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Successes and Challenges of Syrian Refugee Children in Canada: Language and Literacy

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Successes and Challenges of Syrian Refugee Children in Canada: Language and Literacy

by

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THESIS

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Abstract

The Government of Canada has supported and provided assistance to welcome and receive Syrian refugees. Since late 2015, the Government of Canada has resettled 40,081 Syrian refugees, and families with young children constitute most of the refugees (Government of Canada, 2016). After arriving in Canada, refugee children continue to be at a disadvantage due to challenges related to language proficiency and literacy skills. The purpose of this study was to examine factors that contribute to the successes and challenges in language and literacy development in both languages, Arabic as the first language (L1) and English as the second language (L2) of Syrian refugee children. Seventeen Syrian refugee families with children between the ages of six and twelve years old were recruited. Two children from each family were recruited into one of two groups, a younger age group (6 to 8 years) and an older age group (9-12 years) with 16 males and 18 females for a total of 34 children. Several measures (receptive vocabulary, phonological awareness, morphological awareness, and word reading) were used to assess children's language and literacy skills in both languages. Also, parents were interviewed to explore the child and family factors that could correlate with the language and literacy development. The outcomes revealed that the individual factors related to child development (i.e., cognitive abilities, chronological age, age of arrival, and length of exposure to the L2, and attending school) play a significant role in the L1 and L2 acquisition. The results revealed that phonological awareness skill was a strong and unique predictor of word reading within and a cross language among bilingual Syrian refugee children. Finally, the findings of this study provided baseline information on the levels of language and literacy achieved by Syrian refugee children who recently settled in Canada.

Keywords: Syrian refugee, language and literacy, bilingualism

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Introduction

The Government of Canada has resettled 40,081 Syrian refugees across Canada since November 2015, and the majority of these refugees are families with young children, meaning that approximately half of these refugees are under the age of 18 (Government of Canada, 2016). Since most Syrian refugees are under the age of 18, there is need for research to assess the unique challenges and needs of Syrian refugee children.

Refugee children's conditions differ vastly from other immigrant children. The circumstances that lead refugees to be in a new country create unique needs and problems that are not prevalent among immigrants. Immigrants choose to resettle in a new country, and many of them are highly educated as a result of Canadian immigration policy. Many immigrants might be financially self-sufficient and interacting with family members, friends, or other people from their native country (McBrien, 2005). In contrast, refugees do not leave their countries by choice; they are forced to flee their homes and countries, often under violent circumstances such as civil war (The United Nations High Commissioner for Refugees UNHCR, 2000).

Due to the nature of the war in Syria, many refugee families and their children have been exposed to a variety of prearrival traumatic experiences such as poverty and malnutrition, living under war conditions, being uprooted from friends and communities, travelling in dangerous circumstances to seek asylum (Hadfield, Ostrowski, & Ungar, 2017; Sirin & Rogers-Sirin, 2015) and they may have lived in a settlement or refugee camp for years before resettlement in Canada. These experiences can negatively influence refugee children in terms of education or psychological impacts. For example, refugee children may have experienced limited access to education or disrupted schooling, due to the war or due to living in the refugee camps (Hadfield, Ostrowski, & Ungar, 2017). According to Sirin and Rogers-Sirin (2015), over half of all Syrian

children did not attend school during the 2014-15 school year because of the conflict in Syria. Furthermore, refugee children continue to be in a disadvantaged situation after arriving in Canada due to challenges related to language proficiency, literacy, and social integration (Geva & Wiener, 2014).

The current study examined factors that contribute to successes and challenges in language and literacy development, both in Arabic, the first language (L1), and in English, the second language (L2) of Syrian refugee children as they settle in Canada. The present study was important for several reasons. First, prior Canadian research on English language learner (ELLs) children is based on children from immigrant and refugee backgrounds (their parents are immigrants or refugees). However, little is known about refugee children in particular, which is the key group of interest in this study. Second, no research has investigated the literacy skills among 6-12 years refugee children, so this study was the first to describe Arabic and English literacy skills among Syrian refugee children. Third, the current study revealed similarities and differences between the determinants of refugee children's L1 and L2 development. Finally, it contributed to the understanding of how children who are refugees learn and adapt to their new country, which can assist educators in planning and implementing instruction that will help these children understand their lessons better and learn more effectively.

To complete this study, Syrian refugee families with children between the ages of six and twelve years old were recruited to participate in this study. Measures were used to assess children's language and literacy skills specifically receptive vocabulary, phonological awareness, morphological awareness, and word reading in both their languages, Arabic and English. Also, parents were interviewed to explore the child and family factors that contribute to language and literacy development.

