

FOCUSING ON THE EXPLICIT AND IMPLICIT LANGUAGE LEARNING-RELATED BELIEFS AND THE HABITS OF HUNGARIAN ADULT ENGLISH AS A FOREIGN LANGUAGE LEARNERS

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Abstract: Investigating learners' foreign language learning-related beliefs has a long tradition (Dörnyei & Ryan, 2015), and exploring explicit and implicit learning mechanisms is not less the scope of recent research endeavours (e.g., Maie & DeKeyser, 2019). However, there is little research on learner beliefs about these two learning mechanisms. With this in mind, this study primarily aims to examine language learners' beliefs about these two learning mechanisms. This study pilots and validates the intended use of a questionnaire, referred to as the Explicit-Implicit Learning Habits Survey (EXIS). Sixty-three Hungarian adult English as a foreign language learners participated in this study, with data collected with an online questionnaire. Statistical procedures were applied to analyse language learners' affective, behavioural, and cognitive dimensions regarding implicit and explicit learning. The results support that the EXIS can reliably measure the proposed constructs. Based on the beliefs of the selected sample, implicit learning is more effective than explicit learning. Besides this, the participants prefer implicit learning to explicit learning, and they also displayed more implicit learning habits and language use. The results are preliminary, highlighting the importance of the behavioural dimension of implicit language use and the effort invested in language learning in predicting perceived foreign language learning success. The implications of this study indicate that implicit learning should play an important role in the foreign language learning classroom.

Keywords: learner beliefs, learning habits, explicit, implicit, questionnaire study

1 Introduction

The study of individual differences (IDs) is becoming increasingly important in the field of applied linguistics (Dörnyei & Ryan, 2015). In particular, this study focuses on language learners' beliefs about explicit and implicit learning since, as shown by previous research endeavours, there appears to be a nexus between foreign language learning success and beliefs about foreign language learning itself (e.g., Dweck, 2006; Lou & Noels, 2019; Mercer & Ryan, 2010). Although many studies have aimed to analyse learner beliefs, none, to my knowledge, has centred around implicit and explicit learning of languages. Studies closely related to this topic include, for example, investigating teachers' beliefs about video games (Lajtai, 2020) and thus, the potential implicit learning of this kind in the foreign language learning classroom. The lack of studies does not mean that this aspect is not important; on the contrary, investigating language learners' beliefs regarding implicit and explicit learning in light of their perceived success might contribute to our understanding of what leads to successful foreign language attainment.

The importance of learner beliefs in foreign language learning is highlighted by, for example, Dörnyei and Ryan (2015), who claimed that beliefs have a strong impact on foreign language learning behaviour. Similarly, studying implicit and explicit learning is undoubtedly relevant in foreign language learning attainment (see Rebuschat, 2015 for an overview). For this reason and because developing tests to measure implicit and explicit learning and/or knowledge is challenging due to the complexity each present (see section 2.2), a novel approach is deemed necessary in an attempt to examine explicit and implicit learning habits with which I hope to open up new insights in the field of applied linguistics and language pedagogy.

The first aim of this study is to pilot and validate a questionnaire for its intended use with the adult language learner population. The second aim is to explore adult language learners' beliefs and reported habits about explicit and implicit language learning and language use along affective, behavioural, and cognitive dimensions due to the dearth of studies in this area. Although collecting data with the use of questionnaires is a characteristic of the traditional approach in the belief literature (Kalaja et al., 2015), quantitative data was collected to avoid potential researcher bias from interfering when interpreting the results (Johnson & Onwuegbuzie, 2004). Additionally, the use of a questionnaire allowed me to explore learners' beliefs and habits on a larger sample as compared to one-to-one interviews.

2 Theoretical and Empirical Background

2.1 Learners' Language Learning-Related Beliefs, Perceptions, and Habits

The framework of this study is provided by two main theories, originally related to attitudes in social psychology. The first one is called the ABC model (Ostrom, 1969), which suggests that attitude comprises affective, behavioural, and cognitive dimensions (hence the abbreviation ABC model). The second one is the Theory of Reasoned Action (TRA; Ajzen & Fishbein, 1977), which has emerged from the combination of two other theories (i.e., the Theory of Planned Behaviour; Ajzen & Fishbein, 1980; and the Reasoned Action Approach; Fishbein & Ajzen, 1975). The TRA model postulates that our behavioural intentions are influenced by our attitude towards a certain behaviour. I chose these theories primarily because they are overarching and fundamental theories encompassing the underlying relationship between beliefs and behaviour. Although these theories served as theoretical frameworks in social psychology and for attitudes, I adopt these models in applied linguistics for the study of beliefs and behaviour. Putting these theories in context, Ostrom's (1969) tripartite approach in this study refers to language learners' preferences (affective), their learning habits and language use (behavioural), and their beliefs, such as the perceived effectiveness of learning mechanisms (cognitive). In this sense, Ajzen and Fishbein's TRA implies that language learners' choice of learning mechanisms (behavioural) is influenced by their preferences (affective) and beliefs and perceptions (cognitive).

Albeit a growing body of research is conducted on foreign language learning beliefs internationally (Kalaja & Barcelos, 2003) as well as in the Hungarian context (e.g., Bacsa, 2012; Rieger, 2009), it is still considered rather difficult to define a cognitive ID. Generally, foreign language learning beliefs can be conceptualised as "preconceived ideas" (Csölle & Kormos, 2004, p.47) that can influence foreign language learning (Dörnyei & Ryan, 2015) in positive or negative directions. Beliefs are a complex set of assumptions and opinions about the role, use, and nature of language learning (Hüttner et al., 2013). Perhaps the most well-known instrument

is the Beliefs About Language Learning Inventory (BALLI; Horwitz, 1987); however, this inventory was heavily criticised by, for instance, Kuntz (1996) due to its validity issues.

The understanding of the nature of beliefs experienced a shift around the 2000s. According to pre-2000 studies (e.g., Pajares, 1992), beliefs are less likely to change over a short period of time. As opposed to this interpretation, many recent studies highlight that beliefs are to be seen as dynamic in nature (Barcelos, 2003; Barcelos & Kalaja, 2011; Dörnyei & Ryan, 2015; Dufva, 2003; Hüttner et al., 2013; Woods, 2003). Despite these debates, the bulk of early and recent research support the fact that beliefs have a strong influence on attitudes, behaviour, actions, and practices. Pajares (1992) and Hüttner et al. (2013) specifically acknowledged that beliefs, attitudes, and behaviours are intertwined, while Borg (2003) and Woods (2003) indicated that beliefs are interrelated with other cognitive dimensions. Pajares (1992) added that beliefs are not in isolation from emotional dimensions. Hüttner et al. (2013) and Woods (2003) claimed that beliefs are socially constructed and formulated. Consequently, beliefs shape how students perceive their foreign language learning experiences, and this affects how they construct their own learning (Mercer & Ryan, 2010).

An all-encompassing summary of the characteristics of beliefs is offered by Barcelos and Kalaja (2011, pp.285–286), who claimed that beliefs are (1) *fluctuating*, meaning within an individual, beliefs about an L2 learning-related issue can change over time; (2) they are *complex and dialectical*; meaning that beliefs do not function as simple dichotomous views and are not unidimensional; (3) they are *related to the micro-and macro-political contexts and discourses*, so beliefs are socially and politically constructed; (4) they are *intrinsically related to other affective constructs*; therefore, beliefs are intertwined with emotions and other affective dimensions; (5) they are *other-oriented*, as the name suggests, beliefs are constructed by the influence of others – teachers and significant others; (6) they are *influenced by reflection and affordances*, so beliefs may be refined, fine-tuned or even changed after self-reflection or after emotions are triggered; (7) they are *related to knowledge in intricate ways*, which means that beliefs are shaped by experiences; and (8) they are *related to action in complex ways*, which points to the dynamic relationship of actions and beliefs. Consequently, beliefs nowadays are to be seen as presented in the taxonomy of Barcelos and Kalaja (2011).

Implicit beliefs or implicit theories, in other words, mindsets (Dweck, 2006; Dweck & Leggett, 1988) also need to be scrutinised, as mindsets play an immense role in foreign language learning success (Lou & Noels, 2019). Dweck (2006) formulated two theories that are linked to implicit beliefs. The first is the incremental theory linked to growth mindsets comprising the belief that L2 learning skills can be changed (i.e., dynamic). The second is the entity theory associated with fixed mindsets encompassing the belief that L2 learning skills cannot be changed and thus are static (Dweck, 2000). In general, mindsets subsume the way learners perceive the challenges they face in everyday life, the obstacles they must overcome, the efforts they have to make to achieve their goals, the criticisms they receive, and the success of others (Dweck, 2020). Transferring the construct of mindsets to the field of L2 research, L2 mindsets may involve beliefs about L2 learning skills or cognitive constructs such as language aptitude, intelligence, or personality. In general, if the language learner is convinced that their language aptitude can be changed, then they have a growth L2 mindset, and if they perceive this skill to be innate, they have a fixed L2 mindset (Dweck, 2006; Lou & Noels, 2019). Studying mindsets is particularly interesting because, according to Dweck (2020), it is possible to develop a growth mindset, which is associated with becoming more successful. A notably imperative point Dweck (2006) highlighted is that the path to success is planted in effort. A novel aspect revealed by recent studies is that it seems possible to possess a growth and a fixed

mindset at the same time (e.g., Dweck, 2020; Lou & Noels, 2016). In terms of skills and abilities, individuals seem to hold a mixture of both mindsets (Dweck, 2015). Akin to the mixture of mindsets, or mixed mindsets, the mindsets of individuals can be placed on a mindset continuum, which shows that they appear to exhibit tendencies rather than dichotomies (Mercer & Ryan, 2010).

