# Factors other than age that affect Second Language Acquisition 

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#### Abstract

While age is important in explaining the success of second language acquisition, there are social, cultural, and behavioral factors that also affect a person's ability to learn a new language. Using a sample of 30 individuals who responded to a validated survey questionnaire, a descriptive study determined which factors, other than age, lead to help individuals learn a new language. The research hypotheses were evaluated by Correlation analysis. Stepwise multiple linear regression analysis was utilized as a supplementary technique in the data analysis. The study verified the veracity of a sensitive period, a revised conceptualization of the critical period hypothesis ( CPH ) for second language learning and identified other factors, aside from age, which contribute to second language acquisition. It was found that the main factors that influence second language acquisition are: language of media such as television; the individual's first language; the individual's gender; and the individual's exposure to reading.


## 1. Introduction

The acquisition of a second language (L2) is becoming more of a necessity for peoples around the world. For example, schools, colleges, and universities all over the world are emphasizing second language acquisition. Over the years, research has confirmed claims that many factors influence second language acquisition (Birdsong, 1999). However, a consensus has been reached that age is the most important factor of second language acquisition.

The discussion of whether age affects language acquisition and learning led to the development of the critical period hypothesis $(\mathrm{CPH})$, which basically asserts that a person's ability to acquire language is biologically linked to age (DeKeyser, 2000). More specifically, the CPH claims that in the context of a linguistically rich environment, there is a critical time window in which to acquire language fluency. After the time window has closed, language acquisition becomes increasingly difficult. Drawing from literature, Han (2004) identified the critical period from infancy to puberty or approximately from 2 to 13 years old. However, experts do not have a consensus with respect to the span of years which comprises the critical period and other theories were put forward.

The aforementioned difficulty prompted some researchers to present a revised concept of the critical period hypothesis for second language acquisition. Along with the revised concept, new terminology was introduced: the sensitive period (Nagai, 1997). Penhune (2011), however, upheld the definition of a sensitive period relative to the concept of a critical period and carefully elucidated the most basic differences:

The definition of a critical period in development is drawn from work showing that certain behaviors and their neural substrates do not develop normally if appropriate stimulation is not
received during a restricted period of time $\cdots$ Critical periods have relatively abrupt onsets and offsets, and appear to be largely under endogenous or genetic control. In contrast, during a "sensitive" period, neural systems are particularly responsive to relevant stimuli, and are more susceptible to change when stimulated. Sensitive periods have more flexible onsets and offsets, and appear to be strongly influenced by experience (Penhune, 2011, p. 1127).
Moreover, Nagai (1997) explained, the fundamental distinction between the critical period and the sensitive period is that in the former language acquisition is possible within a definite span of time reckoned in terms of human age, whereas the latter posits that acquisition is easier within the critical period. However, from a cursory review of the literature, the terms "critical period" and "sensitive period" seem to be used interchangeably by many researchers.

White et al. (2013) supports the concept of multiple sensitive periods in language learning as proposed earlier in Seliger (1978). Accordingly, different aspects of language are not manifested within the same temporally-defined window of opportunity. For example, vocabulary acquisition occurs throughout one's lifetime but is fastest at about 18 months of a person's chronological age. Similarly, learning phonology and syntax are believed to be easily acquired at a certain age where exposure to a language occurs. In sum, different aspects of learning in L2 can occur at any age, among individuals who speak different first languages (L1s) and have different learning experiences. Learning L2 is achieved implicitly through exposure or explicitly through training or formal learning (White et al., 2013).

CPH is often justified by the study of accent, which is claimed to be an indication that age significantly affects second language acquisition (Ioup, Boustagui, El Tigi, \& Moselle, 1994). Hence, Nagai (1997) suggests that although CPH governs the span during which native-like accent is acquired, acquisition of native grammar is believed to extend beyond the CPH, and can be explained in terms of multiple sensitive periods.

There is no question that age is an important factor when explaining the success of second language acquisition. In fact, extensive linguistics research has focused on understanding how age conditions the success of second language acquisition. Apart from age, however, the present study endeavors to understand how second language learning occurs, or more specifically, what other factors influence second language acquisition among older individuals or those who are past the hypothesis' critical period.

Since the majority of this study's respondents graduated university more than ten years ago, their training in a second language did not involve deeper-level language learning. Moreover, their academic skills did not entail at least seven or more years of training and instruction in L2 as discussed in Lavidas, Alexiou, and Sougari (2013). Rather, perceived success in L2 acquisition would entail more or less a couple of years of training or instruction to develop "conversational proficiency that is necessary for everyday face-to-face communication" (Lavidas et al., 2013, p. 219). In this study, it should be reasonable to consider everyday conversational proficiency as the goal of L2 acquisition, the threshold level of perceived success. This threshold level may be more objectively measured in terms of a learner's level of comfort in conversing in L2. Haynes (2007) argued that the success of English language learners is affected by their emotional state; as such, comfort in speaking L2 provides a reasonable measure of their success.

One factor in L2 acquisition is motivation, which has been found to positively correlate with academic achievement. Motivation constitutes an intrinsic factor that influences L2 acquisition, a very
different kind of factor than the biological factors implied by the CPH. Considering social constructs like motivation requires the reconceptualization of language learning, which in turn requires approaching the process as behavioral as opposed to merely biological in nature (DeKeyser, 2013).

Placing second language acquisition in the context of sociocultural theory carries various implications, primarily because it necessitates the examination of " $\cdots$ diverse social, historical, and cultural contexts in which language learning takes place, and how learners negotiate and sometimes resist the diverse positions those contexts offer them" (Norton, 2006, p. 358). Based on this, and without dismissing the value of internal factors (e.g. biological and motivation), there are external environmental factors that also significantly influence the language learning process and even have the power to condition the aforementioned internal factors (Ortega, 2014). Zhang (2009) illustrated that both formal and informal input, interaction with native language speakers, and output through speaking the second language, are imperatives in developing oral fluency in a second language.

