions), in the current study, was not found to be related to listening test scores or self-rated listening competence. As scholars such as Sundqvist and Sylvén (2016) have discussed, teachers may design homework that gives learners freedom to choose their FL input that is in line with their interests. FL researchers and educators should also pay heed to listening motivation, an under-researched and under-discussed construct in FL education. Its relationship with listening proficiency, as substantiated in the current study, and overall proficiency underscores its important role in FL learning. Addressing how it or different sub-types of listening motivation are related to extramural voluntary informal exposure constitutes an important line of inquiry in future research. The absence of a significant relationship between listening motivation and out-of-class FL listening engagement promotes our better understanding that motivation may not immediately result in higher degrees of behaviour, even if relevant. This seems to challenge our common sense and motivates a more nuanced perspective of motivational theories and the mere exposure effect.

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