Another aspect of studying language learners' beliefs about L2 learning is based on attribution theory (Weiner, 1979). Gobel and Mori (2007) explored the perceived reasons for success and failure in foreign language learning and pointed out that teachers could greatly impact learner attribution. More importantly, and related to L2 learning mindsets, the researchers emphasised the importance of beliefs about language learning ability (i.e., language aptitude): "in fact, lack of ability is often seen as the least desirable attribution because it is considered stable and outside of a person's control" (Gobel & Mori, 2007, p.165). In doing so, the researchers argued that fixed L2 learning mindsets are not to be aimed at. This is because while some beliefs are useful in foreign language learning, language learners can develop harmful or even false beliefs that can have undesirable consequences (Horwitz, 1995). Some misconceptions may be detrimental, may undermine learners' success in language learning, and can be highly counterproductive to the language learning process (Barcelos, 2003). Consequently, it is particularly relevant that language learners' beliefs are explored to find out what leads to success and failure in foreign language learning. According to recent studies, beliefs are dynamic by their very nature, can change over time and in different situations (Dufva, 2003), and thus may even be contradictory (Hüttner et al., 2013).

2.2 Explicit and Implicit Learning

The investigation of explicit and implicit learning dates back to the mid-20th century, when Reber (1967) conducted two experiments involving artificial grammar to generate stimuli and introduced the term implicit learning. The distinction of explicit and implicit foreign language learning originates from the two different types of processes, acquisition and learning as presented in Krashen's (1977) Acquisition-learning Hypothesis within the Monitor Theory. The former involves incidental processing resulting in unconscious knowledge, and the latter represents an intentional, conscious encoding (Hulstijn, 2015; Rebuschat, 2015).

According to Rebuschat's overview (2015), implicit learning subsumes an acquisitional operation without predetermined intentions and involves a lack of awareness of the acquired material, whereas explicit learning denotes a learning process with predetermined intentions and awareness of the material learnt. The term implicit learning was coined by Reber (1993), who claimed that learning takes place outside of consciousness, and DeKeyser (2005) argued that learning happens without being aware of what is learnt. On the other hand, explicit learning is a conscious process (Long, 2014) including an awareness of the learnt material and an intention to learn a certain linguistic formula (VanPatten & Rothman, 2015). As summarised by Jiménez (2002), implicit learning subsumes unintentional learning, lack of awareness of the learnt material, the inability to recall or verbalise the learnt feature. Implicit instruction thus refers to "exposure to a set of instances resulting in facilitation and nonintentional learning of patterns" (Granena, 2016, p.583) and to unintentional acquisition through some linguistic exposure (Granena & Yilmaz, 2019), whereas explicit induction refers to "intentionally figuring out rules and relations" (Granena, 2016, p.583).

Previously, many studies have attempted to measure explicit and implicit learning and knowledge. Time-pressured grammaticality judgement tests (GJTs) were designed to measure implicit knowledge, while GJTs with no time restrictions were designed to gauge explicit knowledge (e.g., Granena, 2014; Loewen, 2009; Maie & DeKeyser, 2019). The idea was that the time constraint differentiated the two products in such a way that time allowed for monitoring and conscious self-reflection may lead to explicit knowledge, whereas limited time facilitated intuitive judgements that rely heavily on implicit knowledge. Besides GJTs, artificial grammar learning (AGL) tasks were also designed with an artificial or a semi-artificial language in focus (e.g., Robinson, 1997; Ziori & Pothos, 2015). Based on the factor analysis conducted by Ellis (2009b), besides timed GJTs, implicit knowledge can be measured by Elicited Oral Imitation Tests and Oral Narrative Tests. In addition to the untimed GJTs, explicit knowledge can also be measured by Metalinguistic Knowledge Tests.

Although more instruments seem capable of measuring explicit and implicit learning/knowledge, it is also confirmed by researchers (e.g., DeKeyser, 2005; Ellis, 2009a) that these instruments have various pitfalls. First, it is necessary to determine when the researcher intends to conduct the measurement: conscious and unconscious language learning processes may be measured either during encoding or immediately after encoding, while conscious and unconscious knowledge must be measured after encoding because they are already the products of learning (Leow, 2015; Ellis, 2009a). Secondly, the tests must be designed and fine-tuned, based on seven strict criteria (i.e., degree of awareness, time available, focus of attention, systematicity, certainty, metalinguistic knowledge, and learnability as presented by Ellis (2005, p. 152). Thirdly, the two fuzzy terms closely related to explicit and implicit learning do not make the situation any less complicated. More specifically, incidental learning associated with implicit learning refers to the unintentional learning that underlies the learning of a linguistic feature, while intentional learning incorporates a deliberate inclination or purpose to learn a particular item (DeKeyser, 2005; Hulstijn, 2015). The line of challenges associated with measuring explicit and implicit learning/knowledge is endorsed by the interface debate (Hulstijn, 2015; Long, 2014). It is alluded to as the interface debate because there seems to be an ongoing controversy as to whether implicit knowledge can become explicit or the other way round. There are three camps of researchers arguing for different positions (i.e., no interface, weak interface, and strong interface). Researchers who favour the strong interface position argue that implicit knowledge can become explicit and vice versa (Hulstijn, 2015). The middle point of this issue, the weak interface approach advances that implicit knowledge cannot become explicit, but that explicit knowledge may become implicit. The no interface position posits that explicit and implicit knowledge cannot converge at all. Building on the interface debate, developing tests which aim to measure the lack of awareness (i.e., implicit learning) is problematic (DeKeyser, 2005). Based on the above, it can be concluded that measuring purely implicit and explicit knowledge is virtually almost unattainable.

An intriguing proposal is to think of explicit and implicit learning processes being on a continuum (Littlewood, 1984; Nguyen et al., 2012). Indeed, Ellis (2015) showed that implicit and explicit learning and language use seem to show dynamic interactions. Accordingly, more research is being conducted to explore what type of instruction or feedback leads to success (e.g., Goo et al., 2015; Granena & Yilmaz, 2019; Linck et al., 2013; Littlewood, 1984; Nguyen et al., 2012; Norris & Ortega, 2000; Spada & Tomita, 2010). The results of meta-analyses, however, seem to be mixed. For instance, Li (2010) has shown that implicit feedback is more efficient in the long run, whereas explicit feedback functions better in a short period of time. Spada and Tomita (2010) argued that explicit instruction worked better for simple structures. According to Goo et al. (2015), explicit instruction is more effective; however, the researchers

also concluded that “comparing A with B with respect to the effectiveness of the type of instruction appears to be somewhat far-fetched” (2015, pp. 445–446), which means that examining implicit *or* explicit learning alone will not lend itself to a thorough understanding of the phenomenon. Rather, “learners’ language systematicity emerges from their history of interactions of implicit and explicit language learning, from the statistical abstraction of patterns latent within and across form and function in language usage” (Ellis, 2015, p.14). Therefore, it is essential to look at both mechanisms at the same time to see the overall picture.

In this study, the concepts of learning processes and learning mechanisms are used interchangeably, but the term “habits” needs clarification as to how it is different from learning styles and strategies. The habits referred to in this study are the patterns, activities, and routines used by the learner, repeated on a weekly basis. Consequently, implicit and explicit language learning habits exhibit the kind of activities/behavioural patterns language learners employ on a weekly basis, where a certain amount of learning can take place either consciously or unconsciously. Besides the frequency element, language learning habits are different from learning strategies because the latter involve a “proactiveness in selecting specific made-to-measure learning routes” (Dörnyei & Ryan, 2015, p.6.). For implicit language learning habits, this element of proactiveness for learning is not present since learning is not the intention behind the activity, it is just a by-product. As indicated by Bailey et al. (2000), there is an intention behind the choice of a learning strategy, and that is to promote learning. As regards learning the distinction between learning habits and learning styles, Bailey et al. also highlighted that learning styles, besides not being intentional, are automatic, but this is not necessarily true for learning habits. Language learning habits are not momentary decisions but action tendencies drawn from the learner’s repertoire. Being a behavioural dimension, it can also be rightly called explicit-implicit language learning behaviour. Higher-order dimensions (or simply, dimensions) in this study denote the pairs of affective, behavioural, and cognitive scales. To illustrate this point, the scales of learners’ perceived effectiveness of implicit learning vs. learners’ perceived effectiveness of explicit learning belong to the affective dimension.

