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Explaining individual differences in young English language learners' vocabulary knowledge: The role of Extramural English Exposure and motivation

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ABSTRACT

The role of motivation and extramural English exposure in explaining individual differences in young English language learners' (YELLs') English performance is unclear. In this study, we hypothesized that different types of extramural English exposure predict YELLs' (Dutch, $N = 262$, 10 years old, grade 4) oral and written English receptive vocabulary knowledge, and that motivational factors act as mediators. A distinction was made between YELLs learning English only informally through extramural English exposure and YELLs learning English also formally at school. A path analysis showed that the total impact of familial extramural English exposure and extramural English exposure through entertaining media was greater for the YELLs learning English informally, compared to YELLs learning English also formally. While the sources of extramural English exposure were directly predictive of performance with regard to both oral and written English receptive vocabulary tests for YELLs' learning English informally, linguistic self-confidence fully mediated these relationships for YELLs learning English formally. Our findings call for further development of theoretical frameworks explaining the relationship between YELLs' motivation and exposure.

1. Introduction

Motivation is considered to be one of the most important factors explaining individual differences in adults' or adolescents' learning English as a second or foreign language (Dörnyei & Ryan, 2015; Gardner, 2006; Kormos & Csizér, 2008; Lamb, 2012), but relatively little is known about its role in young English language learners who learn English as a second or foreign

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language (YELLs). YELLs are defined as children who learn English as a second or foreign language from five years up to twelve or thirteen years, or approximately the span of primary/elementary school education (Drew & Hasselgreen, 2008; Papp, 2019). Recently, it has become evident that, in non-English speaking European countries, extramural English exposure (i.e., the English that learners come in contact with or are involved in outside the walls of the classroom; Sundqvist, 2009) might also be an important factor explaining individual differences in YELLs. It seems that YELLs may reach high English performance levels prior to receiving formal English education at school (De Wilde et al., 2019; De Wolf et al., 2017; Drew & Hasselgreen, 2008; Lindgren & Muñoz, 2013; Peters, 2018).

Unfortunately, most studies examining the joint impact of motivation and extramural English exposure on English language performance have focused on learners beyond the YELLs' age-span. Age differences in this context are not trivial, as age interacts with both motivation and extramural English exposure (e.g., Kormos & Csizér, 2008; Muñoz, 2017; Tragant, 2006). As the age at which English is being learned as a foreign language (both formally and informally) is decreasing worldwide (Crystal, 2012) and YELLs comprise an important and growing group of learners of English as a foreign language, our study will focus on the extent to which extramural English exposure predicts YELLs' English vocabulary knowledge and on whether motivation mediates this relationship. We assume that extramural English exposure precedes motivation because, as discussed above, extramural English exposure already takes place at a very young age, before children might be aware of reasons for learning English.

2. Literature review

2.1. YELLs' motivation to Learn English

Motivation determines the foreign language learner's effort, persistence and success (Ushioda, 2009). One of the first and most dominant theoretical frameworks that emerged in the study of adolescent and adult learning of English as a foreign language is the "Socio-educational Model of Second Language Acquisition" of Gardner and colleagues (e.g. Gardner & Smythe, 1975). In addition to motivation *per se*, the model includes attitudinal precursors of motivation like the learner's attitude toward the learning situation, integrativeness (representing the learner's desire to communicate or integrate with the members of the target language), instrumental orientation (relating to the learner's more practical reasons for learning the language, such as getting a better job, a higher salary or passing an examination), and language anxiety. This model has so far mainly been applied to adolescents and adults learning English as a second or foreign language in both formal and informal learning contexts (e.g. Chalak & Kassaian, 2010; Gardner, 2006; Kormos & Csizér, 2008; Lamb, 2012).

A more recent motivational theoretical framework that gained prominence is the "Second Language (L2) Motivational Self System" (L2MSS) of Dörnyei and colleagues (Boo et al., 2015; Dörnyei, 2005, 2009). This model puts emphasis on self-related beliefs and on the learners' view of themselves as successful second-language learners. Key factors in the model are the Ideal L2 Self (representing the learners' ideal self-image expressing the wish to become a competent L2 speaker), the Ought-to L2 Self (representing the attributes that learners believe one ought to possess) and the L2 Learning Experience (very similar to the learner's attitude toward the learning situation of the Socio-educational Model of Second Language Acquisition).

Linguistic self-confidence, although not included in the model, is another self-related belief that has been related to the L2MSS. Linguistic self-confidence correlates strongly with (attitudinal precursors of) motivational factors and second-language performance (Clément et al., 1994; Dörney, 1994; Pyun et al., 2014). Similar to the Socio-educational Model of Second Language Acquisition of Gardner and colleagues, the L2MSS model has mainly been applied to adolescents and adults learning English as a foreign language (e.g. Ali & Eusafzai, 2013; Csizér & Lukács, 2010; Kormos & Csizér, 2008; Papi, 2010; Yashima, 2009; Zou, 2018).

Approximately a decade ago, a research shift from the Socio-educational Model of Second Language Acquisition to the L2MSS took place due to a substitution of the construct "Integrativeness" of the Socio-educational Model of Second Language Acquisition by self-related beliefs (Boo et al., 2015). The applicability of Integrativeness was generally questioned for contexts where English is learned as a foreign language, and where English is used as an international lingua franca that is not clearly connected to a certain group, country or culture (Dörnyei, 2009). However, Integrativeness has been identified as important to Hungarian and Armenian YELLs' motivation to learn English as a foreign language (Csizér & Kormos, 2009; Nikolov, 2009; Sougari & Hovhannisyan, 2013). Sougari and Hovhannisyan (2013) mentioned that Armenian YELLs' motivation is clearly related to Integrativeness as communication with both native speakers as well as people from other countries, is important to them. So, Integrativeness might still be important to YELLs motivation to learn English (depending on the learning context).

The applicability of self-beliefs has been questioned also when it concerns YELLs specifically. Zentner and Renaud (2007) stated that stable ideal-self representations do not emerge before adolescence, and that the self approach may not be appropriate for pre-secondary school students. However, children of the age of eight and older are aware of attitudes that others hold toward them (Harter, 1999). At this age, children start to internalize domain-specific self-judgments. They recognize that if other people approve of them, they will approve of themselves. Furthermore, they have the cognitive ability to appreciate the perspective that significant others have of them and consider the opinions of these significant others when forming their (domain-specific) self-concept (Harter, 1999). So, emerging ideal-self representations and ought-to self-representations might be at work when it concerns English language learning of YELLs. Therefore, research should investigate the importance of self-beliefs for YELLs before fully discharging their potential role.

The field of L2 motivation is very dynamic. More recently, other theoretical frameworks have also addressed the role of motivation. Some examples are the Complex Dynamic Systems Theory (CDST), Self-Efficacy theory, Self-Determination theory and the Attribution theory. However, as yet the L2MSS remains the predominant theoretical framework to investigate L2 motivation. Concepts of the Socio-educational Model of Second Language Acquisition are still being used alongside with concepts of the other theoretical frameworks (Boo et al., 2015). Additionally, the Socio-educational Model of Second Language Acquisition and the L2MSS are specific to language learning in comparison to more general psychological frameworks. For these reasons, and the fact that little is known about the applicability of these classical second/foreign language learning frameworks to YELLs it is important to explore their relevance for YELLs specifically.

The limited number of studies focussing specifically on YELLs' motivation to learn English (e.g. Csizér & Kormos, 2009; Djigunović, 2018; Muñoz, 2014; Nikolov, 2009; Sougari & Hovhannisyan, 2013; Tragant, 2006) were all conducted in a formal learning context (i.e., within the learner's school), and did not focus explicitly on the relationship between motivation and performance. One exception is the study of Kiss and Nikolov (2005) that showed a relatively strong correlation ($r = 0.48$) between YELLs' motivation and English language performance. Their focus was on overall motivation rather than on potentially differentiating effects of individual motivational factors. Accordingly, the importance of previously identified individual motivational factors as contributors to YELL's English performance should be further investigated. To the best of our knowledge, no study focussing on YELLs' motivation to learn English included extramural English exposure as a factor potentially related to motivation and performance.