Another external factor that affects second language acquisition is the curriculum. The curriculum should be customized based on the needs of the learner. Instructors should be able to provide an effective and appropriate learning experience for students. Moreover, they should provide encouragement to students so that they will be more motivated to learn the language (Macaro, 2010; Lightbown, et al., 2013).

Culture also plays a part in second language acquisition (Macaro, 2010; Lightbown, et al., 2013; Skehan, 1991). However, cultural differences between the primary and secondary language can interfere with the progress of acquiring a second language (Sangpanasthada, 2006). Access to native speakers within and outside the school environment is also important to second language acquisition. Native speakers help students acquire the proper accent by encouraging L2 learners to imitate them (Macaro, 2010; Lightbown, et al., 2013).

The values held by a learner also affect his or her ability to acquire a second language. For example, a student who highly values privacy may find it difficult to speak about himself in class, thus hindering his language acquisition.

Furthermore, gender may also play a role in second language acquisition. Some female students, may possess characteristics which tend to be perceived as uncooperative or withdrawn in the classroom. These social conventions may limit students' abilities to learn, as second language acquisition entails being active, vocal, and eager to participate (Sangpanasthada, 2006).

The present research has been conducted in an attempt to establish that while age may be an important factor in second language acquisition, and language learning in a more general sense, it is by no means the only factor that explains language learning success of some people or the failure of others. Second language acquisition is a learning process conditioned by both internal and external factors (Mitchell, Myles, \& Marsden, 2013).

## II. Hypotheses

This study found that second language acquisition is mainly a matter of social/behavioral influences, comprised of both intrinsic and extrinsic factors. These factors explain why some individuals succeed in second language acquisition and others fail.

## A. Dependent Variables

Two dependent variables were considered in this study, both of which indicate success in second language acquisition. These variables represent the threshold level in L2 acquisition, the level which finds utility in everyday communication:

1. Level of comfort communicating in L2, which was evaluated in the study using four measures: comfort using L2 for casual everyday communication; awareness of accent, comfort with L2 grammar, and comfort writing in L2.
2. Level of satisfaction communicating in L2, which was assessed using the measure of satisfaction with acquired L2 ability or skill. The validity of this measure is grounded on the study of Lo (2010), which offered evidence linking learner satisfaction with skills acquired and perceived learning.

## B. Independent Variables (Factors)

Fifteen independent variables were identified in this study: age, gender, first language, time first exposed to L2, formal education in L2, living experience in L2 environment, language mainly spoken at home, language mainly spoken at work, language mainly spoken while socializing, family's view on L2 culture society, language of TV programs frequently watched, language of reading materials, amount of reading done, material read in L 2 , and learning motivation.

Hypotheses were stated in the null form. The two dependent variables were correlated with the 15 independent variables or factors identified and examined for the extent of the relationship and statistical significance of the correlation. Hypotheses were evaluated using a non-directional or two-tailed correlation analysis at 0.05 level of significance ( $\alpha=0.05$ ) to explore significant relationships between the dependent variables and independent variables or factors:

1. There is no significant relationship between level of comfort communicating in the second language and the 15 factors identified in the study.
2. There is no significant relationship between perceived success in second language acquisition and the 15 factors identified in the study.

## III. Method

## A. Sampling Design

Purposive sampling was utilized to assemble the sample for the study. As explained in Hibberts, Johnson, and Hudson (2012), purposive sampling engages participants who meet specific criteria as the target population. Invitations for voluntary participation were distributed in Gifu, Japan in cooperation with teachers in an English Conversation class and second language speakers known to the researcher who recommended their peers, subject to the following inclusion criteria: (1) individuals who speak a second language or are learning to speak a language other than their native language; (2) willingness to participate in the study on a voluntary basis and sign the informed consent form; (3) can read and understand English or have functional literacy in English (because the questionnaire was administered in English); (4) gender; (5) at least 20 years old at the time of the study.

Research ethics requires parental consent for minors' participation in the study (Kelly, \& Kamp,
2014), so a decision was made to include individuals already in their age of majority. Incidentally, limiting the participants' age to 20 years old and above in view of parental consent also meant that the study's respondents would all be past the critical window of time described in the $\mathrm{CPH} . \mathrm{CPH}$ states that "after a certain critical period, it is impossible to learn a second language with native proficiency" (Major, 1997, p. 147).

## B. Research Design

The study was framed using quantitative research methodology because it will facilitate the analysis of factors that affect the success of second language acquisition. It is worth mentioning at this juncture that " $\cdots$ in quantitative research, research questions are developed to evaluate the perceptions or behaviors among the target audience" (Creswell, 1994, p. 17). Quantitative research comprises a process of scientific investigation which allows for a numerical measurement of variables and assessment of the hypothesized relationships.

The study was, thus, prepared using a descriptive research design to report second language phenomena as they occur naturally. As elucidated in Seliger and Shohamy (2001), descriptive research refers to an "investigation which utilizes already existing data or non-experimental research with a preconceived hypothesis" (p. 117). This study is non-experimental with preconceived hypotheses as previously stated. At the time of the study, the information gathered already existed for each case (i.e., each individual), such as comfort in using L2 for casual everyday communication, time first exposed to the second language, together with the rest of the variables.

## C. Research Instrument

A survey questionnaire was designed to collect information about the respondents' perceptions and experiences with second language acquisition. The questionnaire was comprised of 21 items. Answers to each question indicate information about the dependent and independent variables of the study. The questionnaire is exhibited in Appendix 1.