Regrettably, there are no studies that specifically examine language learners’ explicit and implicit learning beliefs and habits. Due to the limitations of the aforementioned instruments and the lack of studies investigating the affective, behavioural, and cognitive aspects of explicit and implicit learning, this study can take a novel approach to explore language learning beliefs and behaviour with respect to these mechanisms. Thus, this study aims to develop a reliable instrument and aims to explore Hungarian adult language learners’ explicit and implicit learning-related beliefs and habits.

Based on the theoretical framework and the aims of the study, the following research questions are formulated:

- 1) To what extent can the constructs of explicit learning, implicit learning, perceived success, intended effort, and mindsets be measured reliably with adult language learners?
- 2) What are the main characteristics of Hungarian adult language learners’ explicit and implicit learning-related beliefs and habits?
- 3) What is the difference between implicit and explicit learning based on the affective-behavioural-cognitive dimensions?
- 4) Which constructs can explain the perceived success of the selected Hungarian adult language learners?

3 Research Methods

The present pilot study is part of a larger research project, originally of a sequential project with a mixed methods design. The main part is a questionnaire study, which is then followed by an interview; I expect that the follow-up interview will provide a more profound understanding as to what is known about explicit and implicit learning habits. According to Muijs (2004), attitudes and beliefs are such phenomena that are inherently qualitative; nevertheless, “many data that do not naturally appear in quantitative form can be collected in a quantitative way” (Muijs, 2004, p. 2). Therefore, learners’ beliefs can be measured by using an appropriate instrument that goes through a process of piloting and validation. In terms of reliability and validity, the focus was on three main aspects. First, in the initial piloting phase, expert feedback was obtained to provide content validity. Second, still in the initial piloting phase, the face validity of the instrument was checked via layperson feedback. Third, for structural reliability, the factorial structure was checked via computing two rounds of principal components analysis and the internal consistency measure (Cronbach’s alpha) was computed (Taherdoost, 2016).

3.1 Participants

A total of 63 Hungarian adult EFL learners participated in this study. The focus is on English due to its lingua franca status (e.g., Csizér & Illés, 2020). Participants were recruited primarily through convenience and snowball sampling, using online questionnaire acquaintances, email and social media groups deliberately set up to complete the questionnaires. Participants included 13 men and 50 women aged between 18 and 37. All relevant background information on the language learning history of the participants is presented in Tables 1 and 2.

	<i>M</i>	<i>SD</i>	<i>Min.</i>	<i>Max.</i>
age	23.10	3.59	18	37
age of onset for L2	7.24	2.85	2	15
age of onset for English	9.63	4.15	3	24

Table 1. Participants’ Language Learning Background ($N = 63$)

Language learning background	Distribution (%)
level of English language exam	
no language exam	8 (12.7%)
A1-A2	4 (6.3%)
B1-B2	29 (46%)
C1-C2	22 (34.9%)
English as a foreign language	
L2	37 (58.7%)
L3	24 (38.1%)
L4	1 (1.6%)
L5	0 (0%)
L6	1 (1.6%)
other languages besides English	8 (12.7%)

only English as a foreign language	28 (44.4%)
two foreign languages	16 (25.4%)
three foreign languages	7 (11.1%)
four foreign languages	3 (4.8%)
five foreign languages	1 (1.6%)
six foreign languages	
current L2 studying context ¹	
nowhere/other	8 (12.7%)
at home/ with private teacher	42 (66.7%)
language school	2 (3.2%)
at university	11 (17.5%)
frequency of English language use	
yearly	3 (4.8%)
less than monthly	4 (6.3%)
couple of times a month	8 (12.7%)
more times a week	13 (20.6%)
almost every day or every day	35 (55.6%)

¹Selecting multiple responses was only enabled after the initial round.

Table 2. Descriptive Statistics with Frequency Distribution on Language Learner Background Information ($N = 63$)

As Table 1 and 2 depict, the sample of learners started learning languages relatively early, at the age of seven. For the majority (58.7%), English is their first foreign language. The participants can be considered advanced language learners as most have at least a B2 language exam of English. They are also learning other foreign languages. In addition, more than half of the selected sample use English every day.

3.2 The instrument

Since there was no questionnaire in previous research that measured explicit and implicit learning habits and learners' beliefs about the two learning mechanisms, it seemed essential to design a new instrument. The instrument is an online questionnaire based on the theoretical background of explicit and implicit learning (e.g., Ellis, 2005) as well as the ABC model (Ostrom, 1969) across the four skills (i.e., reading, writing, listening, speaking). The questionnaire is in the mother tongue of the participants, Hungarian, and it was translated into English by the author (see *Appendix A* for the questionnaire as administered and *Appendix B* for the finalised questionnaire). The questionnaire consists of two parts; in the first part, participants were asked to rate whether they agreed or disagreed with 72 items on a 5-point Likert scale (1 = not at all true, 2 = not really true, 3 = partly true, partly not, 4 = mostly true, 5 = completely true). In the second part, 10 questions were used to collect biographical data and language learning background information. The stepwise process of piloting and developing the questionnaire was started by drawing up an item pool (Dörnyei, 2007). Subsequently, in the initial piloting phase, expert feedback as well as peer-and lay feedback ($n = 4$) was obtained on the clarity, understandability, and the relevance of the items. Modifications were made to the item pool, certain items were deleted, some were made more explicit, double-barrelled items were deleted and then, the questionnaire was shared on social media and sent to a mailing list. After data collection, I checked the range of responses by which I could exclude position by

response bias, and internal consistency of multi-item scales as suggested by Dörnyei and Csizér (2012).

After the initial pilot testing (getting feedback on the instrument), the questionnaire contained 12 scales ($k = 72$) and 10 additional items on participants' language learning background information. The scales are presented below along with sample items.

- 1) *Implicit language learning preferences* (five items): the affective dimension of unconscious language learning. This scale is intended to measure the extent to which participants favour learning unconsciously (i.e., focus on meaning, intuition-focused). Sample item: *I like watching series/movies in English just for fun.*
- 2) *Explicit language learning preferences* (six items): the affective dimension of conscious language learning. This scale is intended to measure the extent to which participants like learning consciously (i.e., focus on form, rule-search, instruction-focused). Sample item: *I like learning grammar when the teacher explains the rules thoroughly.*
- 3) *Implicit language learning habits* (eight items): the behavioural dimension of unconscious language learning. This scale is intended to measure the extent to which participants employ implicit learning methods. Sample item: *I usually speak English for fun on a weekly basis.*
- 4) *Explicit language learning habits* (seven items): the behavioural dimension of conscious language learning. This scale is intended to measure the extent to which participants employ explicit learning methods. Sample item: *When I read in English, I usually make a glossary for unfamiliar words.*
- 5) *Implicit language use* (five items): the behavioural dimension of conscious language usage. This scale is intended to measure the extent to which participants report using the language implicitly. Sample item: *When I speak English, I use verb tenses instinctively.*
- 6) *Explicit language use* (five items): the behavioural dimension of conscious language usage. This scale is intended to measure the extent to which participants report using the language explicitly. Sample item: *When I speak English, I know exactly what verb tense I am using.*
- 7) *Effectiveness of implicit language learning* (seven items): the cognitive dimension of unconscious language learning. This scale is designed to measure whether unconscious learning is effective towards success based on the beliefs of the participants. Sample item: *I think speaking in English is a more effective way to learn than rote learning.*
- 8) *Effectiveness of explicit language learning* (five items): the cognitive dimension of conscious language learning. This scale is intended to measure whether conscious learning is effective towards success based on the beliefs of the participants. Sample item: *I think it is an effective learning habit to start reading a book/article and to take notes on new words.*
- 9) *Perceived success* (five items): the extent to which participants perceive themselves as successful language learners. Sample item: *I think I am a good language learner.*
- 10) *Effort* (five items): participants' effort invested in studying the English language. This scale is adapted from Csizér (2020) with slight modifications. Sample item: *I do my best to learn English well.*
- 11) *Growth mindset* (six items): the extent to which participants believe that their skills can be developed. This scale is based on Dweck's guidelines (2020, p.387). Sample item: *I like challenges in foreign language learning.*

- 12) *Fixed mindset* (six items): the extent to which participants believe that their skills are static and unmalleable. This scale is based on Dweck's guidelines (2020, p.387). Sample item: *I give up language learning easily when obstacles arise.*

Although there are existing scales designed to measure L2 mindsets (e.g., Language Mindsets Inventory [LMI]; Lou & Noels, 2017), my intention was rather to go back to the roots of the theory and follow Dweck's (2006, 2020) original guidelines. Moreover, Lou and Noels' instrument contained general items that did not address the participants themselves (i.e., statements start with "you" and "people" instead of "I"), and it was important for the present study to examine language learners' self-related beliefs, that is, perceptions of their own learning, perceptions about themselves as language learners (lay theories).