2.2. YELLs' exposure to Extramural English

Several studies conducted in countries where English is a foreign language observed that a large proportion of YELLs spend a significant amount of time on extramural English activities (Besser & Chik, 2014; De Wilde et al., 2019; Kuppens, 2010; Lefever, 2010; Lindgren & Muñoz, 2013; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012). These YELLs seem to benefit from this exposure to English to the extent that they may acquire a basic command of English (i.e. A2-level of the Common European Framework of Reference for Languages), even before formal English education starts (e.g., De Wilde et al., 2019).

Richards (2015) points out that the contribution of extramural English exposure to YELLs' English performance depends on factors such as the accessibility of English language sources, the type of extramural English exposure and intensity of such exposure. For example, watching TV is highly accessible and motivating, the input is multimodal (both oral and visual) and the intensity of exposure is high. TV mostly contributes to the development of familiarity with general vocabulary through one-way communication. Studies investigating the contribution of entertaining media, such as listening to music, watching TV shows or playing (multiplayer) digital games, and the use of Facebook, Instagram and YouTube showed positive relations between extramural English entertaining media exposure and English vocabulary knowledge (De Wilde et al., 2019; Puimège & Peters, 2019; Sylvén & Sundqvist, 2012), reading and listening comprehension (De Wilde et al., 2019; Lefever, 2010; Lindgren & Muñoz, 2013; Sylvén & Sundqvist, 2012), speaking skills (De Wilde et al., 2019; Lefever, 2010), writing abilities (De Wilde et al., 2019) and translation skills (Koolstra & Beentjes, 1999).

YELLs also use English in interaction with relatives and friends (Crystal, 2012; De Wilde et al., 2019; Djigunović, 2018; Lefever, 2010; Sayer & Ban, 2014; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012). Both types of interaction are powerful sources of extramural English and thus contribute positively to YELLs English performance (e.g. Palermo & Mikulski, 2014). Only few studies (e.g., De Wilde et al., 2019) investigated the predictive value of using English in communication with relatives and friends for YELLs' English language performance. The findings of these studies indicate that English use with family and friends, is related to better English skills. It should be noted, however, that English language acquisition might differ between family and friends, as conversations with parents, older siblings and other family members (e.g. at home during mealtime) will generally differ in complexity (e.g. syntax and vocabulary) from those with peers (e.g. in a playgroup), just like in native language situations (Hoff, 2006). Therefore, a distinction should be made between familial extramural English exposure and extramural English exposure through friends when investigating the effect of extramural English exposure on YELLs' performance.

YELLs' reading of English books, magazines and newspapers (Besser & Chik, 2014; De Wilde & Eyckmans, 2017; Lefever, 2010; Sayer & Ban, 2014; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012) provides another source of extramural English that is often not taken into account in research on YELLs' extramural English exposure and performance. Hulstijn's (2003) review indicated that, in general, books, magazines and newspapers offer high-quality printed input and may contribute considerably to language learning. Given this, we expect YELLs to benefit from reading formal printed material. Other low-frequency sources of exposure, such as interaction with relatives and interaction with friends, might also have a positive effect on English vocabulary knowledge. Therefore, lower frequency sources of extramural English exposure should be included in the study of YELLs' English language learning, alongside with higher frequency sources of extramural English such as watching tv, gaming and listening to music.

2.3. The current study

The primary goal of the current study is to determine whether motivational factors mediate the relationship between different types of extramural English exposure and YELLs' English performance. The focus is on the motivational factors discerned by the Socio-educational Model of Second Language Acquisition and the L2MSS. The sources of extramural English

exposure are entertaining media, family, friends and formal reading. English performance is assessed by considering YELLs' English vocabulary as vocabulary knowledge is essential to the acquisition of subsequent language skills (Gardner, 2007; Milton, 2013). It also provides a good estimate of YELLs' general English performance, as it correlates substantially with specific skills like reading, speaking, listening and writing (De Wilde et al., 2019; Milton, 2013). Receptive vocabulary knowledge was measured in two modalities: oral and written. This choice was guided by previous findings indicating that performance is dependent on the correspondence between modality of input during learning and the input modality of the performance test (Mizumoto & Shimamoto, 2008; Sydorenko, 2010).

Fig. 1 presents the model linking extramural exposure and motivational variables to English performance. This model builds upon the Socio-Educational Model of Second-Language Acquisition and the L2MSS. More specifically, the current model assumes that English vocabulary knowledge is directly predicted by different types of extramural English exposure, and it further assumes that motivational factors mediate the relationship between these types of extramural English exposure and English performance. As our sample consisted of both YELLs not receiving formal English education at school and YELLs receiving formal English education at school, we investigated whether the model is invariant to YELLs' experience with formal English education in school.

3. Material and methods

3.1. Research context

This study was performed in the Netherlands where English is compulsory from grade five (10−11 years old) on for all primary schools (SLO, 2015). However, schools are free in determining the moment at which they start offering English lessons (Van Wijk, 2013) and whether they allot more than 45 min a week to formal English education. The number of Dutch schools offering formal English education before it is compulsory is increasing (Unsworth et al., 2015). Official numbers indicate that approximately 17% of Dutch primary schools are registered as starting early with formal English education (Nuffic, 2019), but not all schools are registered at the Nuffic. Besides being taught formally in primary school, English is also present in television programmes and films. English language programmes and films are typically subtitled in the Netherlands, not dubbed.

3.2. Participants

The participants of this study were 298 4th grade Dutch primary school children (144 female) from seven primary schools. Their mean age was 9.83 years ($SD = 5.60$ months). At the time of this study, children in four of the seven schools were receiving formal English education ($N = 173$, 58.1%). Two schools provided English education from kindergarten onwards, one school started in 1st grade and one school in 3rd grade. At all four schools, English was taught by the regular (non-native English) teacher for 45−60 min a week. With the exception of one school, all schools used the same textbook for learning English. Two of the seven schools were situated in an urban area, four in a suburban area and one in a rural area. According to national Dutch normative data, the schools were situated in neighbourhoods from low to middle social-economic status (SCP, 2016). 41.6% of our sample had an immigrant background (1st and 2nd generation immigrants) and 42.3% used another home language besides Dutch.
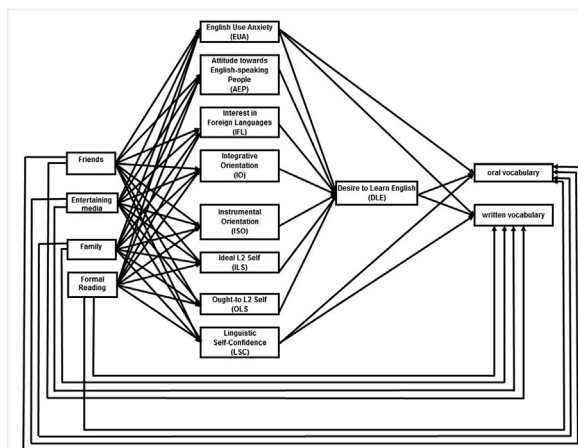

Fig. 1. The hypothesized model linking extramural English exposure to English performance with motivational factors as mediators, based on the Socio-educational Model of Second Language Acquisition and the Second Language (L2) Motivational Self System.

3.3. Materials

Extramural English Exposure Questionnaire. This questionnaire assessed the extent to which YELLs were exposed to extramural English activities. The subscales of the questionnaire were: *Entertaining Media* (5 items, e.g. "I watch English films"), *Family* (3 items, e.g. "We speak English at home"), *Friends* (5 items, e.g. "I speak English with my friends") and *Formal Reading* (3 items, e.g. "I read English books"). YELLs could indicate their extramural English exposure on a six-point scale reaching from 1 (never) to 6 (always). Because this instrument was developed for the current study, we ran a principal component analyses (PCA) to check whether the items could be allocated to the four intended subscales (see Appendix A). The results of the analysis indicated that items of the Extramural English Exposure Questionnaire could be allocated to the four intended subscales: *Entertaining Media, Family, Friends* and *Formal Reading* (see Appendix A for details and specific items of the questionnaire).