Two of the questionnaire items elicited written single-word inputs from the participants (i.e., their first and second language), while the rest of the items were provided with sentences composed of at least several words. The items included in the questionnaire were intended to comprehensively explore all factors for perceived success in second language acquisition beyond the critical or sensitive period in terms of comfort with the language. Items 1 to 6 are respondent demographic variables. Items 7 to 15 are items pertaining to factors which influence success in L2 acquisition. Items 16,17 , and 18 , and 19 pertain to the respondents' level of comfort with L2. Item 20 inquired about the respondents' motivation, whereas item 21 quantified respondent's perceived success in acquisition of L2.

Responses to the questionnaire were obtained through participants' self-reports. This suggests that variables were measured from self-reports which are valid due to the type of information being gathered. Data about the comfort a person feels or perceives can only be obtained through a self-report. Moreover, self-reports are widely utilized in research. The Behavior Inventory, a self-report questionnaire which measures each respondent's comfort in using certain skills, is an acceptable instrument (Kirby \& Alters, as cited in Lock \& Vincent, 1995).

Furthermore, while a study by Karriker and Spaite (1999) comparing perception and knowledge measurements about respondents' own selves showed that while perceived measurements can be inflated, knowledge measurements were also inflated, albeit to a lesser extent. It would be impractical to gauge comfort, as used in this study, in terms of a theoretical benchmark. Hence, self-reported perceptions of comfort in using L2 for casual everyday communication would constitute a more sensitive measure for the purpose of the study than a measure of knowledge.

## D. Reliability and Validity

The questionnaire items that do not pertain to respondent demographics were evaluated for internal consistency reliability, face validity, and content validity based on a pretest of the final draft among five respondents taken from the sampling frame of the target population. Johnson and Christensen (2014) recommended a minimum of five to ten participants. Those who participated in the pilot testing were not included as respondents in the survey proper.

Reliability. Internal consistency reliability ensures that the questionnaire items are measures of the construct being studied, which partly depends on the level of correlation of the items, and the proportion of variance or the common variance among the items (Ashton, 2013; Salkind, 2013). Internal consistency reliability was examined using the Spearman-Brown coefficient grounded on the recommendation in Eisinga, Grotenhuis, and Pelzer (2013) that it is less biased than Cronbach's alpha or Gutman's coefficient. Cronbach alpha tends to underestimate values for those fewer than 8 items and overestimates values with over 30 items (O'Rouke \& Hatcher, 2013). The rule of thumb in evaluating internal consistency reliability considers values above 0.70 to be acceptable (Nunnally, as cited in O'Rouke \& Hatcher, 2013). However, the ideal range of internal consistency reliability among questionnaire items is between 0.80 and 0.90 ( De Vellis, as cited in O'Rouke \& Hatcher, 2013).

The six questionnaire items on a two-point scale were found to have a reliability of 0.776 and can be interpreted as acceptable. Meanwhile, the four items on a three-point scale accounted for a reliability of 0.866 , an ideal value. The four items on a four-point scale accounted for a reliability of 0.945 based on Spearman-Brown coefficient, but even if the value exceeds the ideal range (i.e., 0.90 ), its reliability is acceptable because the corresponding Cronbach alpha for this set of four items is 0.833 . If Cronbach alpha tends to underestimate values for those fewer than 8 items, then 0.945 is most probably the more realistic internal consistency reliability value for a four-item scale.

Validity. Evaluation of face and content validity was carried out with the assistance of two subject matter experts. The final draft of the research instrument was submitted to an expert in research design for a general impression of the questionnaire in terms of how items are worded so that these may be better understood by the respondents and to avoid errors or ambiguous questions. This constitutes face validity. Meanwhile, as defined Picardi and Masick (2014), content validity is described as the extent to which the measures adopted in the study evaluate the construct of interest: level of comfort in communicating in the L2 and perceived success in L2 acquisition. In other words, content validity is evaluated to ensure that the information used in designing the measure is reflected in the questionnaire items; and this was evaluated with a subject matter expert in second language learning.

## E. Statistical Analysis

Upon completion, the retrieved questionnaire were processed by electronic tabulation of the responses. Processing of the raw data was carried out with the use of a coding guide shown in Appendix X , where numbers represented the responses in each question item. A data matrix was created using MS Excel (2013) with each of the 30 cases in rows and the 21 variables in columns. The data matrix was then transferred to the application Statistical Package for the Social Sciences or SPSS Version 17 (IBM, 2008) to facilitate data analysis.

Data was treated descriptively and inferentially. The distribution of each question item is presented textually. In order to better understand the extent to which factors affected the success of second language acquisition, correlation analysis was performed to evaluate the hypotheses using non-directional or twotailed analysis at 0.05 level of significance. The following guide was used to interpret the extent of the relationship between each pair of dependent and independent variables:

## Table 1.

Interpretation Guide for the Correlation Coefficient (Salkind, 2010, p. 129)

| Correlation Coefficient | Interpretation |
| :---: | :---: |
| 0.8 to 1.0 | Very strong relationship |
| 0.6 to 0.8 | Strong relationship |
| 0.4 to 0.6 | Moderate relationship |
| 0.2 to 0.4 | Weak relationship |
| 0 to 0.2 | Weak or no relationship |

Statistical significance of each pair of relationships was evaluated by comparing the observed or actual significance or p -value of the Pearson coefficient of correlation with the hypothesized level of significance of $0.05(\alpha=0.05)$. The p -value is displayed in SPSS as Sig. (which indicates significance). A p-value equal to or less than 0.05 is taken to mean that there is a significant relationship between the dependent and independent variables (factors). On the other hand, a p-value greater than 0.05 suggests no significant relationship. Results of the correlation analysis formed the basis for the acceptance or rejection of the formulated hypotheses. Output of the correlation analysis was presented as a tabulation of the dependent and independent variables and discussed accordingly.

## IV. Results: Descriptive Statistics

This section presents the findings of the descriptive statistics based on the questionnaire responses.