3.3 Data Collection and Analysis

The data were collected online using Google Forms between 13 and 24 December in 2020, and when data collection concluded, version 26 of the Statistical Package for Social Sciences (SPSS) was used to analyse the data. As a first step, to answer the first research question, principal components analysis as a data reduction technique was computed in two rounds in conjunction with calculating the Cronbach's alpha internal consistency measure. After finalising the scales, descriptive statistical analysis was run in an attempt to answer the second research question, as well as a paired samples *t* test to check whether the results could be generalised to the population. Following this, paired samples *t* tests between the affective-behavioural-cognitive dimensions and two rounds of stepwise multiple linear regression analyses were computed to answer the third and fourth research questions, respectively.

Several steps were taken to ensure the quality of the instrument, and careful considerations were put into action regarding ethical issues. Firstly, participation in this study was on a voluntary basis. Secondly, as suggested by Divéki (2018), the title of the questionnaire (see *Appendix A*) was worded in such a way that it did not give any specific indication that it was intended to measure explicit and implicit language learning habits, and thus participants' self-selection was likely to be reduced based on subject preference. Besides reliability analyses, the content validity and face validity of the instrument was strengthened by receiving expert-, peer-, and layperson-feedback. The items in the questionnaire were randomly presented to the participants by using the Research Randomiser software, designed specifically for researchers (Urbaniak & Plous, 2013).

4 Results and Discussion

Principal components analysis (PCA) was performed to answer the first research question. Although calculating Cronbach's alpha (α) and thus checking the internal consistency of the scales is vital, Hoekstra et al. (2018) warn others not to solely rely on this measure. It is not the measure itself that poses a risk but its interpretation, which can lead to misunderstandings. A notable example is that Cronbach's α is not implying unidimensionality (Hoekstra et al., 2018). To overcome this drawback, I checked if the items within the scales load onto the same dimension with PCA. First of all, before creating the scales, I checked whether the sets of variables were appropriate for establishing latent structures with the Kaiser-Meyer-Olkin (*KMO*) measure of sampling adequacy and Bartlett's test of sphericity. The *KMO* measure helps to decide whether the items are appropriate for factorability to create latent

structures (Székelyi & Barna, 2002). It should be noted that exploratory factor analysis could not be performed as the main criterion was not met: Although the sample size exceeded 50, as suggested by Howitt and Cramer (2017), the software did not allow for a rotated factor analysis due to the large number of items relative to the sample size. Instead, to increase the structural reliability of the scales, I used PCA to check whether certain items loaded on the same dimension. I then calculated Cronbach's α to check the internal consistency of the items. The first round of reliability analysis is presented in Table 3.

Scales ¹	PCA ²	Cronbach's α (k) ³	α if item deleted	KMO ⁴	χ^2 (df) ⁵
Implicit LL ⁶ habits	2	0.77 (8)	0.78	0.73	135.61** (28)
Explicit LL habits	3	0.71 (7)	0.72	0.62	116.76** (21)
<i>Implicit LL preference</i>	2	<i>0.51 (5)</i>	<i>0.54</i>	<i>0.57</i>	<i>25.10* (10)</i>
<i>Explicit LL preference</i>	2	<i>0.39 (6)</i>	<i>0.47</i>	<i>0.57</i>	<i>48.04** (15)</i>
Implicit L use	2	0.76 (5)	0.81	0.73	113.05** (10)
<i>Explicit L use</i>	2	<i>0.45 (5)</i>	<i>0.65</i>	<i>0.53</i>	<i>60.90** (10)</i>
Effectiveness of implicit LL	2	0.69 (7)	0.70	0.70	77.08** (21)
Effectiveness of explicit LL	2	0.61 (5)	–	0.59	38.91** (10)
Perceived success	1	0.95 (7)	0.96	0.88	467.75** (21)
Effort	1	0.79 (5)	0.80	0.78	94.70** (10)
Growth mindset	2	0.72 (6)	–	0.70	75.74** (15)
Fixed mindset	2	0.66 (6)	–	0.66	67.15** (15)

¹Unreliable scales are indicated with italics.

²PCA = the number of dimensions yielded by Principal Components Analysis.

³ k = number of items in the scale.

⁴KMO = Kaiser-Meyer-Olkin measure of sampling adequacy.

⁵ χ^2 = Bartlett's test of sphericity.

⁶LL = language learning.

* $p < .01$, ** $p < .001$.

Table 3. Reliability Analysis of the Scales: First Round

By calculating the KMO measure of sampling adequacy for the scales, it can be seen that the majority of the items are appropriate for factorability ($KMO \geq 0.60$), the partial correlations were acceptably low and were significant according to Bartlett's test of sphericity ($p < .01$). There is no need to delete items based on the extraction values as the communalities were all between -0.20 and 0.20 confirming that there appeared to be shared common variance amongst the items. However, based on the number of factors extracted by PCA and based on the Cronbach's α internal consistency measure, a second round of reliability analysis was performed with items excluded one by one and scales rearranged (Table 4). It should be noted that items were only excluded if the scale would otherwise have proved unreliable. According to Raubenheimer (2004), it would be ideal to have at least three items in each scale; therefore, the implicit language learning preference scale and the effectiveness of explicit language learning scale with two items will be extended for the main study. Although the combination of having only two items in one scale and not having a very high Cronbach's α is unfortunate, I kept these scales in this pilot study for analysis as it may yield some interesting results for the main study.

Scales	PCA ¹	Cronbach's α (k) ²
Implicit LL ³ habits	1	0.77 (5)
Explicit LL habits	1	0.76 (4)
Implicit LL preference	1	0.63 (2)
Explicit LL preference	1	0.66 (3)
Implicit L use	1	0.81 (4)
Explicit L use	1	0.66 (3)
Effectiveness of implicit LL	1	0.70 (5)
Effectiveness of explicit LL	1	0.63 (2)
Perceived success	1	0.95 (7)
Effort	1	0.79 (5)
Growth mindset	1	0.70 (5)
Fixed mindset	1	0.68 (4)

¹PCA = the number of dimensions yielded by Principal Components Analysis.

² k = number of items in the scale.

³LL = language learning.

Table 4. Reliability Analysis of the Scales: Second Round

As emphasised by Li et al. (2020), deciding on the number of factors when cross-loadings occur is an undoubtedly complex task. However, the aim was to sustain as many items as possible with an acceptable Cronbach's α value (exceeding the 0.60 threshold; Dörnyei & Csizér, 2012) while still pertaining to one dimension. After the second round of reliability analysis, 23 items were excluded from further analysis in this study (therefore, $k = 49$, see Appendix B).

Descriptive statistics were calculated to answer the second research question (Table 5). The table is arranged in descending order based on the mean values. As can be seen, the highest mean value is for the beliefs about the effectiveness of implicit language learning, which means that this sample is convinced that learning a language implicitly is very effective in the success of foreign language acquisition. This is interesting given that there is a discrepancy between what the participants consider effective (cognitive dimension) and what they report to employ (behavioural dimension). To further this with parametric inferential statistics, the result of a paired samples t test ($t(62) = -8.30, p < .001$) demonstrates that the perceived effectiveness of implicit language learning has a significantly higher mean value ($M = 4.08, SD = 0.71$) than implicit language learning habits ($M = 3.03, SD = 1.06$). The effect size was also calculated to check the practical significance of this result. Based on Cohen's delta ($d = 1.16$), this result has a large effect size. Although the correction for Cohen's d , namely, Hedges' g (Lakens, 2013) value is said to be most similar to Cohen's d , it was also calculated ($g = 1.16$) as Cooper et al. (2019) found it to have a smaller bias and thus provide a better estimate. Perceived success also has a high mean, which means that the participants generally regarded themselves to be successful in language learning. This is not surprising given that the overwhelming majority already has a language exam of English, and they also tend to use English very often. Fortunately, fixed mindset shows the lowest mean, which means that the participants do not have the proclivity to think that their skills cannot be developed. Indeed, as highlighted by Dweck (2006), Lou and Noels (2019) and Mercer and Ryan (2010), not having a fixed mindset contributes to success.

Scales	<i>M</i>	<i>SD</i>
Effectiveness of implicit LL ¹	4.08	0.71
Perceived success	3.98	1.02
Effort	3.97	0.80
Implicit LL preference	3.90	1.02
Growth mindset	3.79	0.69
Implicit L use	3.70	0.96
Effectiveness of explicit LL	3.52	0.87
Explicit L use	3.40	0.92
Explicit LL preference	3.32	0.95
Implicit LL habits	3.03	1.06
Explicit LL habits	2.52	0.99
Fixed mindset	2.29	0.86

¹LL = language learning.

Table 5. Descriptive Statistics of the Reliable Scales

To answer the third research question, the affective-behavioural-cognitive (ABC) dimensions of explicit and implicit learning are compared by calculating paired samples *t* tests, the results of which are presented in Table 6. It is intriguing that implicit scales have statistically significantly higher mean values for all three higher-order dimensions ($p < .05$). This leads to the conclusion that the selected participants prefer implicit learning to explicit learning, they employ implicit language learning habits, use the foreign language implicitly, and based on the beliefs of the selected participants, implicit learning is more effective than explicit learning. The largest effect size seems to be between the cognitive dimensions ($g = 0.70$). Thus, the participants are convinced that implicit learning is more effective than explicit learning. This result is imperative in light of the implicit vs. explicit learning efficacy debate and in rethinking the method of instruction or feedback students receive (Goo et al., 2015; Granena & Yilmaz, 2019; Linck et al., 2013; Littlewood, 1984; Nguyen et al., 2012; Norris & Ortega, 2000; Spada & Tomita, 2010).