YELLs' Motivation to Learn English. This questionnaire assessed YELLs' English language learning motivation. The initial item construction was based on the Attitude Motivation Test Battery (AMTB; Gardner, 2005) and the English Learner Questionnaire (ELQ; Dörnyei & Taguchi, 2010). Both questionnaires were translated using forward-back translation. The initial 140 items were piloted qualitatively by interviewing two children about the comprehensibility and applicability of the items. Subsequently, the questionnaire was administered to 231 children between 9 and 11 years old. After a psychometric analysis, the items were adapted using the guidelines for designing questionnaires for children provided by Bell (2007). The questionnaire was made child-friendly by: (1) making the items content age and experience appropriate, (2) shortening the sentences, (3) reducing the number of response options from seven to four (1 = strongly disagree, 4 = strongly agree), (4) removing the neutral response option, (5) limiting the number of contra-indicative items, and (5) reducing the total number of items to 45 (only items related to learning English in general and not the items related to learning English in school). We conducted a PCA for this questionnaire with the items of the original scales of the Attitude Motivation Test Battery and the English Learner Questionnaire. The original scales were Interest in Foreign Languages, Attitudes towards English-speaking People, Integrative Orientation, Instrumental Orientation, Desire to Learn English, English Use Anxiety, Ought-to L2-self, Ideal L2-self and Linguistic Self-confidence. The results of the PCA indicated that the items of the YELLs' Motivation to Learn English Questionnaire could be allocated under these emerged subscales: *Desire to Learn English, Importance of Communicating in a Lingua Franca, Linguistic Self-Confidence, Self-Advancement through Learning English, Attitude towards English-speaking People* and *Willingness to Communicate in English with Peers* (see Appendix B for details and specific items of the questionnaire).

Peabody Picture Vocabulary Test, Fourth Edition. The PPVT-4 (Dunn & Dunn, 2007) is an international and standardized test designed to assess native English speakers' receptive oral vocabulary. The participants had to select one picture out of four that best depicted a pre-recorded word pronounced by a female native-speaker of British English. For example, the child heard "boy" and had to choose between a picture of a dog, chair, boy or bicycle. The original test consists of 19 sets of 12 words each and is administered adaptively, but in the current study only items of sets 1 to 7 were administered, comprising a total of 84 items. Because the participants are not native speakers of English, the test was not administered in the traditional way with stopping rules based on the number of errors in a set. All children received all items of sets 1 to 7 and we started with the first set instead of the age-appropriate set because the students were not native speakers of English and some have not had English lessons yet. In this way we prevented that the test would be too difficult for students without experience with English. The test score consisted of the total number of correct responses. The selected sets were piloted beforehand among 96 children between 10 and 12 years old, and the results indicated no floor or ceiling effects (M = 61.95, SD = 0.85, Mod. = 58, Min. = 43, Max. = 77). The internal reliability of the PPVT (computed on the data of the pilot study) was Cronbach's α = 0.90.

EIBO-Vocabulary Test. This vocabulary test was designed for the current study to specifically assess the written receptive vocabulary of Dutch YELLs. Target words were presented in bold in a simple carrier sentence consisting of three to seven words. Children had to choose the best Dutch translation for the target word out of three options. The target words were either a noun, verb, adjective or adverb. The "*EIBO-lijst*", a list of English words that Dutch children need to know by the end of primary school, was used to select the target words Groove.me (2012). EIBO stands for "Engels in het BasisOnderwijs" (English in Primary Education). An example item is: "*I **cycle** once a week*; to cycle is: "fietsen" (to cycle), "sporten" (to work out), "reizen" (to travel)". The *EIBO-Vocabulary Test* consisted of 47 items and was piloted among 73 elementary school children between 10 and 12 years. The EIBO-Vocabulary Test had a high reliability, Cronbach's α = 0.84. The complete words list of the PPVT-4 (22 cognates) and EIBO-Vocabulary Test (7 cognates) is included in Appendix C.

3.4. Procedure

The current study was part of a longitudinal project that focuses on the acquisition of the English language by Dutch YELLs in 4th to 6th grade of primary education (Spring 2017 to Spring 2019). The project was approved by the Ethics Board of the university. We approached parents via the schools to provide active consent and participation was voluntary and anonymous. The current study uses data collected in fourth grade.

All of the instruments used in the current study were administered during separate group sessions (of maximum 45 min) consisting of more tests. The tests were programmed in Qualtrics and were administered in random order. The YELLs completed all tests individually and at their own pace using a tablet equipped with a headphone. Each test was preceded by an

instructional video and all sessions were supervised by the primary researcher and trained research-assistants. At the end of the school year all participants received a certificate.

3.5. Data-analysis

A total of 36 participants were excluded from the study because they indicated having English as a home language alongside with being born in an English-speaking country, having a parent being born in an English-speaking country or having a parent who was raised in the English language ($N = 25$) or because they did not complete all measures ($N = 11$).

The original path model, presented in Fig. 1, was adapted based on the PCA's presented in Appendices A and B. The final solutions of the PCAs were used to compute mean subscale scores (average score of all items composing a factor). The variables' z-scores, original means and the component score coefficient matrices were used to calculate factor scores, according to the Thompson method (Odum, 2011), for the Extramural English Exposure and Motivational subscales. These factor scores and the total score of the vocabulary tests, were used for the path analysis. Although various types of entertaining media might have a different effect on vocabulary learning, we opted to use factor scores instead of individual item scores in the analyses to limit the number of variables and retain sufficient power.

Subsequently, the adapted path model, as presented in Fig. 2, was fitted using the R package Lavaan (Rosseel, 2012). As the Shapiro-Wilk's test indicated that only *Entertaining Media* was normally distributed and Mardia's Multivariate Normality Test indicated that the assumption of multivariate normality was violated (Mardia's skewness = 1484.83, $p < .001$; Mardia's kurtosis = 23.30, $p < .001$), the Satorra–Bentler scaled chi-squared test statistic was used to assess the model's goodness of fit and the value of the Robust Weighted Least Squares (WLSMV) will be reported. Following the recommendations of Brown (2006), multiple fit indices were used to assess the fit of the path model. These fit indices for inferring that the model fitted the data well were: (1) the Satorra-Bentler χ^2 with p-value, (2) RMSEA with 90%-CI (<0.05), (3) SRMR (<0.08), (4) CFI (>0.95) and (5) GFI (>0.90).

We investigated whether the model was invariant for YELLs not receiving formal education at school and YELLs receiving formal education at school and applied the same methodology as Teo et al. (2009). Before testing invariance, the model fit for the separate groups was tested. Because the general model did not fit the data of the separate groups (see Results), we did not proceed with the tests for configural invariance (i.e., equal pattern of fixed and non-fixed parameters), metric invariance (equal path coefficients), scalar invariance (equal intercepts) and structural invariance as intended. It was also not necessary to judge model invariance based on the change in the χ^2 value ($\Delta\chi^2$, based on the Satorra-Bentler method) and ΔCFI (>0.01).

4. Results

Table 1 presents the demographic characteristics of the participants and Table 2 presents the means and standard deviations for all study variables. Students with an immigrant background ($\chi^2 (1) = 31.07$, $p < .01$) and Dutch as a second language were overrepresented in the group No-English-at-School ($\chi^2 (1) = 21.32$, $p < .01$). The proportion of participants never being exposed to extramural English in communication with friends was significantly greater in the English-at-school group than in the no-English-at school Group ($\chi^2 (1) = 4.27$, $p = .04$). See Appendix D for the correlation matrices.