1. Gender: Two-thirds of the respondents are female. Thus, female participants outnumber males in the ratio $2: 1$. The inclusion criteria for prospective participants did not indicate preference for a specific gender, but the English Conversation class, where most of the respondents were recruited, was predominantly female.
2. Age: Based on purposive sampling design, where age was limited to 20 years old and above, it may be noted that the age distribution is skewed to the right, with about 6 of every 10 participants falling into the 60 or over for groupl.
3. First Language: Four-fifths of the study participants have Japanese as their first language, whereas
the remaining one-fifth are equally comprised of Chinese and Spanish speakers. The predominantly Japanese first language speakers was expected since the research locale is Gifu, Japan.
4. Second Language: All the 30 research participants reported English as their second language. This finding suggests that the participants have acquired or have attempted to acquire English as a second language.
5. Time First Exposed to Second Language: Four-fifths ( $80 \%$ ) of the participants were first exposed to English as their second language during their teenage years ( $63.33 \%$ ) or past their teens $(16.67 \%)$, and thus past the critical period in CPH. Those who were exposed to English in their teenage years, which comprise the majority of the respondents, may be explained by the educational system in the research locale. Most Japanese students started learning English in junior high school. Meanwhile, less than one-fifth of the participants were exposed to English during their pre-teens, the latter years of the critical period. Since only five ( $16.67 \%$ ) of the participants were introduced to their second language before their teen years, it is reasonable to conclude that age is not an impediment for $83.33 \%$ of the participants to learn a second language. If this variable correlates significantly with one or more of the five indicators of success in second language acquisition, it will be a noteworthy factor in this study.
6. Formal Education in Second Language: The majority of the participants, comprised of 18 or $60 \%$ reported that they obtained formal education in their second language in Grades 7 to 9. This was expected. English education starts in junior high school in Japan. Therefore, they were introduced to their second language between 13 and 15 years of age, validating the inclusion of the variable, time of first exposure to the second language, as a factor in the study.
7. Living Experience in the L2 Environment: More than half of the respondents (57\%) lived in a country where their second language was primarily used. This is a relevant finding because it introduces the environmental/social factor. Based on this, it should be a good starting point to see whether or not enhanced exposure to a particular language facilitates second language acquisition.
8. Language Mainly Spoken at Home: All but two (93\%) of the participants predominantly speak their first language at home. This means that exposure to the second language in the household is rather limited, which in principle would suggest that those who do not speak their second language at home may find it more difficult to learn. As explained in Barker and Jones (1998), it is more difficult to create opportunities for the second language to be spoken for more practical purposes outside the formal context-reduced environment of learning.
9. Language Mainly Spoken at Work: Four-fifths (80\%) of the participants mainly speak their first language at work. This finding indicates that exposure to the second language in the workplace is also rather limited. This suggests that those who do not speak their second language at work may find it more difficult to learn it because learning a language requires practice, and lack of contextual clues in the everyday life to makes gaining proficiency more difficult (Barker \& Jones, 1998).
10. Language Mainly Spoken while Socializing: A majority ( $80 \%$ ) of the participants also socialize using their first language as the medium of communication. Socialization is the third opportunity which facilitates second language acquisition outside of the formal context-reduced learning environment. When the first language is utilized when socializing, second language is hindered
because language learning, according to Ochs and Shiefflin (as cited in Fogle, 2012) is "essentially a social phenomenon mediated by culture and language" (p. 2).
11. Family's View on Second Language Culture/Society: Almost two-thirds (63\%) of the participants affirmed that their families exhibited fondness for the culture/society associated with their second language. Only two participants reported their family's dislike of their second language culture/ society. However, about one third ( $30 \%$ ) of the participants disclosed their family's indifference about the second language culture/society. Fondness for the culture/society associated with the second language should translate to openness of the family members in engaging in the second language when communicating with the respective participants which would facilitate learning or success in second language acquisition. This was not shown in the findings of the study.
12. Language of TV Programs Frequently Watched: More than four-fifths of the participants ( $83 \%$ ) watch TV programs in their first language. The findings suggest that only $17 \%$ of the participants embraced the opportunity to enhance their learning of the second language in the context of informal education via visual media. Drawing from rich literature, Arslan (2011) showed that watching TV programs broadcast in a foreign language is a excellent method for second language acquisition among both children and adults.
13. Language Mostly Used in Reading: A majority of the participants read resources in their first language ( $77 \%$ ). Reading in a foreign language, according to Arslan (2011), helps develop passive language skills for second language acquisition. Thus, second language learners who limit their reading to resources in their first language are not maximizing their potential to learn more.
14. Amount of Reading Done: Almost half of the participants (47\%) reported that they read often, whereas one-fifth $(20 \%)$ declared they read very often. As reflected in the argument of Barker and Jones (1998), the time spent reading in the first language is time lost to learning in the second language through reading.
15. Material Read in L2: One third (30\%) of the participants normally read emails/SMS in the second language, whereas half read either newspapers ( $23 \%$ ) or magazines ( $27 \%$ ). About $17 \%$ of the participants read novels in the second language and one participant ( $3 \%$ ) reads comic books. There is no particular type of reading material recommended for non-academic reading or informal learning by way of reading in the second language. Rather, free voluntary reading is supported in second language learning research, as it is beneficial to the learner (as cited in Krashen, 2011). However, maximal exposure to second language fosters comprehension, as explained in Bernhardt (2011). In this regard, second language learners should endeavor to engage in reading a diverse set of resources to enhance success in their goal of L2 acquisition.
16. Comfort in using L2 for casual everyday communication (How comfortable are you when conversing in your second language for casual everyday communication?): Almost three quarters of the participants ( $73 \%$ ) are either very comfortable ( $20 \%$ ) or comfortable ( $53 \%$ ) communicating in their second language. However, the rest $(27 \%)$ are not comfortable with their second language communication.
17. Awareness of Accent: More participants are somewhat concerned about their non-native accent when communicating in L2 (43\%) than those who are not concerned about their accent (37\%).