Dimension	Scales	<i>M</i> (<i>SD</i>)	<i>t</i>	<i>df</i>	Hedges' <i>g</i>	
Affective	Imp. ¹ LL ² preference	3.90 (1.02)	3.30**	62	0.58	
	Exp. ³ LL preference	3.32 (0.95)				
Behavioural	Imp. L use	3.70 (0.96)	2.02*		0.32	
	Exp. L use	3.40 (0.92)				
	Imp. LL habits	3.03 (1.06)	3.28**			0.49
	Exp. LL habits	2.52 (0.99)				
Cognitive	Effectiveness of imp. LL	4.08 (0.71)	4.07***		0.70	
	Effectiveness of exp. LL	3.52 (0.87)				

¹Imp. = implicit.

²LL = language learning.

³Exp. = explicit.

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 6. Paired Samples *t* tests on the Affective, Behavioural, and Cognitive (ABC) Dimensions

To answer the fourth research question and analyse the causality between the scales, linear multiple regression analyses were carried out by using the stepwise method. The stepwise method enables the researcher to see which scales are the best predictors for the dependent construct at each step of the analysis (Howitt & Cramer, 2017). Table 7 presents the final model for predicting the perceived success of the selected language learners. The effort invested in language learning ($\beta = 0.55$, $p < .001$), and the implicit language use ($\beta = 0.40$, $p < .001$) scales explained 67% of perceived success. We can conclude that based on the beliefs of the selected participants, the effort they invest in language learning and using the language implicitly highly contribute to their success in foreign language learning. This not only highlights the potentials of implicit learning but the importance of the behavioural dimensions in foreign language use. As shown by, for example, Csizér and Illés (2020), due to the lingua franca status of English, language learners should be prepared to “act as effective and confident language users who are capable of coping with the challenges ELF communication presents” (p. 24). Consequently, Csizér and Illés (2020) pointed out the role of the teacher in preparing students for language use outside the classroom. This focus of language use alongside language learning is in accordance with the results of the regression analysis.

The results of the second round of stepwise multiple linear regression analyses can be seen in Table 8. The criterion measure is effort, which is explained by growth mindsets, the effectiveness attributed to implicit learning, and the preference for explicit language learning positively ($\beta = 0.29$, $\beta = 0.32$, $\beta = 0.23$, respectively). Only follow-up interviews may answer this paradox; however, it might be attributed to the complexity of explicit and implicit learning. Fixed mindsets also contribute to the effort invested in language learning, albeit negatively ($\beta = -0.37$). This is in line with Dweck’s theory (2006) and with Lou and Noels’ (2017, 2019) findings about the role of effort beliefs in L2 learning mindsets (beliefs whether investing in effort will pay off). In addition to this, there appears to be a dynamic interaction (Littlewood, 1984; Ellis, 2015; Nguyen et al., 2012) between cognitive and affective dimensions of explicit and implicit learning, which may be due to the similar contribution of the perceived implicit learning efficacy scale and the explicit language learning preference scale to the effort invested, although the former has a higher impact level. The explanatory power of this model is 60%, and it may be intriguing to understand why and how explicit and implicit affective and cognitive dimensions appear in the minds of language learners when conducting follow-up interviews. The next dependent construct in the second round of the regression analysis is implicit language use, which is explained by implicit language learning preference (affective dimension) and implicit language learning habits (behavioural dimension) in 48% with high impact levels ($\beta = 0.42$ and $\beta = 0.37$, respectively). This, being quite logical, lends validity to the scales.

Final model				
Scales	B	SE B	β	VIF
<i>Criterion: perceived success</i>				
Effort	0.71	0.11	0.55**	1.27
Implicit language use	0.42	0.09	0.40**	1.27
R^2	0.67			
Adjusted R^2	0.66			
F for change in R^2	22.15**			

** $p < .001$.

Table 7. Stepwise Linear Regression Model: First Round

According to the rule of thumb presented by Muijs (2004) for adjusted R^2 , the model in Table 7, in which perceived success is the criterion measure, shows a strong fit (adjusted $R^2 > 0.50$), indicating that this model has a high probability of fitting the population. The model in Table 8 with effort as the dependent construct is a strong fit and the model with implicit language use is a moderate fit, adjusted $R^2 > 0.50$ and adjusted $R^2 = 0.31$ – 0.50 , respectively. The models were also checked for multicollinearity following the guidelines of Howitt and Cramer (2017) and as shown by the variance inflation factor (VIF), the predictors are not too highly correlated with each other ($VIF < 10$), so the models are considered to be effective.

Final model				
Scales	<i>B</i>	SE <i>B</i>	β	<i>VIF</i>
<i>Criterion: effort</i>				
Growth mindset	0.33	0.12	0.29*	1.64
Fixed mindset	−0.35	0.09	−0.37**	1.24
Effectiveness of imp. L	0.36	0.11	0.32*	1.33
Explicit LL preference	0.19	0.07	0.23*	1.04
R^2	0.60			
Adjusted R^2	0.57			
<i>F</i> for change in R^2	7.29*			
<i>Criterion: Implicit L use</i>				
Implicit LL preference	0.39	0.10	0.42**	1.36
Implicit LL habits	0.33	0.10	0.37*	1.36
R^2	0.48			
Adjusted R^2	0.46			
<i>F</i> for change in R^2	11.45*			

¹LL = language learning.

* $p < .01$, ** $p < .001$.

Table 8. Stepwise Linear Regression Model: Second Round

5 Conclusions and Pedagogical Implications

The two aims of this study were 1) to pilot and validate the use of the Explicit-Implicit Learning Habits Survey (EXIS) for the adult language learner population designed to measure the affective, behavioural, and cognitive dimensions of explicit and implicit learning and 2) to initially explore Hungarian adult EFL learners' explicit and implicit learning-related beliefs and habits. First of all, the results show that after dropping 23 items, the finalised 12 scales with 49 items measure the proposed constructs reliably based on principal components analysis and the Cronbach's alpha internal consistency measure. Secondly, this cohort of Hungarian adult language learners demonstrates the belief that implicit learning is more effective than explicit learning. Fortunately, the participants do not display an inclination to have a fixed mindset, so they do not think that their skills are static. However, an interesting aspect based on this self-reported data is that there is a discrepancy between what participants consider effective (cognitive dimension) and the extent to which they report employing that learning habit (behavioural dimension). Language teachers should help their students find ways to employ more implicit language learning habits either inside or outside the classroom.

Thirdly, the participants have statistically significantly ($p < .05$) higher means on implicit affective, behavioural, and cognitive dimensions, as well, meaning that they prefer implicit learning, employ more implicit learning habits and language use, and perceive implicit learning to be more effective. This again highlights the role language learners attribute to implicit learning; therefore, it would be imperative for language teachers to reconsider implementing more implicit learning techniques. Lastly, the stepwise regression analyses have shown that two behavioural dimensions, namely, the effort invested in language learning and implicit language use contribute significantly to perceived success, with a high impact level. This indicates the importance of behavioural dimensions and implicit language use in perceived foreign language learning success.

From these results, it can be concluded that there may be fruitful implications for the greater use of implicit learning in foreign language classrooms, as language learners find it more effective. This study also supports what was pointed out by, for example, Csizér and Illés (2020), who claimed that for the lingua franca status of English, it is advisable to focus not only on language learning but also on language use, and to incorporate more language use in the classroom. Therefore, the main conclusion of this study is that focus should be directed to implicit learning – and not only learning but language use – to increase learning efficacy. An indisputable shortcoming of this study concerns the sample size. This, however, can be compensated for in larger scale follow-up studies. It would certainly be remarkably interesting to explore the issue of explicit and implicit language learning in more depth about the affective, behavioural, and cognitive dimensions with follow-up interviews. In addition, conducting this study on a larger sample and a possibly wider age range may show interesting implications about the nature of beliefs in explicit and implicit learning. For future analysis, it may also be interesting to narrow down the scales to L2 learning mindsets (involving language aptitude, intelligence, and personality) rather than just growth and fixed mindsets related to general language learning. Besides these, employing cluster analysis to detect specific learner profiles may be useful in making recommendations for tailoring differentiated instruction.