A Multivariate Analysis of Variance (MANOVA) performed on the data presented in Table 2 indicated significant group differences ($V = 0.282$, $F (22, 239) = 4.272$, $p < .001$, $\eta^2 = 0.28$). Separate univariate ANOVA's and Mann-Whitney tests (with Bonferroni correction) indicated that the No-English-at-school group had a higher score than the English-at-school group for *Willingness to Communicate in English with Peers* (subscale score: $F (1, 260) = 18.63$, $p < .001$, $\eta^2 = 0.07$; factor score: $F (1, 260) = 10.87$, $p = .001$, $\eta^2 = 0.04$) and *Desire to Learn English* (subscale score: $U = 4962.50$, $z = -5.38$, $p < .001$; factor score: $U = 4557.00$, $z = -6.03$, $p < .001$).
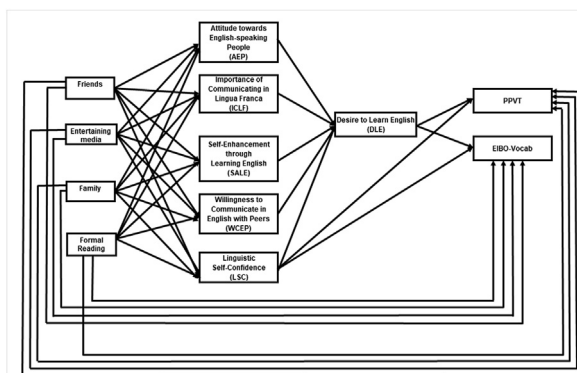

Fig. 2. The revised a del linking extramural English exposure to Enaish paformance with motivational actors as mediators, based on the Socio-educational Model oaSeconaLanguae Acquisitan and the Second Language (L2) Motivational Self System.

Table 1

Demographic Characteristics of All Participants, No-English-at-school Group and English-at-school Group.

	All (N = 262)		No (N = 102)		English (N = 160)	
	M (SD)		*M (SD)*		*M (SD)*	
Age	9.81 (0.48)		9.86 (0.48)		9.78 (0.43)	
Characteristics	*N (%)*		*N (%)*		*N (%)*	
Female	130 (49.6)		54 (52.9)		76 (47.5)	
Immigration Background	99 (37.8)		61 (59.8)		38 (23.8)	
Dutch as Second Language	88 (33.6)		52 (50.9)		36 (22.5)	
Extramural English Exposure (never)						
	N (%)		*N (%)*		*N (%)*	
Family	53 (20.2)		24 (23.5)		29 (18.1)	
Friends	81 (30.9)		24 (23.5)		57 (35.6)	
Entertaining Media	2 (0.8)		1 (1.0)		1 (0.6)	
Formal Reading	127 (48.5)		46 (45.1)		81 (50.6)	

4.1. Model fit

A total of 65 parameters (6 covariances between the exogenous extramural English factors, 10 covariances between the motivational factors, 1 covariance between PPVT and EIBO-vocabulary, 37 paths and 12 variances) had to be estimated for the adapted hypothesized model (see Fig. 2). The adapted hypothesized model fitted the data (χ^2_{Robust} = 19.86; p_{Robust} = .07; df = 12; $rmsea$ = 0.05; CFI = 0.98).

The significant path coefficients for all participants illustrated in Fig. 3 show a direct positive effect of *Family* on both the EIBO-vocabulary and PPVT score; a direct and an indirect positive effect of *Entertaining Media* on the EIBO-vocabulary score with *Linguistic Self-Confidence* as a partial mediator; an indirect positive effect of *Entertaining Media* on the PPVT score with *Linguistic Self-Confidence* as a full mediator. Accordingly, *Family* and *Entertaining Media* predicted both the EIBO-vocabulary and the PPVT score.

4.2. No formal English education vs. formal English education

The adapted model fitted the data of the English-at-school group (χ^2_{Robust} = 13.68; p_{Robust} = .32; df = 12; $rmsea$ = 0.04; CFI = 0.99), but not of the No-English-at-school group (χ^2_{Robust} = 21.76; p_{Robust} = .04; df = 12; $rmsea$ = 0.08; CFI = 0.96). The modification indices indicated that a path between *Self-Advancement through Learning English* and EIBO-vocabulary score had to be added in order for the model to fit the data of the No-English-at-school group (χ^2_{Robust} = 15.07; p_{Robust} = .18; df = 11; $rmsea$ = 0.04; CFI = 0.99).

Fig. 4 presents the model for the No-English-at-school group. The significant path coefficients for the No-English-at-school group show a direct positive effect of *Family* on both the EIBO-vocabulary and PPVT score, and a direct positive effect of *Entertaining Media* on both the EIBO-vocabulary and the PPVT score. Accordingly, *Family* and *Entertaining Media* predicted both the EIBO-vocabulary and the PPVT score directly.

Fig. 5 presents the model for the English-at-school group. The significant path coefficients for the English-at-school group show an indirect positive effect of *Family* and *Entertaining Media* on both the EIBO-vocabulary and PPVT score. *Linguistic Self-Confidence* acts as a full mediator of the relationship between *Family* and EIBO-vocabulary score, *Family* and PPVT score, *Entertaining Media* and EIBO-vocabulary score, and *Entertaining Media* and PPVT score.

In sum, the results show that when experience with English at school is not taken into account, *Family* predicts the EIBO-vocabulary and PPVT score directly, *Entertaining Media* predicts the EIBO-vocabulary score both directly and indirectly, and *Entertaining Media* predicts the PPVT score only indirectly. When English at school is taken into account, both *Family* and *Entertaining Media* predict the EIBO-vocabulary score and, in addition, the PPVT score for the No-English-at-school group. For the English-at-school group, both *Family* and *Entertaining Media* indirectly predict the EIBO-vocabulary and the PPVT scores. *Linguistic Self-Confidence* is the mediator in all indirect relationships. Finally, the joint effect of *Family* and *Entertaining Media* on vocabulary knowledge was greater for the No-English-at-school group (direct effect) than for the English-at-school group (indirect effect).

5. Discussion

The primary goal of the current study was to examine the joint impact of motivational factors and extramural English exposure on YELLs' English language performance. We investigated whether motivational factors mediate the relationship between different types of extramural English exposure and YELLs' English vocabulary knowledge. Our findings indicate that the contribution of extramural English exposure and motivational factors to YELLs' vocabulary knowledge depend on learning context. Extramural English exposure through entertaining media and familial extramural English exposure play a direct role in the vocabulary knowledge of YELLs learning English informally. Both extramural English exposure through entertaining media and familial extramural English exposure play an indirect role for YELLs learning English also formally. For the latter

Table 2

Descriptive Statistics for All Participants and the No-English-at-school Group and English-at-school Group, separately.

		(Subscale) scores			Factor scores (based on PCA)		
	No.Items	All (_N_ = 262)	No English at School (_N_ = 102)	English at School (_N_ = 160)	All (_N_ = 262)	No English at School (_N_ = 102)	English at School (_N_ = 160)
		M (SD)	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)
Extramural English							
1 Friends	3	1.68 (0.75)	1.85 (0.90)	1.57 (0.62)	1.60 (1.00)	1.85 (1.21)	1.44 (0.81)
2 Entertaining media	5	2.64 (0.92)	2.65 (0.92)	2.64 (0.93)	3.51 (1.00)	3.46 (0.95)	3.54 (1.03)
3 Family	2	2.16 (0.92)	2.12 (1.03)	2.19 (0.85)	2.43 (1.00)	2.36 (1.11)	2.47 (0.92)
4 Formal reading	3	1.51 (0.76)	1.66 (0.93)	1.40 (0.60)	1.61 (1.00)	1.84 (1.26)	1.47 (0.76)
Motivational Factors							
1 AEP	2	2.66 (0.79)	2.62 (0.79)	2.69 (0.80)	2.03 (1.00)	1.94 (1.03)	2.08 (0.98)
2 ICLF	7	3.55 (0.48)	3.59 (0.47)	3.52 (0.49)	5.03 (1.00)	5.04 (1.00)	5.02 (1.00)
3 SALE	3	2.68 (0.74)	2.79 (0.82)	2.61 (0.67)	2.93 (1.00)	3.08 (1.15)	2.83 (0.88)
4 WCEP	4	2.04 (0.72)	2.27 (0.74)	1.89* (0.67)	2.31 (1.00)	2.56 (1.02)	2.15* (0.95)
5 LSC	5	3.34 (0.60)	3.40 (0.54)	3.31 (0.64)	4.28 (1.00)	4.35 (0.93)	4.24 (1.04)
6 DLE	6	3.27 (0.65)	3.53 (0.51)	3.10* (0.68)	3.68 (1.00)	4.12 (0.75)	3.40* (1.04)
English Vocabulary Tests							
1 PPVT-4	84	55.87 (9.31)	55.31 (9.04)	56.23 (9.50)			
2 EIBO-Vocabulary	47	33.51 (6.76)	32.87 (6.67)	33.92 (6.81)			

Note. AEP = Attitudes toward English-speaking People; ICLF = Importance of Communicating in Lingua Franca; SALE = Self-Advancement through Learning English; WCEP = Willingness to Communicate in English with Peers; LSC = Linguistic Self-Confidence; DLE = Desire to Learn English.
*_p_ < .002 (Bonferroni correction = .05/22).