The rest of the participants ( $20 \%$ ) do not have non-native speaker accent concerns. This finding indicates that the majority of respondents felt generally okay with their non-native accent.
18. Level of Comfort with L2 Grammar: Majority (53\%) of the respondents evaluated their level of comfort with L2 grammar as fair. Meanwhile, close to one-third (30\%) of the participants reported that they are highly comfortable with their L2 grammar, but $17 \%$ disclosed low level of comfort with L2 grammar.
19. Level of Comfort Writing in L2: Almost half of the participants (47\%) reported some level of comfort writing in their second language, with $43 \%$ indicating they are comfortable and one participant responding 'very comfortable'. Slightly more than half (53\%) of the participants revealed that they were uncomfortable writing in L2.
20. Learning Motivation: More than half (53\%) of the participants decided to learn their second language as a hobby, whereas the rest ( $47 \%$ ) were equally distributed between those who were motivated to learn their second language for work or for socializing with friends and family. It may be recalled from finding no. 2 that the age distribution of the respondents is skewed towards the older age group, who were possibly retirees learning a second language as a worthwhile hobby, whereas the younger participants were motivated by socialization prospects with friends or family.
21. Satisfaction with Acquired L2 Skills: Less than one-third of the participants (30\%) were either completely satisfied (7\%) or satisfied (23\%) with their perceived success in the acquisition of L2. However, slightly over two-thirds (63\%) of the participants were barely satisfied with their perceived achievement, but still interested in enhancing their communicative skills in the second language. The rest (7\%) were not satisfied about their perceived failure in L2 acquisition and expressed no desire to improve their communication skills in L2. The findings showed that even a slight positive perception of success affects motivation to further enhance L2 skills.

## V. Analysis

The following results were obtained in the evaluation of the two sets of hypotheses formulated earlier in the study using non-directional or two-tailed linear correlation analysis at 0.05 level of significance, and linear correlation analysis. Row variables are the 15 independent variables or the factors being considered as possible predictors of success in second language acquisition. Column variables are the dependent variables used to indicate success in second language acquisition. Results of the correlation analysis formed the basis for the acceptance or rejection of the formulated hypotheses. Output of the correlation analysis was presented as a tabulation of the dependent and independent variables and discussed accordingly.

Each cell in Table 2 shows the quantitative output of the correlation analysis in the following format: ( $\mathrm{r}, \mathrm{p}$ ), where r represents the Pearson coefficient of correlation, and p represents the p -value or observed level of significance of the coefficient of correlation reported. Significant correlations are indicated with an asterisk. Thus, only the pair of dependent and independent variables, which attained statistical significance showed asterisks. Significantly correlated variable pairs are highlighted in red. Variable pairs sky blue are marginally significant or almost reached statistical significance. Factors in bold font attained statistical significance in at least one indicator of success in L2 acquisition.

Table 2.
Correlation between Indicators of Success in L2 Acquisition and Independent Variables or Factors Considered in the Study

| Indepen-dent Variables or Factors | Dependent Variables:Indicators of Success in Second Language Acquisition |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Level of Comfort Communicating in L2 |  |  |  | Perceived Success |
|  | Measures Used |  |  |  |  |
|  | Comfy Converse ${ }^{\text {a }}$ | Native Accent ${ }^{\text {b }}$ | $\begin{gathered} \text { Comfy } \\ \text { Grammar }^{\text {c }} \end{gathered}$ | Comfy Writing ${ }^{\text {d }}$ | Satisfaction |
| Age ${ }^{1}$ | 0.271, 0.147 | 0.013, 0.949 | 0.019, 0.919 | 0.211, 0.264 | 0.369, 0.045 |
| Gender ${ }^{2}$ | 0.031, 0.871 | 0.064, 0.736 | 0.387, 0.035* | 0.158, 0.404 | 0.102, 0.590 |
| L1 ${ }^{3}$ | 0.085, 0.654 | 0.465, 0.010* | 0.243, 0.196 | 0.218, 0.247 | 0.165, 0.384 |
| Time First Exposed ${ }^{4}$ | 0.351, 0.057 | 0.019, 0.921 | 0.218, 0.247 | 0.315, 0.090 | 0.252, 0.180 |
| Education in L2 ${ }^{5}$ | 0.146, 0.442 | 0.008, 0.966 | 0.112, 0.556 | 0.081, 0.670 | 0.110, 0.562 |
| Living Expe ${ }^{6}$ | 0.200, 0.290 | 0.199, 0.293 | 0.375, 0.041* | 0.331, 0.374 | 0.283, 0.130 |
| Home Language ${ }^{7}$ | 0.397, $0.030 *$ | 0.303, 0.103 | 0.346, 0.061 | 0.478, 0.008* | 0.465, 0.010* |
| Work <br> Language ${ }^{8}$ | 0.087, 0.646 | 0.454, 0.012* | 0.274, 0.143 | 0.224, 0.235 | 0.266, 0.156 |
| Socializing <br> Language ${ }^{9}$ | 0.326, 0.079 | 0.361, 0.050* | 0.361, 0.050* | 0.439, 0.015* | 0.682, <0.001* |
| $\begin{gathered} \text { Family's View } \\ \text { on L2 } 2 \text { 10 } \end{gathered}$ | 0.161, 0.396 | 0.061, 0.747 | 0.059, 0.756 | 0.024, 0.899 | 0.086, 0.650 |
| $\underset{\text { Language }^{11}}{\text { TV }}$ | 0.547, 0.002* | 0.020, 0.915 | 0.445, 0.014* | 0.680, <0.001* | 0.583, 0.001* |
| Reading Language ${ }^{12}$ | 0.406, 0.026* | 0.304, 0.102 | 0.478, 0.007* | 0.564, 0.001* | 0.559, 0.001* |
| Amount of Reading ${ }^{13}$ | 0.243, 0.195 | 0.107, 0.574 | 0.362, 0.049* | 0.307, 0.099 | 0.093, 0.625 |
| Reading Materials ${ }^{14}$ | 0.034, 0.860 | 0.118, 0.534 | 0.097, 0.610 | 0.162, 0.392 | 0.010, 0.959 |
| $\underset{\text { Motivation }^{15}}{\text { Learning }}$ | 0.255, 0.174 | 0.028, 0.885 | 0.254, 0.176 | 0.109, 0.567 | 0.217, 0.249 |