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References

- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84(5), 888–918.
<https://doi.org/10.1037/0033-2909.84.5.888>
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Prentice-Hall.
- Bacsa, É. (2012). Az idegennyelv-tanulással kapcsolatos meggyőződések vizsgálata általános és középiskolás tanulók körében [Exploring foreign language learning beliefs in primary and secondary school students]. *Magyar Pedagógia*, 112(3), 167–193.
- Bailey, P., Onwuegbuzie, A. J., & Daley, C. E. (2000). Using learning style to predict foreign language achievement at the college level. *System*, 28(1), 115–133.
[https://doi.org/10.1016/S0346-251X\(99\)00064-0](https://doi.org/10.1016/S0346-251X(99)00064-0)
- Barcelos, A. M. F. (2003). Researching beliefs about SLA: A critical review. In P. Kalaja & A. M. F. Barcelos (Eds.), *Beliefs about SLA: New research approaches* (pp.7–33). Springer.
- Barcelos, A. M. F., & Kalaja, P. (2011). Introduction to beliefs about SLA revisited. *System*, 39(3), 281–289. <http://dx.doi.org/10.1016/j.system.2011.07.001>
- Borg, S. (2003). Teacher cognition in language teaching: A review of research on what language teachers think, know, believe, and do. *Language Teaching*, 36(2), 81–109.
<https://doi.org/10.1017/S0261444803001903>
- Cooper, H., Hedges, L. V., & Valentine, J. C. (2019). *The handbook of research synthesis and meta-analysis* (3rd ed.). Russel Sage Foundation.
- Csizér, K. (2020). *Second language motivation research in a European context: The case of Hungary*. Springer.
- Csizér, K., & Dörnyei, Z. (2005). Language learners' motivational profiles and their motivated learning behavior. *Language Learning*, 55(4), 613–659. <https://doi.org/10.1111/j.0023-8333.2005.00319.x>
- Csizér, K., & Illés, É. (2020). Helping to maximize learners' motivation for second language learning. *Language Teaching Research Quarterly*, 19, 19–31.
<https://doi.org/10.32038/ltrq.2020.19.02>
- Csölle, A., & Kormos, J. (2004). *Topics in applied linguistics*. Eötvös University Press.
- DeKeyser, R. M. (2005). Implicit and explicit learning. In C. J. Doughty & M. H. Long (Eds.), *The handbook of second language acquisition* (pp.241–267). Blackwell.
- Divéki, R. (2018). Teachers' attitudes towards dealing with controversial issues in the EFL classroom: A pilot study. *Working Papers in Language Pedagogy*, 12, 27–54.
- Dörnyei, Z. (2007). *Research methods in applied linguistics: Quantitative, qualitative and mixed methodologies*. Oxford University Press.
- Dörnyei, Z., & Csizér, K. (2012). How to design and analyze surveys in SLA research? In A. Mackey & S. Gass (Eds.), *Research methods in second language acquisition: A practical guide* (pp.74–94). Wiley-Blackwell. <https://doi.org/10.1002/9781444347340.ch5>
- Dörnyei, Z., & Ryan, S. (2015). *The psychology of the language learner revisited*. Routledge.
- Dufva, H. (2003). Beliefs in dialogue: A Bakhtinian view. In P. Kalaja & A. M. F. Barcelos (Eds.), *Beliefs about SLA: New research approaches* (pp.131–151). Springer.
- Dweck, C. S. (2000). *Self-theories: Their role in motivation, personality and development*. Taylor & Francis.
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. Random House.
- Dweck, C. S. (2015). Growth mindset, revisited. *Education Week*, 35(5), 20–24.
- Dweck, C. S. (2020). *Szemléletváltás: A siker új pszichológiája* (átdolgozott, bővített kiadás) [Mindset: The new psychology of success (Rev. ed.)]. HVG Könyvek.

- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, 95(2), 256–273. <https://doi.org/10.1037/0033-295X.95.2.256>
- Ellis, N. C. (2015). Implicit and explicit language learning: Their dynamic interface and complexity. In P. Rebuschat (Ed.), *Implicit and explicit learning of languages* (pp.3–23). John Benjamins Publishing Company.
- Ellis, R. (2005). Measuring implicit and explicit knowledge of a second language: A psychometric study. *Studies in Second Language Acquisition*, 27(2), 141–172. <https://doi.org/10.1017/S0272263105050096>
- Ellis, R. (2009a). Implicit and explicit learning, knowledge and instruction. In R. Ellis, S. Loewen, C. Elder, R. Erlam, J. Philip & H. Reinders (Eds.), *Implicit and explicit knowledge in second language learning, testing and teaching* (pp.3–25). Multilingual Matters.
- Ellis, R. (2009b). Retrospect and prospect. In R. Ellis, S. Loewen, C. Elder, R. Erlam, J. Philip & H. Reinders (Eds.), *Implicit and explicit knowledge in second language learning, testing and teaching* (pp.335–353). Multilingual Matters.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behaviour: An introduction to theory and research*. Addison-Wesley.
- Gobel, P., & Mori, S. (2007). Success and failure in the EFL classroom: Exploring students' attributional beliefs in language learning. *EUROSLA Yearbook*, 7(1), 149–169. <https://doi.org/10.1075/eurosla.7.09gob>
- Goo, J., Granena, G., Yilmaz, Y., & Novella, M. (2015). Implicit and explicit instruction in L2 learning: Norris & Ortega (2000) revisited and updated. In P. Rebuschat (Ed.), *Implicit and explicit learning of languages* (pp.443–482). John Benjamins Publishing Company.
- Granena, G. (2012). *Age differences and cognitive aptitudes for implicit and explicit learning in ultimate L2 attainment*. [Unpublished doctoral dissertation]. University of Maryland. <http://hdl.handle.net/1903/12743>
- Granena, G. (2014). Language aptitude and long-term achievement in early childhood L2 learners. *Applied Linguistics*, 35(4), 483–503. <https://doi.org/10.1093/applin/amu013>
- Granena, G. (2016). Cognitive aptitudes for implicit and explicit learning and information-processing styles: An individual differences study. *Applied Psycholinguistics*, 37(3), 577–600. <https://doi.org/10.1017/S0142716415000120>
- Granena, G., & Yilmaz, Y. (2019). Cognitive aptitudes for explicit and implicit learning. In Z. E. Wen, P. Skehan, A. Biedroń, S. Li & R. L. Sparks (Eds.), *Language aptitude: Advancing theory, testing, research and practice* (pp.238–256.) Routledge.
- Hoekstra, R., Vugteveen, J., Warrens, M. J., & Kruijven, P. M. (2018). An empirical analysis of alleged misunderstandings of coefficient alpha. *International Journal of Social Research Methodology*, 22(4), 351–364. <https://doi.org/10.1080/13645579.2018.1547523>
- Horwitz, E. K. (1987). Surveying student beliefs about language learning. In A. Wenden & J. Rubin (Eds.), *Learner strategies in language learning* (pp.119–129). Prentice Hall.
- Horwitz, E. K. (1995). Student affective reactions and the teaching and learning of foreign languages. *International Journal of Educational Research*, 23(7), 573–579. [https://doi.org/10.1016/0883-0355\(96\)80437-X](https://doi.org/10.1016/0883-0355(96)80437-X)
- Howitt, D., & Cramer, D. (2017). *Introduction to SPSS in psychology* (7th ed.). Pearson.
- Hulstijn, J. H. (2015). Explaining phenomena of first and second language acquisition with the constructs of implicit and explicit learning: The virtues and pitfalls of a two-system view. In P. Rebuschat (Ed.), *Implicit and explicit learning of languages* (pp.25–46). John Benjamins Publishing Company.
- Hüttner, J., Dalton-Puffer, C., & Smit, U. (2013). The power of beliefs: Lay theories and their influence on the implementation of CLIL programmes. *International Journal of*

- Bilingual Education and Bilingualism*, 16(3), 267–284.
<https://doi.org/10.1080/13670050.2013.777385>
- Jiménez, L. (2002). Intention, attention, and consciousness in probabilistic sequence learning. In L. Jiménez (Ed.), *Attention and implicit learning* (pp.43–68). John Benjamins Publishing Company.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14–26.
<https://doi.org/10.3102/0013189X033007014>
- Kalaja, P., & Barcelos, A. M. F. (2003). *Beliefs about SLA: New research approaches*. Springer.
- Kalaja, P., Barcelos, A. M. F., Aro, M., & Ruohotie-lyhty, M. (2015). *Beliefs, agency and identity in foreign language learning and teaching*. Palgrave Macmillan.
- Krashen, S. D. (1977). The monitor model for adult second language performance. In M. Burt, H. Dulay & M. Finocchiaro (Eds.), *Viewpoints on English as a second language: In honor of James E. Alatis* (pp.152–161). Regents Publishing.
- Kuntz, P. (1996). *Beliefs about language learning: The Horwitz model*. (ERIC Document Reproduction Service, No. ED397649).
- Lajtai, Á. (2020). Video games in language teaching: Hungarian English teachers' cognition, attitudes, and practices. In Cs. Kálmán (Ed.), *DEAL 2020: A snapshot of diversity in applied linguistics* (pp.177–205). http://www.eltereader.hu/media/2020/12/Kálmán-Csaba_WEB.pdf
- Lakens, D. (2013). Calculating and reporting effect sizes to facilitate cumulative science: A practical primer for t-tests and ANOVAs. *Frontiers in Psychology*, 4, 863–899.
<https://doi.org/10.3389/fpsyg.2013.00863>
- Leow, R. P. (2015). Implicit learning in SLA: Of processes and products. In P. Rebuschat (Ed.), *Implicit and explicit learning of languages* (pp.47–67). John Benjamins Publishing Company.
- Li, S. (2010). The effectiveness of corrective feedback in SLA: A meta-analysis. *Language Learning*, 60(2), 309–365. <https://doi.org/10.1111/j.1467-9922.2010.00561.x>
- Li, Y., Wen, Z., Hau, K-T., Yuan, K-H., & Peng, Y. (2020). Effects of cross-loadings on determining the number of factors to retain. *Structural Equation Modeling: A Multidisciplinary Journal*, 27(6), 841–863.
<https://doi.org/10.1080/10705511.2020.1745075>
- Linck, J. A., Hughes, M. M., Campbell, S. G., Silbert, N. H., Tare, M., Jackson, S. R., Smith, B. K., Bunting, M. F., & Doughty, C. J. (2013). Hi-LAB: A new measure of aptitude for high-level language proficiency. *Language Learning*, 63(3), 530–566.
<https://doi.org/10.1111/lang.12011>
- Littlewood, M. (1984). *Foreign and second language learning: Language acquisition research and its implications for the classroom*. Cambridge University Press.
- Loewen, S. (2009). Grammaticality judgment tests and the measurement of implicit and explicit L2 knowledge. In R. Ellis, S. Loewen, C. Elder, R. Erlam, J. Philip, & H. Reinders (Eds.), *Implicit and explicit knowledge in second language learning, testing and teaching* (pp.94–112). Multilingual Matters.
- Long, M. H. (2014). *Second language acquisition and task-based language teaching*. John Wiley & Sons.
- Lou, N. M., & Noels, K. A. (2016). Changing language mindsets: Implications for goal orientations and responses to failure in and outside the second language classroom. *Contemporary Educational Psychology*, 46, 22–33.
<https://doi.org/10.1016/j.cedpsych.2016.03.004>