Fig. 3. Path Analysis of the relationsha between all four types of extramural English exposure, the motivational factors and English vocabulary scores for all pticipants.

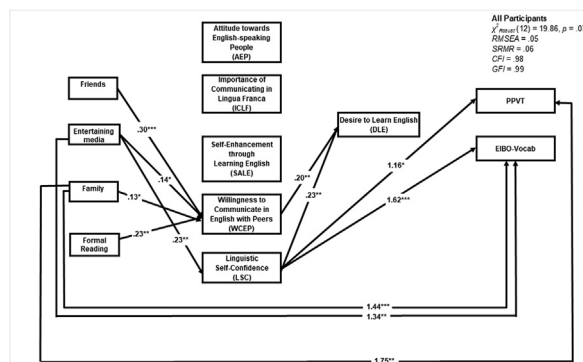**Fig. 4.** Path Analysis for the relationship between all four types of extramural English exposure, the motivational factors and English vocabulary scores for the No-English-at-school group.
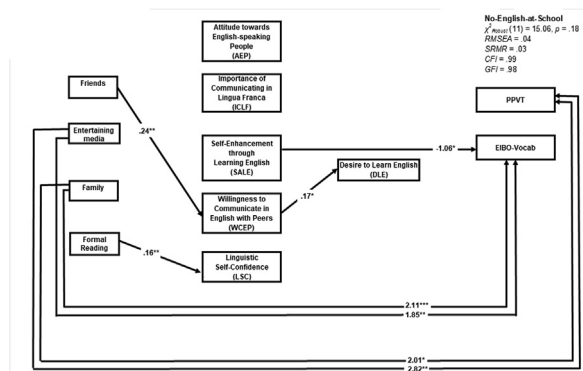
Fig. 5. Path Analysis for the relationship between all four types of extramural English exposure, the motivational factors and English vocabulary scores for the English-at-school group.

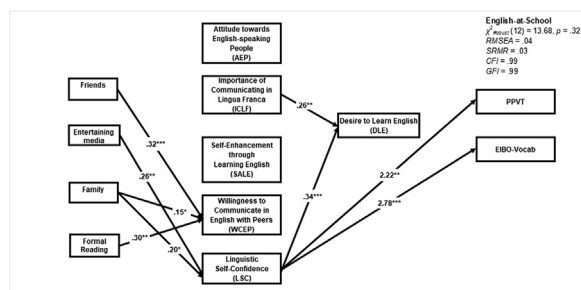group, linguistic self-confidence mediates the relationship between English exposure through entertaining media and English vocabulary knowledge, as well as the relationship between familial extramural English exposure and English vocabulary knowledge. Our findings also indicate that the role of extramural English exposure is more pronounced for YELLs who learn English only informally relative to YELLs who also receive formal English education. Despite differences due to learning context, the main finding is that extramural English exposure through entertaining media and familial extramural English exposure are both predictive of YELLs' vocabulary knowledge.

These findings corroborate the results of other studies indicating that YELLs are exposed to extramural English on a regular basis through media, but less frequently through familial contact and reading (e.g. De Wilde et al., 2019). In our study only 0.8 percent of the YELLS indicated never to be exposed to extramural English activities through informal media, while this was 20.2 percent, 30.9 percent and 48.5 percent for extramural English exposure through family, friends and formal reading, respectively.

Our results are also in line with findings of studies with adolescents and adults learning English formally, indicating that linguistic self-confidence plays a positive role in predicting foreign and second language performance (Clément et al., 1994; Dörney, 1994; Pyun et al., 2014). Accordingly, the positive relationship between linguistic self-confidence and English performance appears independent of age. However, by considering different learning contexts in the same age group, our study expands the current body of knowledge by showing that the role of linguistic self-confidence is dependent on whether a YELL also has experience with formal English education. A plausible explanation for the effect of learning context refers to the role that explicit feedback and corrections play in the formal scholastic English education (in The Netherlands), and the emphasis that is put on English vocabulary acquisition in Dutch primary education (Inspectie van het Onderwijs, 2019). In the classroom, children have ample opportunity to practice their English vocabulary and they receive explicit and expert feedback on their word use. Student-student and student-teacher interaction also offer the opportunity to check and compare their own vocabulary use to that of others. It seems evident that error correction, feedback and interaction with others jointly stimulate students' ability to evaluate their knowledge and use of English vocabulary. When using English (passively and actively) during extramural English activities, performance feedback and error correction are generally less straightforward and typically embedded. The focus is also less on correction by an expert than in formal learning situations. Moreover, error correction might sometimes even be absent when there is no bi-directional active interaction (e.g., when watching tv). We hypothesize that the performance monitoring opportunities in the classroom may promote linguistic self-confidence that is better aligned with actual knowledge and performance. Accordingly, this hypothesis provides an account of the mediational role of linguistic self-confidence for YELLs learning English also formally.

Feedback and interaction might also explain the unexpected consistent relationship between familial extramural English exposure and vocabulary knowledge. Despite being infrequent, it seems that familial English exposure generally predicts YELLs' English vocabulary knowledge. We suspect that this is because of the bi-directionality of the interaction, the generally emotionally safe environment (e.g. being less afraid to ask a family member for explanation than a stranger), and the scaffolding that takes place in the interaction between knowledgeable and experienced speakers (e.g. parents and older siblings) and a young language learner (Duff & Talmy, 2011). Also, interaction with (more knowledgeable) family members in English offers YELLs the possibility to directly ask for explanation and clarification of unknown words. This strategy has shown to be an effective social language learning strategy employed by foreign language learners, especially younger learners (Hannibal Jensen, 2019; Magogwe & Oliver, 2007; Oxford & Burry-Stock, 1995).

Although future research needs to examine more closely the characteristics of familial extramural English exposure that are most effective for English vocabulary learning, we learned, through inquiry among our participants, that some of them were exposed to English when (1) hearing their parents speak English to colleagues, friends, family members living abroad, (2) when preparing with a parents or older sibling for an English tests, (3) listening and trying to understand parents use of English as a code language to discuss "secret" matters, and (4) when speaking English just for fun during e.g. mealtime. These are thus all situations that might boost YELLs' knowledge of new words used by more knowledgeable (non-native) English language speakers. So, the findings of this study have also indicated that high-frequency extramural English exposure (like

entertaining media) as well as low-frequency extramural English exposures (in a family setting) can predict YELLs' English vocabulary knowledge.

The results of the current study are in contrast with a recent Dutch government report indicating that students starting with formal English education at school before grade 5 know significantly more English words than students starting in grade 5 with formal English education at school (Inspectie van het Onderwijs, 2019). In The Netherlands, it is compulsory for all schools to start in grade 5 with formal English education. A plausible account for our diverging findings is that multilingual students with an immigrant background were overrepresented in our sample of students not receiving formal English education at school. Possibly, their multilingualism and immigrant background provided them with an advantage for learning English; after all the immigration process (of parents) often brings more multilingual contacts with it and more use of English as lingua franca (Krumm & Plutzar, 2008). Another aspect to take into account is that some participants from schools starting earlier than in grade 5 with English, have indicated that the actual frequency with which they received English lessons fluctuated. Although they formally were supposed to have English lessons, these English lessons were not always provided in practice. Accordingly, irregular provision of English classes could have contributed to our disparate findings."