Legend: Measures of dependent variables - ${ }^{\text {a }}$ Comfort in using L2 for casual everyday communication; ${ }^{\mathrm{b}}$ Consciousness of non-native accent; ${ }^{\text {c }}$ Level of comfort with L2 grammar; and ${ }^{\mathrm{d}}$ Level of comfort writing in L2; Independent variables - ${ }^{1}$ Age; ${ }^{2}$ Gender; ${ }^{3}$ First language; ${ }^{4}$ Time first exposed to L2; ${ }^{5}$ Formal education in L2; ${ }^{6}$ Living experience in L2 environment; ${ }^{7}$ Language mainly spoke at home; ${ }^{8}$ Language mainly spoke at work; ${ }^{9}$ Language mainly spoke while socializing; ${ }^{10}$ Family's view on L2 culture/society; ${ }^{11}$ Language of TV programs frequently watched; ${ }^{12}$ Language mostly used in reading language; ${ }^{13}$ Amount of reading done; ${ }^{14}$ Material read in L2; and ${ }^{15}$ Learning motivation.

## VI. Discussion

## Comfort in Using L2 for Casual Everyday Communication (Variable converse)

Significant relationship was observed between the dependent variable, comfort in using L2 for casual everyday communication, and three of the 15 factors identified in the study: home language, TV program language, and reading language. Home language showed a moderate, but significant relationship
with comfort conversing in $\mathrm{L} 2(\mathrm{r}=0.397, \mathrm{p}=0.030)$. TV program language also exhibited a significant and moderate relationship with comfort conversing in $\mathrm{L} 2(\mathrm{r}=0.547, \mathrm{p}=0.002)$. Reading language also moderately correlated with comfort conversing in $\mathrm{L} 2(\mathrm{r}=0.406 \mathrm{p}=0.026)$. The results suggest that active language skills, like communication in L2, and watching interactions in L2, complemented with the passive language skill in reading, significantly affect comfort in conversing using the second language and consequently, perceived success in second language acquisition.

The time that the participants were first exposed to L2 was marginally significant (i.e., almost significantly correlated) as an influence to converse ( $\mathrm{r}=0.351, \mathrm{p}=0.057$ ). It is possible that the sample size affected the inability of exposure to L2 environment to reach statistical significance. Had this factor been statistically significant, this would have somehow provided some support to CPH, because about one-fifth of the respondents were exposed to L2 during their pre-teens or within the window specified in the critical period. The non-significance did not offer support for the sensitive period, as well.

Surprisingly, motivation did not significantly affect the variable converse or any of the four other indicators of success in L2 acquisition. In this regard, it is possible that the reward of successfully acquiring the second language did not sufficiently motivate learning because majority of the participants reported that their pursuit of L2 acquisition was just a hobby. An unsuccessful venture in acquiring a second language should not be a matter of concern for retirees learning English simply as a hobby.

## Concern about Non-Native Accent (Variable accent)

A moderate but significant relationship was also noted between consciousness of non-native accent (variable: accent) on one hand, and the factors: first language ( $r=0.465, p=0.010$ ), work language ( $r=$ $0.454, \mathrm{p}=0.012$ ), and socializing language ( $\mathrm{r}=0.361, \mathrm{p}=0.050$ ). The results are not surprising because of the evidence that continued use of the first language influences the development of a non-native accent, as explained in Piske, MacKay, and Flege (2001). Moreover, use of L1 at work and during socialization reasonably affects concern about the non-native speaker accent. It is common that some social circles are comprised of a mix of different cultures where members speak in L1, L2, or yet another language. Depending on the people in the context of workplace or social interactions, L2 learners may be influenced to speak in L1, as the finding show, or in L2, which was not reflected in the data collected.

## Level of Comfort with L2 Grammar (Variable grammar)

Six of the 15 factors identified in this study to possibly influence success in L2 acquisition showed a moderate and significant relationship with self-reported level of comfort with L2 grammar (variable: grammar). These factors include: living experience in the L 2 environment $(r=0.375, \mathrm{p}=0.041)$, socializing language ( $\mathrm{r}=0.361, \mathrm{p}=0.050$ ), TV language ( $\mathrm{r}=0.445, \mathrm{p}=0.014$ ), reading language ( $\mathrm{r}=0.478$, $\mathrm{p}=0.049)$, amount of reading $(\mathrm{r}=0.362, \mathrm{p}=0.049)$, and somehow, surprisingly, gender $(\mathrm{r}=0.387, \mathrm{p}=$ 0.035). It may also be observed it was only in grammar proficiency that the amount of reading significantly influenced success in L2 acquisition, but the reading materials did not actually correlate significantly. The findings support Krashen (2011), who posits that free, voluntary reading benefits learning in L2.

Additionally, being exposed to a living environment where L2 is primarily spoken offers more opportunities to pick up contextual cues that facilitate better understanding of the L2 grammar structure. TV program language approximates to the nearest possible level, how interaction in L2 naturally transpires, and which L2 learners can use as models to emulate in order to enhance their L2 grammar. The significant
effect of gender on grammar may not be surprising because girls have been outperforming boys in grammar (Tysack, \& Hansot, 1992).