- Lou, N. M., & Noels, K. A. (2019). Language mindsets, meaning-making, and motivation. In M. Lamb, K. Csizér, A. Henry & S. Ryan (Eds.), *The Palgrave handbook of motivation for language learning* (pp.537–559). Palgrave Macmillan.
- Lou, N. M., & Noels, K. A. (2017). Measuring language mindsets and modeling their relations with goal orientations and emotional and behavioral responses in failure situations. *The Modern Language Journal*, 101(1), 214–243. <https://doi.org/10.1111/modl.12380>
- Maie, R., & DeKeyser, R. M. (2019). Conflicting evidence of explicit and implicit knowledge from objective and subjective measures. *Studies in Second Language Acquisition*, 42(2), 359–382. <https://doi.org/10.1017/S0272263119000615>
- Mercer, S., & Ryan, S. (2010). A mindset for EFL: Learners' beliefs about the role of natural talent. *ELT Journal*, 64(4), 436–444. <https://doi.org/10.1093/elt/ccp083>
- Muijs, D. (2004). *Doing quantitative research in education with SPSS*. Sage. <https://doi.org/10.4135/9781849209014>
- Nguyen, T. M., Pham, H., & Pham, T. (2012). The relative effects of explicit and implicit form-focused instruction on the development of L2 pragmatic competence. *Journal of Pragmatics*, 44(4), 416–434. <https://doi.org/10.1016/j.pragma.2012.01.003>
- Norris, J. M., & Ortega, L. (2000). Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning*, 50(3), 417–528. <https://doi.org/10.1111/0023-8333.00136>
- Ostrom, T. M. (1969). The relationship between the affective, behavioral, and cognitive components of attitude. *Journal of Experimental Social Psychology*, 5(1), 12–30. [https://doi.org/10.1016/0022-1031\(69\)90003-1](https://doi.org/10.1016/0022-1031(69)90003-1)
- Pajares, M. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research*, 62(3), 307–332. <https://doi.org/10.3102/00346543062003307>
- Raubenheimer, J. (2004). An item selection procedure to maximise scale reliability and validity. *SA Journal of Industrial Psychology*, 30(4), 59–64. <https://doi.org/10.4102/sajip.v30i4.168>
- Reber, A. S. (1967). Implicit learning of artificial grammars. *Journal of Verbal Learning & Verbal Behavior*, 6(6), 855–863. [https://doi.org/10.1016/S0022-5371\(67\)80149-X](https://doi.org/10.1016/S0022-5371(67)80149-X)
- Reber, A. S. (1993). *Implicit learning and tacit knowledge: An essay on the cognitive unconscious*. Oxford University Press.
- Rebuschat, P. (Ed.). (2015). *Implicit and explicit learning of languages*. John Benjamins Publishing Company.
- Rieger, B. (2009). Hungarian university students' beliefs about language learning: A questionnaire study. *Working Papers in Language Pedagogy*, 3, 97–113.
- Robinson, P. (1997). Individual differences and the fundamental similarity of implicit and explicit adult second language learning. *Language Learning*, 47(1), 45–99. <https://doi.org/10.1111/0023-8333.21997002>
- Spada, N., & Tomita, Y. (2010). Interactions between type of instruction and type of language feature: A meta-analysis. *Language Learning*, 60(2), 263–308. <https://doi.org/10.1111/j.1467-9922.2010.00562.x>
- Székelyi, I., & Barna, M. (2002). *Túlélőkészlet az SPSS-hez* [A survival guide to SPSS]. Typotex.
- Taherdoost, H. (2016). Validity and reliability of the research instrument: How to test the validation of a questionnaire/survey in a research. *International Journal of Academic Research Management*, 5(3), 28–36. <http://dx.doi.org/10.2139/ssrn.3205040>
- Urbaniak, G. C., & Plous, S. (2013). Research randomizer (Version 4.0) [Computer software]. <http://www.randomizer.org/>

- VanPatten, B., & Rothman, J. (2015). What does current generative theory have to say about the explicit-implicit debate? In P. Rebuschat (Ed.), *Implicit and explicit learning of languages* (pp.117–138). John Benjamins Publishing Company.
- Weiner, B. (1979). A theory of motivation for some classroom experiences. *Journal of Educational Psychology*, 71(1), 3–25. <https://doi.org/10.1037/0022-0663.71.1.3>
- Woods, D. (2003). The social construction of beliefs in the language classroom. In P. Kalaja & A. M. F. Barcelos (Eds.), *Beliefs about SLA: New research approaches* (pp.201–232). Springer.
- Ziori, E., & Pothos, E. (2015). Artificial grammar learning: An introduction to key issues and debates. In P. Rebuschat (Ed.), *Implicit and explicit learning of languages* (pp.249–273). John Benjamins Publishing Company.

APPENDIX A

The English Translation of the Complete Explicit-Implicit Learning Habits Survey (EXIS) as Administered

(The dropped items are indicated with italics)

Questionnaire on learning habits

Dear language learner! Thank you for completing this questionnaire and for helping me with the present study in the New National Excellence Programme (ÚNKP). I am Anna Zólyomi, I work and study at the Department of English Applied Linguistics at ELTE, and in this research, I would like to study your language learning habits. The questionnaire will be analysed for research purposes only and the data will be analysed in a holistic manner. The questionnaire is voluntary and anonymous. I am interested in your personal opinion and, therefore there are no “right” and “wrong” answers. The questionnaire will take approximately 10 minutes to complete.

Zólyomi Anna
zolyomi.anna@btk.elte.hu

Now, please indicate your answer from 1 to 5 in each row, depending on how true the following statements are for you.

1 = not at all true, 2 = not really true, 3 = partly true, partly not, 4 = mostly true, 5 = completely true

	not at all true	not really true	partly true, partly not	mostly true	completely true
1. I think it is an effective learning habit to start reading a book/article and to take notes on new words.	1	2	3	4	5
2. <i>I like listening to music in English just for fun.</i>	1	2	3	4	5
3. When I speak English, I know exactly what verb tense I am using.	1	2	3	4	5
4. Video games can be used to learn new English words almost by chance.	1	2	3	4	5
5. When I speak English, I do not think about the grammar rules in my sentences.	1	2	3	4	5
6. <i>The most efficient learning habit is to learn the rules thoroughly, not just by “being exposed to” the language.</i>	1	2	3	4	5
7. I am willing to make an effort to learn English.	1	2	3	4	5
8. I avoid challenges when learning a foreign language.	1	2	3	4	5
9. I think that criticism is advice worth considering, I learn from it.	1	2	3	4	5
10. Feedback shows that I am proficient in language learning.	1	2	3	4	5
11. I think reading for fun while new words stick to my memory is an effective learning habit.	1	2	3	4	5
12. When I speak English, the words come naturally.	1	2	3	4	5
13. I like using a vocabulary notebook or apps that help me learn new words, such as Quizlet.	1	2	3	4	5
14. <i>When I speak English, I pay attention to the meaning and not the rules.</i>	1	2	3	4	5
15. I think speaking in English is a more effective way to learn than rote learning.	1	2	3	4	5
16. <i>I usually watch series on a weekly basis just to improve my language skills.</i>	1	2	3	4	5
17. I like watching series/movies in English just for fun.	1	2	3	4	5
18. I often chat in English for fun, for example while playing video games.	1	2	3	4	5
19. <i>Apps can help you learn a language to a certain extent.</i>	1	2	3	4	5
20. I think the most effective way to learn English is not to learn it consciously, but to watch a film in English for fun.	1	2	3	4	5
21. I like challenges in foreign language learning.	1	2	3	4	5
22. When I watch series/movies in English, I write down unknown phrases for learning purposes.	1	2	3	4	5
23. <i>I persevere with learning a foreign language despite possible failures.</i>	1	2	3	4	5