We anticipated that performance would depend on the correspondence between the modality of input during learning and the input modality of the performance test (Mizumoto & Shimamoto, 2008; Sydorenko, 2010). In contrast, we observed that informal entertaining media (i.e., activities with different input modality) contributed to both oral and written receptive vocabulary knowledge. In addition, familial extramural English exposure also contributed to both oral and written receptive vocabulary knowledge. In interaction with family members we expected YELLs to be less exposed to written English. A possible account for this diverging pattern of findings may relate to the reported habit of Dutch parents to read English books with their children (Van Wijk, 2013). During joint reading YELLs are exposed to both oral *and* written English, which contributes to their knowledge of English words in written form. Obviously, this speculation should be tested in future research.

5.1. The contribution of the socio-educational model of Second Language Acquisition and the L2MSS

Contrary to our expectations, none of the motivational factors discerned by the Socio-educational Model of Second Language Acquisition or the L2MSS were directly involved in the prediction of YELLs' English vocabulary knowledge. Although some constructs included in these models emerged as motivational factors in our analysis (i.e., Desire to Learn English and Attitudes towards English-speaking People), they did not relate to YELLs' vocabulary knowledge and hence did not mediate the relationship between extramural English exposure and vocabulary knowledge. These findings suggest that although some motivational factors discerned by the Socio-educational Model of Second Language Acquisition and the L2MSS might be present in YELLs, their role in explaining performance is negligible. We speculate that this might be because YELLs' English vocabulary knowledge results from exposure to English, which is the language used as a communication means when they engage in activities that are attractive to children. Children may not have adopted the more long-term goal of becoming a successful user of the language in contrast to older English language learners and those living in a country where English is one of the dominant languages. More empirical support corroborating these findings is needed in order to demonstrate that traditional motivational factors play a minor role when explaining YELLs' performance.

The only motivational factors that related to different forms of extramural English exposure were linguistic self-confidence and the new factor that emerged from the YELLs' data: Willingness to Communicate in English with Peers. Learners' willingness to communicate in English has received considerable attention lately and has shown to be closely related to linguistic self-confidence (e.g. Boo et al., 2015; Ghanbarpour, 2016; MacIntyre et al., 1998; Peng & Woodrow, 2010). Similar to other motivational factors, the contribution of Willingness to Communicate in English (with Peers) to YELLs' learning of English as a foreign and second language has yet to be extensively explored. Therefore, we suggest to include also this factor and other recent constructs like International Orientation (Iwaniec, 2014), English Self-Concept (Iwaniec, 2014) and Learning Experience out of school (Lamb, 2012) in research focussing on YELLs' language learning and performance. In line with more recent developments, the applicability of dynamic models taking into account YELLs' development and using longitudinal data should also be explored (Boo et al., 2015).

5.2. Strengths and limitations

The current study has different strengths. First of all, we have included different types of extramural English exposure in our model. We have also determined the relevance of dominating and historically important theoretical frameworks for YELLs' language learning. By developing, adapting and piloting questionnaires and tests especially for YELLs' learning English in a context where English is a foreign language, we have tackled the problem of a lack of suitable instruments to test this important and growing group of English language learners.

Our choice of administration for the PPVT has also enabled us to circumvent the pitfalls of the traditional use of the PPVT with foreign language learners of English. Goriot et al. (2018) suggested that the PPVT-4 might not be reliable for Dutch poor performing, inexperienced English language learners. However, we took advantage of a procedure employed previously by other researchers making the test appropriate for YELLs growing up in a non-English speaking country (e.g. De Wilde et al., 2019; Muñoz et al., 2018). That is, we administered the first seven sets of the PPVT without taking starting rules (based on age of native speakers of English) and stopping rules into account. Considering that 99.7 percent of the YELLs completed the first

set administered with less than nine mistakes (the stopping rule) and 91.3 percent of the YELLS completed the last set with less than nine mistakes, we are confident that the PPVT, as we have administered it, was suitable.

The current study has considerable ecological validity, as it included YELLs' of different (cultural and language) backgrounds and schools in areas of different socio-economic status. The downside is that we had little control over the background characteristics across groups. The current use of the natural school population resulted in an overrepresentation of students with an immigrant background in schools not providing formal English education relative to the schools starting earlier than required with formal English lessons. Accordingly, we cannot rule out the possibility that immigration status is a confound that should be avoided in future studies. In order to improve the generalizability and reliability of our findings, future research should attempt at getting more grip on sample characteristics or insure a more balanced representation of student with different backgrounds learning English in different contexts.

In this study we opted to use a dichotomous measure for experience with formal education: yes/no. We would like to acknowledge, however, that amount of instruction within formal education appears highly relevant and future studies should take this into account.

Another limitation of the current study refers to the two vocabulary tests that were used. As the tests have been developed for different populations and age groups, their item constellation differs (e.g., number of cognates), and therefore the tests may have been of different difficulty levels. Although we intentionally included an age appropriate (YELLs), language background appropriate (non-native speakers of English), and representative set of words (English words important to know at the end of Dutch primary school), future research should use preferably: 1) tests consisting of the same English words when using tests with different modalities, 2) tests with the same modality when testing a different set of words, and ensure that 3) the distribution of cognates is similar across tests.

Lastly, in the current study, we collected self-report data from only the YELLs rather than from both YELLs and primary caretakers. It should be acknowledged that information provided by young children is not always objective and thus triangulation of their information with observational and/or parent data would have strengthened the reliability of the current results.

6. Conclusion

Based on the findings of this study we advocate educators to make more deliberate use of the positive contribution of extramural English exposure to YELLs' English performance. They could stimulate students' engagement in extramural English activities as this engagement might resolve limitations of classroom-based formal English learning like time-constraints, inadequate teaching material and a limited English proficiency of the teacher (Richards, 2015). Teachers could bring extramural English activities into the classroom by translating or analyzing the lyrics of popular songs in class, watching students' favorite movie or tv show in English instead of the native language in class, and by for example starting the English lessons with a funny social media post in English. Teachers could be also more flexible in adapting their teaching to the language level of their students instead of departing from the presumption that all YELLs are novice learners of English. In brief, teachers could make a more deliberate use of the positive contribution of extramural English exposure to YELLs' English performance.

To conclude, there is a need for the development and testing of theoretical frameworks that apply specifically to YELLs' motivation and experience. With the model presented in this study, we have taken a first step in this direction.

CRediT authorship contribution statement

Nihayra L. Leona: Conceptualization, Methodology, Formal analysis, Investigation, Resources, Data curation, Writing - original draft, Writing - review & editing, Project administration. **Margreet J.H. van Koert:** Conceptualization, Resources, Investigation, Data curation, Project administration. **Maurits W. van der Molen:** Conceptualization, Writing - review & editing, Funding acquisition. **Judith E. Rispens:** Conceptualization, Writing - review & editing, Supervision, Funding acquisition. **Jurgen Tijms:** Writing - review & editing, Supervision, Funding acquisition. **Patrick Snellings:** Conceptualization, Writing - review & editing, Supervision, Funding acquisition.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.system.2020.102402.

References

Ali, H., & Eusafzai, K. (2013). L2 motivational selves of Saudi preparatory year EFL learners: A quantitative study. *Arab World English Journal, 4*(4). Retrieved from www.awej.org.

Bell, A. (2007). Designing and testing questionnaires for children. *Journal of Research in Nursing, 12*(5), 461–469. https://doi.org/10.1177/1744987107079616

Besser, S., & Chik, A. (2014). Narratives of second language identity amongst young English learners in Hong Kong. *ELT Journal, 68*(3), 299–309. https://doi.org/10.1093/elt/ccu026

Boo, Z., Dörnyei, Z., & Ryan, S. (2015). L2 motivation research 2005–2014: Understanding a publication surge and a changing landscape. *System, 55*, 145–157. https://doi.org/10.1016/j.system.2015.10.006

Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. Guilford publications.

Chalak, A., & Kassaian, Z. (2010). Motivation and attitudes of Iranian undergraduate EFL students towards learning English. *GEMA Online® Journal of Language Studies, 10*(2), 37–56.

Clément, R., Dörnyei, Z., & Noels, K. A. (1994). Motivation, self-confidenceand group cohesion in the foreign language classroom. *Language and Learning, 44*(3), 417–448. https://doi.org/10.1111/j.1467-1770.1994.tb01113.x

Crystal, D. (2012). *English as a global language*. Cambridge: Cambridge University Press.