It is more interesting that home language did not affect the participants' L2 grammar comfort level. While the descriptive results showed that L1 was predominantly spoken at home, home language, was at least, a marginally significant factor moderately affecting the variable grammar. Sample size issues may be at play, in this regard. The correlation coefficient was negative, but it was not an inverse or reverse correlation, which was why the negative sign was not shown in Table 2. Rather, it was a matter of data coding, where L1 was coded 1 and L2 was coded 2; and grammar was coded high (1), fair (2), and low (3). The negative correlation, though marginally significant, may be interpreted as use of first language at home is associated with lower grammar proficiency in the second language - a very reasonable correspondence.

## Level of Comfort Writing in L2 (Variable writing)

The relationship between level of comfort writing in L2 and the factors that affect success in L2 acquisition was another aspect of this study and is worth a second look. This should be visible with a cursory review of the grammar and writing columns shown side-by-side in Table 2. First, writing was one of two success indicators in L2 acquisition that generated a strongly correlated factor. Also, the significant factors - gender, L2 living experience, and amount of reading in the dependent variable measure grammar were absent in dependent variable measure writing. Home language, which was marginally significant in grammar, was statistically significant in writing.

Going into more detail, writing strongly correlated with TV program language ( $\mathrm{r}=0.680, \mathrm{p}=$ $<0.001$ ). Moreover, writing was moderately related with home language ( $\mathrm{r}=0.478, \mathrm{p}=0.008$ ), socializing language ( $r=0.439, p=0.015$ ), and reading language ( $r=0.564, p=<0.001$ ). The stronger effect of TV language program on writing, rather than on grammar comfort levels may be explained by the complementary nature of reading and writing skills and the interdependence hypothesis, as elucidated in Grabe (2003). Considering that this is arguably directional, there is a good justification for this effect on the current study.

Respondents who were predisposed to watching TV programs broadcast in L2 tend to be more comfortable writing in L2. For the same set of students, those who predominantly read in the second language also tend to report being comfortable with L2 grammar. The findings showed that reading extensively helps improve a respondent's comfort writing in L2. Moreover, informal learning derived from watching TV programs in L2 should be easier to remember and articulate in written word than in spoken word because one can compose, edit, and revise a written piece in L2, whereas something spoken is spontaneous and may not be easily retracted or withdrawn.

Thus, the participants may have generally perceived comfort in both grammar and writing, but whatever skills they have attained, they feel more comfortable at writing probably because they have the luxury of time to think about their words and phrases, but it is actually their proficiency in grammar that facilitated their perceived higher proficiency in writing. On the other hand, those who watch TV and read predominantly in L1, somehow, benefited slightly from the experience in L2 learning because of the interdependence hypothesis, which postulates that "there is an underlying common proficiency across languages" (Grabe, 2003, p. 247).
Perceived Satisfaction (Variable satisfaction)

Like comfort in writing, satisfaction generated a strong relationship with one of the 15 factors considered in this study that can influence success in L2 acquisition. Also, the set of significant factors in writing are the same significant factors in perceived success. There is a strong correlation between satisfaction and socializing language ( $r=0.682, \mathrm{p}=<0.001$ ). Satisfaction also showed a moderate correlation with home language ( $\mathrm{r}=0.465, \mathrm{p}=0.010$ ), TV program language $(\mathrm{r}=0.583, \mathrm{p}=0.001$ ), and reading language $(r=0.559, p=0.001)$.

It appears that the participants' perception of success in learning L2 were aligned with their selfreported level of comfort writing in L2. It is both reasonable for socializing language to produce the strongest effect on the participants' perception of success in L2 acquisition, because success in learning a language is best manifested in one's use successful of the language in socialization activities. The data, however, suggests that use of L1 in socializing is related to negative perceptions of success and demotivation to improve L2 communication skills. The moderate influence of home language, TV program language, and reading language can be explained similarly as in the variable writing.

## Non-Significant Factors

Age, as a factor influencing success in L2 acquisition did not reach statistical significance in any of the five indicators considered in the study. Four other factors did not correlate with at least one of the five indicators of success in L2 acquisition. These factors are: learning motivation, as earlier mentioned; formal education in L2, family's view on L2 culture/society, and reading materials or material read in L2. Each set of hypotheses was rejected with at least three of the factors in each indicator of success in L2 acquisition found to have a significant relationship. However, not all the 15 factors considered in the study significantly correlated with the indicators of success in L2 acquisition.

## The Real World Scenario: A Statistical Epilogue

In as much as the goal of this study was to identify factors which influence perceived success in L2 acquisition, each factor or independent variable was treated as a separate factor that does not affect any of the other factors. Table 2 shows the results of such analysis. However, in the real world, the relationship of each factor with the dependent variable cannot be isolated from the other factors. Thus, the measure, comfort in using L2 for casual everyday communication (converse), may be regressed to illustrate the collective effect of the 15 factors. Output of the stepwise multiple regression analysis showed that TV language remained the sole significant variable among the 15 factors when they are collectively considered. This finding suggests that TV language is the most significant factor which affects a learner's level of comfort using L2 for everyday communication.

Performing stepwise multiple regression analysis on the four other measures of perceived success, the most significant predictors applicable to the specific group of respondents who participated in the study are as follows:

1. For concern about non-native accent, first language remained as the only significant predictor. Practice will help develop one's native like accent to enhance one's perception of success in L2 acquisition.
2. For level of comfort with L2 grammar, the significant predictors are the reading language, the amount of reading, and gender. Reading more often in the second language, especially if the respondent is a female, will help improve one's level of success in L2 acquisition.
3. For level of comfort writing in L2, TV language is the most significant predictor. Watching more TV programs in the second language will increase one's level of success in L2 acquisition.
4. For satisfaction in L2 acquisition as a gauge of success, socializing language is the most significant predictor. Using less of the first language will increase level of success in L2 acquisition.