24. <i>Learning English outside the classroom has an undoubtedly greater impact than in-class learning.</i>	1	2	3	4	5
25. I play video games in English for fun.	1	2	3	4	5
26. I consider myself successful in foreign language learning.	1	2	3	4	5
27. I am determined to learn English well.	1	2	3	4	5
28. I give up language learning easily when obstacles arise.	1	2	3	4	5
29. I do my best to learn English well.	1	2	3	4	5
30. <i>I often watch series and movies in English because of the way English sounds.</i>	1	2	3	4	5
31. <i>I do not think one can learn English without using a textbook or similar aids.</i>	1	2	3	4	5
32. I prefer to learn unknown words by reading and inferring them from the context.	1	2	3	4	5
33. <i>I like to learn grammar by hearing it several times, so it sticks in my mind sooner or later.</i>	1	2	3	4	5
34. Learning English is a very important thing in my life.	1	2	3	4	5
35. I think the most effective way to learn is to study consciously, for example by consciously reading a book/article to collect and learn new words/phrases.	1	2	3	4	5
36. <i>When I read in English, I do not create a glossary.</i>	1	2	3	4	5
37. <i>I think that the most effective method of learning new words is to learn them by rote.</i>	1	2	3	4	5
38. I think I have effective language learning habits.	1	2	3	4	5
39. I think I am a good language learner.	1	2	3	4	5
40. I see other people's success in language learning as a threat to myself because it fills me with anxiety.	1	2	3	4	5
41. When I read in English, I usually make a glossary for unfamiliar words.	1	2	3	4	5
42. I need to gain new knowledge to achieve my goals.	1	2	3	4	5
43. I had/have good grades in English.	1	2	3	4	5
44. <i>When I speak English, I always consciously think about the grammar rules I will use.</i>	1	2	3	4	5
45. It is important for me to learn English well.	1	2	3	4	5
46. When I speak English, the sentences always come automatically.	1	2	3	4	5
47. <i>I like to chat in English so that I can improve my language skills.</i>	1	2	3	4	5
48. I see the success of others in learning a foreign language as an example to follow.	1	2	3	4	5
49. <i>When I speak English, words do not come naturally.</i>	1	2	3	4	5

50. I have made good progress in English.	1	2	3	4	5
51. When I speak English, I use verb tenses instinctively.	1	2	3	4	5
52. When I use English, I always try to incorporate newly learned words into my sentences.	1	2	3	4	5
53. I usually speak in English on a weekly basis only to practise the language.	1	2	3	4	5
54. <i>When I read something in English, I pay attention to grammar and vocabulary mostly.</i>	1	2	3	4	5
55. I usually read books/articles in English for fun on a weekly basis.	1	2	3	4	5
56. <i>I usually look up lyrics and look for unfamiliar words.</i>	1	2	3	4	5
57. I have a good aptitude for English.	1	2	3	4	5
58. To achieve my goals, I prefer to stick to my existing knowledge, I do not need new knowledge.	1	2	3	4	5
59. I think I can understand unfamiliar words from the context while reading a book/article in English.	1	2	3	4	5
60. <i>To solve a problem, I rely on previously learned regularities.</i>	1	2	3	4	5
61. I like to learn grammar based on the rules and practice tasks of a textbook or of online aids.	1	2	3	4	5
62. <i>I like listening to music in English just to learn new words.</i>	1	2	3	4	5
63. I always make a glossary for new words when I read a book in English.	1	2	3	4	5
64. <i>I like to rely on my intuition when solving a task.</i>	1	2	3	4	5
65. I see effort as a path to achieve ultimate attainment.	1	2	3	4	5
66. <i>I consider excessive effort to achieve my goals to be pointless and futile.</i>	1	2	3	4	5
67. I like learning grammar when the teacher explains the rules thoroughly.	1	2	3	4	5
68. When I watch series or movies in English, I can also hear slang and expressions that I do not necessarily hear in class.	1	2	3	4	5
69. <i>When I read something in English, I mostly focus on understanding what I am reading rather than on grammar.</i>	1	2	3	4	5
70. <i>I ignore criticism.</i>	1	2	3	4	5
71. When I speak English, I know why I use certain verb tenses.	1	2	3	4	5
72. I usually speak English for fun on a weekly basis.	1	2	3	4	5

Given the sample description, I would like to ask the following questions:

1. Please indicate your gender.
 - a) male
 - b) female

2. How old are you?

3. How old were you when you started learning foreign languages?

4. How old were you when you started learning English?

5. What level of language exam do you have in English?
 1. I do not have a language exam
 2. A1-A2
 3. B1-B2
 4. C1-C2

6. Which foreign language is English for you?
 1. first
 2. second
 3. third
 4. fourth
 5. fifth

7. What foreign languages do you study other than English?

8. Where do you study foreign languages? You can select more than one answer.
 1. at home alone/with private teacher
 2. in language school
 3. in primary school
 4. in secondary school (vocational school, technical school, high school)
 5. in college/university
 - other

9. How often do you use English?
 1. once a year
 2. less than once a month
 3. a couple of times a month
 4. several times a week
 5. almost every day or every day

10. If you wish to volunteer to participate in further research on a similar topic, please, provide your email address (optional): _____

APPENDIX B

The English Translation of the Reliable Scales of the Explicit-Implicit Learning Habits Survey (EXIS)

Implicit language learning preferences (affective dimension)

1. I prefer to learn unknown words by reading and inferring them from the context.
2. I like watching series/movies in English just for fun.

Explicit language learning preferences (affective dimension)

1. I like using a vocabulary notebook or apps that help me learn new words, such as Quizlet.
2. I like to learn grammar based on the rules and practice tasks of a textbook or of online aids.
3. I like learning grammar when the teacher explains the rules thoroughly.

Implicit language learning habits (behavioural dimension)

1. I usually read books/articles in English for fun on a weekly basis.
2. I think I can understand unfamiliar words from the context while reading a book/article in English.
3. I often chat in English for fun, for example while playing video games.
4. I usually speak English for fun on a weekly basis.
5. I play video games in English for fun.

Explicit language learning habits (behavioural dimension)

1. When I read in English, I usually make a glossary for unfamiliar words.
2. I always make a glossary for new words when I read a book in English.
3. When I watch series/movies in English, I write down unknown phrases for learning purposes.
4. I usually speak in English on a weekly basis only to practise the language.

Implicit language use (behavioural dimension)

1. When I speak English, the words come naturally.
2. When I speak English, I do not think about the grammar rules in my sentences.
3. When I speak English, I use verb tenses instinctively.
4. When I speak English, the sentences always come automatically.

Explicit language use (behavioural dimension)

1. When I speak English, I know why I use certain verb tenses.
2. When I speak English, I know exactly what verb tense I am using.
3. When I use English, I always try to incorporate newly learned words into my sentences.

Perceived effectiveness of implicit learning (cognitive dimension)

1. I think reading for fun while new words stick to my memory is an effective learning habit.
2. When I watch series or movies in English, I can also hear slang and expressions that I do not necessarily hear in class.
3. I think speaking in English is a more effective way to learn than rote learning.
4. I think the most effective way to learn English is not to learn it consciously, but to watch a film in English for fun.
5. Video games can be used to learn new English words almost by chance.

Perceived effectiveness of explicit learning (cognitive dimension)

1. I think it is an effective learning habit to start reading a book/article and to take notes on new words.
2. I think the most effective way to learn is to study consciously, for example by consciously reading a book/article to collect and learn new words/phrases.

Perceived success (cognitive dimension)

1. I consider myself successful in foreign language learning.
2. I think I am a good language learner.
3. I had/have good grades in English.
4. I have a good aptitude for English.
5. I think I have effective language learning habits.
6. I have made good progress in English.
7. Feedback shows that I am proficient in language learning.

Effort (behavioural dimension; adapted from Csizér, 2020, with slight modifications)

1. I do my best to learn English well.
2. It is important for me to learn English well.
3. I am determined to learn English well.
4. Learning English is a very important thing in my life.
5. I am willing to make an effort to learn English.

Growth mindset (cognitive dimension; based on Dweck's guidelines, 2020, p.387)

1. I like challenges in foreign language learning.
2. I see effort as a path to achieve ultimate attainment.
3. I think that criticism is advice worth considering, I learn from it.
4. I see the success of others in learning a foreign language as an example to follow.
5. I need to gain new knowledge to achieve my goals.

Fixed mindset (cognitive dimension; based on Dweck's guidelines, 2020, p.387)

1. I avoid challenges when learning a foreign language.
2. I give up language learning easily when obstacles arise.
3. I see other people's success in language learning as a threat to myself because it fills me with anxiety.
4. To achieve my goals, I prefer to stick to my existing knowledge, I do not need new knowledge.