Csizér, K., & Kormos, J. (2009). An investigation into the relationship of L2 motivation and cross-cultural contact among elementary school students. In M. Nikolov (Ed.), *Early learning of modern foreign languages: Processes and outcomes* (pp. 62–74). UK: Multilingual Matters. https://doi.org/10.21832/9781847691477-007

Csizér, K., & Lukács, G. (2010). The comparative analysis of motivation, attitudes and selves: The case of English and German in Hungary. *System, 38*(1), 1–13. https://doi.org/10.1016/j.system.2009.12.001

De Wilde, V., Brysbaert, M., & Eyckmans, J. (2019). Learning English through out-of-school exposure. Which levels of language proficiency are attained and which types of input are important? *Bilingualism: Language and Cognition*, 1–15. https://doi.org/10.1017/S1366728918001062

De Wilde, V., & Eyckmans, J. (2017). Game on! Young learners' incidental language learning of English prior to instruction. *Studies in Second Language Learning and Teaching, 7*(4). https://doi.org/10.14746/ssllt.2017.7.4.6

De Wolf, S., Smit, N., & Lowie, W. (2017). Influences of early English language teaching on oral fluency. *ELT Journal, 71*(3), 341–353. https://doi.org/10.1093/elt/ccw115

Djigunović, J. M. (2018). Impact of learning conditions on young FL learners' motivation. In M. Nikolov (Ed.), *Early learning of modern foreign languages: Processes and outcomes* (pp. 75–89). UK: Multilingual Matters. https://doi.org/10.21832/9781847691477-008

Dörnyei, Z. (1994). Motivation and motivating in the foreign language classroom. *The Modern Language Journal, 78*(3), 273–284. Retrieved from https://www.jstor.org/stable/pdf/330107.pdf

Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Mahwah, NJ: Lawrence Erlbaum.

Dörnyei, Z. (2009). The L2 motivational self system. In Z. Dörnyei, & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 9–42). Clevedon: Multilingual Matters. https://doi.org/10.21832/9781847691293-003

Dörnyei, Z., & Ryan, S. (2015). *The psychology of the language learner revisited*. New York: Routledge. https://doi.org/10.4324/9781315779553

Dörnyei, Z., & Taguchi, T. (2010). *Questionnaires in second language research: Construction, administrationand processing* (2nd ed.). London: Routledge. https://doi.org/10.4324/9780203864739

Drew, I., & Hasselgreen, A. (2008). Young language learner (YLL) research: An overview of some international and national approaches. *Acta Didactica Norge, 2*(1). https://doi.org/10.5617/adno.1024. Art-5.

Dunn, L. M., & Dunn, D. M. (2007). *Peabody picture vocabulary test* (4th ed.). Bloomington: Pearson.

Gardner, R. C. (2005). *Attitude/motivation test battery: International AMTB research project*. Canada: The University of Western Ontario. Retrieved from http://publish.uwo.ca/~gardner/docs/englishamtb.pdf

Gardner, R. C. (2006). The socio-educational model of Second Language acquisition: A research paradigm. *EUROSLA Yearbook, 6*(1), 237–326. https://doi.org/10.1075/eurosla.6.14gar

Gardner, R. C. (2007). Motivation and second language acquisition. *Porta Linguarum, 8*, 9–20. Retrieved from http://digibug.ugr.es/bitstream/handle/10481/31616/Gardner.pdf;jses.

Gardner, R. C., & Smythe, P. C. (1975). Motivation and second-language acquisition. *Canadian Modern Language Review, 31*(3), 218–233. https://doi.org/10.3138/cmlr.31.3.218

Ghanbarpour, M. (2016). Willingness to communicate, linguistic self-confidence, and language-use anxiety: The Iranian EFL context. *Theory and Practice in Language Studies, 6*(12), 2265–2271. https://doi.org/10.17507/tpls.0612.05

Goriot, C., Van Hout, R., Broersma, M., Lobo, V., McQueen, J. M., & Unsworth, S. (2018). Using the peabody picture vocabulary test in L2 children and adolescents: Effects of L1. *International Journal of Bilingual Education and Bilingualism*, 1–23. https://doi.org/10.1080/13670050.2018.1494131

Groove.me. (2012). EIBO-lijst. Retrieved from https://groove.me/wp-content/uploads/2018/10/EIBO-lijst-Groove.me_.pdf.

Hannibal Jensen, S. (2019). language learning in the wild: A young user perspective. *Language, Learning and Technology, 23*(1), 72–86.

Harter, S. (1999). *The construction of the self: A developmental perspective*. New York: Guilford Press.

Hoff, E. (2006). How social contexts support and shape language development. *Developmental Review, 26*(1), 55–88. https://doi.org/10.1016/j.dr.2005.11.002

Hulstijn, J. H. (2003). Incidental and intentional learning. In C. Doughty, & M. Long (Eds.), *The handbook of second language acquisition* (pp. 349–381). UK: Blackwell Publishing Ltd. https://doi.org/10.1002/9780470756492.ch12.

Inspectie van het Onderwijs. (2019). Peil.Engels einde basisonderwijs 2017 – 2018. Retrieved from https://www.onderwijsinspectie.nl/onderwerpen/peil-onderwijs/documenten/rapporten/2019/11/08/peil.engels-einde-basisonderwijs-2017-2018.

Iwaniec, J. (2014). Motivation to learn English of Polish gymnasium pupils. Retrieved from https://researchportal.bath.ac.uk/en/publications/motivation-to-learn-english-of-polish-gymnasium-pupils.

Kiss, C., & Nikolov, M. (2005). Developing, pilotingand validating an instrument to measure young learners' aptitude. *Language Learning, 55*(1). https://doi.org/10.1111/j.0023-8333.2005.00291.x, 99-15.

Koolstra, C. M., & Beentjes, J. W. (1999). Children's vocabulary acquisition in a foreign language through watching subtitled television programmes at home. *Educational Technology Research & Development, 47*(1), 51–56. https://doi.org/10.1007/BF02299476

Kormos, J., & Csizér, K. (2008). Age-related differences in the motivation of learning English as a foreign language: Attitudes, selvesand motivated learning behavior. *Language and Learning, 58*(2), 327–355. https://doi.org/10.1111/j.1467-9922.2008.00443.x

Krumm, H. J., & Plutzar, V. (2008). Tailoring language provision and requirements to the needs and capacities of adult migrants. Retrieved from https://www.coe.int/en/web/lang-migrants/background-documentd-and-studies.

Kuppens, A. H. (2010). Incidental foreign language acquisition from media exposure. *Learning, Media and Technology, 35*(1), 65–85. https://doi.org/10.1080/17439880903561876

Lamb, M. (2012). A self system perspective on young adolescents' motivation to learn English in urban and rural settings. *Language and Learning, 62*(4), 997–1023. https://doi.org/10.1111/j.1467-9922.2012.00719.x

Lefever, S. (2010). English skills of young learners in Iceland: "I started talking English when I was 4 years old. It just bang… just fall into me." [electronic version]. Ráðstefnurit Netlu – Menntakvika 2010. Retrieved from https://skemman.is/bitstream/1946/7811/1/021.pdf, 1-17.

Lindgren, E., & Muñoz, C. (2013). The influence of exposure, parentsand linguistic distance on young European learners' foreign language comprehension. *International Journal of Multilingualism, 10*(1), 105–129. https://doi.org/10.1080/14790718.2012.679275

MacIntyre, P. D., Clément, R., Dörnyei, Z., & Noels, K. A. (1998). Conceptualizing willingness to communicate in a L2: A situational model of L2 confidence and affiliation. *The Modern Language Journal, 82*(4), 545–562. https://doi.org/10.1111/j.1540-4781.1998.tb05543.x

Magogwe, J. M., & Oliver, R. (2007). The relationship between language learning strategies, proficiency, age and self-efficacy beliefs: A study of language learners in Botswana. *System, 35*(3), 338–352. https://doi.org/10.1016/j.system.2007.01.003

Milton, J. (2013). Measuring the contribution of vocabulary knowledge to proficiency in the four skills. In C. Bardel, C. Lindqvist, & B. Laufer (Eds.), *L2 vocabulary acquisition, knowledge and use: New Perspectives on Assessment and corpus analysis. 57-78*. Eurosla Monograph Series 2.