## VII. Conclusion

The findings of the research study provides support for multiple sensitive periods. The respondents were distributed among the five age groups and L2 acquisition was found to be possible among different age groups, validating an earlier claim made by Seliger (1978) that different aspects of learning occur at different periods. It is true that learning was not measured in terms of the theoretical knowledge gained by the respondents in L2. However, it was not the intent of the study to report academic achievement in L2, but to measure success in L2 acquisition based on the threshold level of everyday communication. Thus, success was measured in terms of the level of comfort communicating in L2 and satisfaction with the outcome of the endeavor to acquire a command of L2 for day-to-day interaction with people in the workplace, school, and social circles.

Additionally, the findings demonstrate that second language acquisition cannot be reduced to biology, because age was not a significant factor in any of the success indicators of L2 acquisition considered in the study. Thus, development of brain functions which progress with age are not the only factors that explain language development. However, this is not to say that biology has no impact on the process. While the results indicate that individuals are able to learn and enhance their skills in a second language, it is important to keep in mind that biology does play a role in the process. Linear reasoning functions of language, such as grammar and word production, are often lateralized to the left hemisphere of the brain - these are biological development processes.

Furthermore, holistic reasoning functions of language such as intonation and emphasis are often lateralized to the right hemisphere of the brain. Other integrative functions, such as intuitive or heuristic arithmetic, binaural sound localization, emotions, etc., seem to be more bilaterally controlled (Taylor \& Martin, 1990). Based on this, it is possible to argue that age affects a person's ability to acquire a second language. Despite this, the results also indicate that social/behavioral constructs also play an important effect on the process of second language acquisition. Particularly worth mentioning is the fact that socialization and culture are indicated to be decisive in the individual's ability to learn and master a second language.

The study's findings illustrate that there are other factors, besides age, that are relevant in determining the success of second language acquisition. The following conclusions are drawn from the results of the survey and the analysis of the findings of the study:

1. There are, indeed, sensitive periods in second language development, and learning past the CPH is certainly possible, although success in the endeavor may be influenced by both intrinsic and extrinsic variables. Apart from biology, sociological/behavioral factors are at play in the process of second language acquisition.
2. Sociological/Behavioral factors, complemented by helping mechanisms in the contextual background of the learner exert more influence on the success of second language acquisition than
the learner's age. These mechanisms may be formal or informal education or training and influences from a person's experiences such as exposure.
3. Sociological/Behavioral factors contribute to the enhancement of both active and passive language skills. Among the factors examined in this study, speaking in the second language at home, at work, and when socializing with friends and family, as well as watching TV programs broadcast in the second language and reading in the second language outside of the formal education environment, significantly influence success in second language acquisition.
Grounded on the foregoing findings and conclusion, it should be important for academics to reconceptualize the CPH , or more appropriately, the multi-window sensitive period theory and its relevance in second language acquisition. Future initiatives aimed at enhancing success in second language acquisition should focus on the social and cultural context of the overall environment. Learning in a context-reduced formal education milieu should be reinforced with relevant aspects of the informal learning environment to bolster motivation to succeed.

That being said, it is important to create incentives that effectively align the individual's motivation with their goal in acquiring a second language. In this regard, the curriculum will be critical in ensuring that this occurs. Besides the curriculum, the following recommendations can help boost the chances of success in second language acquisition:

1. Foster interest in second language reading among both male and female learners through informal reading by targeting specific readers based on their interests.
2. Create actual and virtual communities where L2 learners may interact with L2 native speakers and successful non-native L2 speakers as a substitute for actually living in the L2 country.
3. Appropriate media should be utilized by language learners. Programs would best be conversational rather than informative.
4. Encourage learners to conceive their own ways to increase exposure to L2. In this regard, instructors should provide L2 learners with interactive computer and internet applications in the second language to heighten their interest to speak with native speakers of their target language.

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## Appendix <br> Validated Research Instrument (Survey Questionnaire)

1. What is your gender?
A. Male
B. Female
2. What is your age?
A. 20-29
B. $30-39$
C. 40-49
D. 50-59
E. 60 or over
3. What is your first language? $\qquad$
4. What is your second language? $\qquad$
5. When were you first exposed to your second language?
A. Pre-teens
B. Teens
C. 20 's
D. 30 s or older
6. When did you receive formal education in your second language?
A. Grade 6 or earlier
B. Grade 7-9
C. Grade 10-12
D. University
7. Have you ever lived in a country where your second language was primarily used?
A. Yes
B. No
8. What language do you mainly speak at home?
A. First language
B. Second language
9. What language do you mainly speak during work?
A. First language
B. Second language
10. What language do you mainly speak while socializing?
A. First language
B. Second language
11. Which best describes your family's view on your second language's culture/society?
A. They are fond of it.
B. They do not feel strongly either way.
C. They dislike it.
12. What language do you mostly watch TV in?
A. First language
B. Second language
13. What language do you read most often in?
A. First language
B. Second language
14. How much reading do you do in everyday life?
A. I don't really like reading, so I rarely read.
B. I read only when necessary
C. I read often
D. I love reading, so I read very often.
15. When reading in your second language, what do you normally read?
A. E-Mail/SNS Messages
B. Comic books
C. Newspapers
D. Magazines
E. Novels
16. How comfortable are you when conversing in your second language for casual everyday communication?
A. Very comfortable
B. Comfortable
C. Uncomfortable
D. Very uncomfortable
17. Are you concerned about speaking with a non-native speaker's accent?
A. No
B. Somewhat
C. Yes
18. Which describes your level of comfort with the grammar aspect of your second language?
A. High
B. Fair
C. Low
19. How comfortable are you writing in your second language?
A. Very comfortable
B. Comfortable
C. Uncomfortable
D. Very uncomfortable
20. Why did you need to learn your second language?
A. Work
B. Communication with family/friends
C. It's just my hobby
21. Are you satisfied with your ability to use your second language or would you like to improve more?
A. I am completely satisfied.
B. I am satisfied, but could learn more.
C. I am barely satisfied and need to learn more.
D. I am unsatisfied and have no need or desire to improve