Mizumoto, A., & Shimamoto, T. (2008). A comparison of aural and written vocabulary size of Japanese EFL university learners. *Language Education & Technology, 45*, 35–51. https://doi.org/10.24539/let.45.0_35

Muñoz, C. (2014). Exploring young learners' foreign language learning awareness. *Language Awareness, 23*(1–2). https://doi.org/10.1080/09658416.2013.863900, 24-4.

Muñoz, C. (2017). Tracing trajectories of young learners: Ten years of school English learning. *Annual Review of Applied Linguistics, 37*, 168–184. https://doi.org/10.1017/S0267190517000095

Muñoz, C., Cadierno, T., & Casas, I. (2018). Different starting points for English language learning: A comparative study of Danish and Spanish young learners. *Language Learning, 68*(4), 1076–1109. https://doi.org/10.1111/lang.12309

Nikolov, M. (2009). Early Modern foreign language programmes and outcomes: Factors contributing to Hungarian learners' proficiency. In M. Nikolov (Ed.), *Early learning of modern foreign languages: Processes and outcomes* (pp. 90–107). UK: Multilingual Matters.

Nuffic. (2019). Percentage of Dutch primary schools in Nuffic networks, *2017*. Retrieved from https://www.nuffic.nl/en/subjects/dutch-primary-schools-nuffic-networks/#.

Odum, M. (2011). *Factor scores, Structure and communality coefficients: A primer.* Online submission. Retrieved from https://files.eric.ed.gov/fulltext/ED516588.pdf .

Oxford, R. L., & Burry-Stock, J. A. (1995). Assessing the use of language learning strategies worldwide with the ESL/EFL version of the Strategy Inventory for Language Learning (SILL). *System, 23*(1), 1–23. https://doi.org/10.1016/0346-251X(94)00047-A

Palermo, F., & Mikulski, A. M. (2014). The role of positive peer interactions and English exposure in Spanish-speaking preschoolers' English vocabulary and letter-word skills. *Early Childhood Research Quarterly, 29*(4), 625–635. https://doi.org/10.1016/j.ecresq.2014.07.006

Papi, M. (2010). The L2 motivational self system, L2 anxietyand motivated behavior: A structural equation modeling approach. *System, 38*(3), 467–479. https://doi.org/10.1016/j.system.2010.06.011

Papp, S. (2019). Assessment of young English language learners. In S. Garton, & F. Copland (Eds.), *The Routledge Handbook of teaching English to young learners* (pp. 389–407). Oxon: Routledge.

Peng, J. E., & Woodrow, L. (2010). Willingness to communicate in English: A model in the Chinese EFL classroom context. *Language and Learning, 60*(4), 834–876. https://doi.org/10.1111/j.1467-9922.2010.00576.x

Peters, E. (2018). The effect of out-of-class exposure to English language media on learners' vocabulary knowledge. *ITL - international Journal of Applied Linguistics, 169*(1), 142–168. https://doi.org/10.1075/itl.00010.pet

Puimège, E., & Peters, E. (2019). Learners' English vocabulary knowledge prior to formal instruction: The role of learner-related and word-related variables. *Language Learning, 69*(4), 943–977. https://doi.org/10.1111/lang.12364

Pyun, D. O., Kim, J. S., Cho, H. Y., & Lee, J. H. (2014). Impact of affective variables on Korean as a foreign language learners' oral achievement. *System, 47*, 53–63. https://doi.org/10.1016/j.system.2014.09.017

Richards, J. C. (2015). The changing face of language learning: Learning beyond the classroom. *RELC Journal, 46*(1), 5–22. https://doi.org/10.1177/0033688214561621

Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling. *Journal of Statistical Software, 48*(2), 1–36.

Sayer, P., & Ban, R. (2014). Young EFL students' engagements with English outside the classroom. *ELT Journal, 68*(3), 321–329. https://doi.org/10.1093/elt/ccu013

SLO. (2015). *Moderne vreemde talen: Vakspecifieke trendanalyse 2015.* Enschede: SLO national expertisecentrum leerplanontwikkeling. Retrieved from http://downloads.slo.nl/Repository/moderne-vreemde-talen-vakspecifieketrendanalyse-2015.pdf .

Sociaal en Cultureel Planbureau. (2016). Statusscores. Retrieved from http://www.scp.nl/Formulieren/Statusscores_opvragen.

Sougari, A. M., & Hovhannisyan, I. (2013). Delving into young learners' attitudes and motivation to learn English: Comparing the Armenian and the Greek classroom. *Research papers in language teaching & learning* (vol. 4)(1). Retrieved from https://www.researchgate.net/profile/Iren_Hovhannisyan/publication/235998316_Delving_into_young_learners_attitudes_and_motivation_to_learn_English_comparing_the_Armenian_and_the_Greek_classroom/links/02e7e515691c6e773b000000.pdf.

Sundqvist, P. (2009). *Extramural English matters: Out-of-school English and its impact on Swedish ninth graders' oral proficiency and vocabulary* (Doctoral dissertation). Retrieved from http://www.diva-portal.org/smash/get/diva2:275141/FULLTEXT03.pdf.

Sundqvist, P., & Sylvén, L. K. (2014). Language-related computer use: Focus on young L2 English learners in Sweden. *ReCALL, 26*(1). https://doi.org/10.1017/S0958344013000232, 3-2.

Sydorenko, T. (2010). Modality of input and vocabulary acquisition. *Language, Learning and Technology, 14*(2), 50–73. Retrieved from https://scholarspace.manoa.hawaii.edu/bitstream/10125/44214/14_02_sydorenko.pdf.

Sylvén, L. K., & Sundqvist, P. (2012). Gaming as extramural English L2 learning and L2 proficiency among young learners. *ReCALL, 24*(3), 302–321. https://doi.org/10.1017/S095834401200016X

Teo, T., Lee, C. B., Chai, C. S., & Wong, S. L. (2009). Assessing the intention to use technology among pre-service teachers in Singapore and Malaysia: A multigroup invariance analysis of the technology acceptance model (TAM). *Computers & Education, 53*(3), 1000–1009. https://doi.org/10.1016/j.compedu.2009.05.017

Tragant, E. (2006). Language learning motivation and age. In C. Muñoz (Ed.), *Age and the rate of foreign language learning* (vol. 19, pp. 237–266). https://doi.org/10.21832/9781853598937-012. Multilingual Matters.

Unsworth, S., Persson, L., Prins, T., & De Bot, K. (2015). An investigation of factors affecting early foreign language learning in The Netherlands. *Applied Linguistics, 36*(5), 527–548. https://doi.org/10.1093/applin/amt052

Ushioda, E. (2009). A person-in-context relational view of emergent motivation, self and identity. In Z. Dörnyei (Ed.), *Multilingual mattersMotivation, language identity and the L2 self* (pp. 215–228). https://doi.org/10.21832/9781847691293-012

Van Wijk, J. (2013). *De aanloop: Onderzoeksverslag lectoraal engels. Enquêtes primair onderwijs.* Gouda: Driestar educatief. Retrieved from http://www.driestar-educatief.nl/medialibrary/Driestar/Kennisontwikkeling/Lectoraat%20Engels/Documenten/4-De-aanloop.pdf.

Yashima, T. (2009). International posture and the ideal L2 self in the Japanese EFL context. In Z. Dörnyei (Ed.), *Multilingual mattersMotivation, language identity and the L2 self* (pp. 144–163). https://doi.org/10.21832/9781847691293-008

Zentner, M., & Renaud, O. (2007). Origins of adolescents' ideal self: An intergenerational perspective. *Journal of Personality and Social Psychology, 92*(3), 557–574.

Zou, C. (2018). Visualizing ideal L2 self and enhancing L2 learning motivation, a pilot study among Chinese college students. In S. Madya, F. A. Hamied, W. A. Renandya, C. Coombe, & Y. Basthomi (Eds.), *ELT in Asia in the digital Era: Global citizenship and identity* (pp. 343–358). London: Routledge. https://doi.org/10.1037/0022-3514.92.3.557.