Literature review

Dual language learners (DLL) and Syrian refugee children

Dual language learners refer to a diverse group of young children who are learning a second language (L2) in addition to the first language (L1) spoken at home (Gutiérrez, Zepeda, & Castro, 2010). Simultaneous bilinguals are one group of the DLLs who are exposed to and learn more than one language at the same time in their home since birth. Another group of DLLs, termed sequential bilinguals, consists of children who learn one language at home (L1) and then begin to learn the societal language as a second language (L2) later in childhood when they attend an early care or educational setting. Late sequential bilinguals learn their L2 in middle childhood or older (Ballantyne, Sanderman, & McLaughlin, 2008; Paradis, & Jia, 2017). Children from immigrant and refugee backgrounds are a subset of child L2 learners, and their situation is different from children who are learning a foreign language. For instance, one of the unique aspects of immigrant and refugee children's bilingual development is that L2 acquisition is not an elective choice of their family; they must learn the L2 in order to function and engage in a new society (Genesee, Lindholm-leary, Saunders, & Christian, 2005). Although, prior Canadian research on English language learner (ELL) children is based on Canadian children and children from immigrant and refugee backgrounds (their parents are immigrants or refugees), little is known about the specific language and literacy skills of refugee children in particular. Thus, the current study focused on refugee children who are of Syrian heritage.

Many Syrians were forced to leave their country and have migrated to various other countries since the Syrian conflict began in March 2011. The conflict in Syria has substantially impacted children and their education and learning (UNICEF, 2016). As a result of losing materials and safe spaces to learn, half of all Syrian children did not attend school during the

2014-15 academic school year (Sirin & Rogers-Sirin, 2015). Moreover, many Syrian children continued to encounter various challenges to receiving an adequate education after fleeing to neighbouring countries (Turkey, Lebanon, Jordan, Iraq, and Egypt) due to overcrowding in host country schools, the costs of attending school, restrictive educational requirements and language policies, and limited resources of families and schools (Sirin & Rogers-Sirin, 2015; United Nations High Commissioner for Refugees, 2015; Wofford & Tibi, 2018). There is additional variability in the learning experiences of Syrian children. Some children who were learning to read before the conflict were unable to continue their learning due a lack of access to schools or learning materials during the period of conflict. Other children were able to continue their learning and attending schools, although schooling might have taken place in refugee camps or in third party countries. In addition, children who were very young or born during the conflict may have never been schooled or taught to read which seriously affects children's language and literacy development (UNICEF, 2016).

The Government of Canada has supported and provided assistance to welcome and receive Syrian refugees. Since late 2015, the Government of Canada has resettled 40,081 Syrian refugees, and families with young children constitute most of the refugees (Government of Canada, 2016). After arriving in Canada, refugee children continue to be in a disadvantaged situation due to challenges related to language proficiency, cultural differences, parental employment and income, and social integration (Geva & Wiener, 2014).

Education is considered one of the most valuable resources refugee children can have to participate in the host country and succeed later in life. According to Cummins, Mirza, and Stille (2012), language and literacy development is critical for newcomer children's success in education and their integration in a new society. Therefore, refugee children need to achieve

fluent language and literacy skills in one of the Canada's official languages (i.e., English and French) to be able to productively participate in Canadian society, be involved with the new culture, build relationships outside the home, and achieve academic success (Jia, Gottardo, Koh, Chen, & Pasquarella, 2014; Birman, Trickett, & Vinokurov, 2002). Conversely, without sufficient English or French skills, refugees will have greater difficulty adjusting to life in the new country and are more likely to encounter social and psychological problems (Espenshade & Fu, 1997). At the same time, maintenance of the home language (L1) plays a crucial role in the quality of communication between children and their parents, grandparents, relatives, and other community members (Tseng & Fuligni, 2000; Cummins, Mirza, & Stille, 2012; Cummins & Swain, 2014), helps children value their culture and heritage (Birman, 2006), and may confer cognitive advantages associated with bilingualism (Bialystok, 2007; Cummins & Swain, 2014). For example, Cummins (2014) suggested that bilinguals are cognitively more advanced because they have two symbols for many objects from an early age. In this way they may conceptualize environmental features in terms of their general properties without dependence on linguistic symbols. In addition, several researchers have studied the impact of bilingualism on cognitive development and the results showed that bilingualism in children is associated with increased metacognitive skills, advantages in cognitive flexibility, intelligence, creativity, and better performance on some perceptual tasks and classification tasks (Barac, Bialystok, & Sanchez, 2014; Cummins & Swain, 2014; Geva & Wiener, 2014; Bialystok, 2007; Bialystok, 2001). Notably, few Canadian studies have focused on Arabic-speaking refugee children in terms of language and literacy development (Geva & Wiener, 2014); thus, the current research examined factors that contribute to the successes and challenges in language and literacy development in Arabic as the L1, and English as the L2, among Syrian refugee children who settled in Canada.

Factors related to language and literacy development

Individual differences among bilingual children in language acquisition and literacy development (whether in L1 or L2) through the elementary school years are determined by various child and family factors, including child cognitive abilities, age of arrival, length of exposure to the L2 language, educational status, and richness of the language environment. Some of these factors have been studied extensively for monolingual children (first language learners) but much less research has been conducted with L2 learners, especially in refugee children. Thus, this study was unique in that it investigated the factors that contribute to Syrian refugee children's language and literacy development.

Child Factors

Age of Arrival (AoA)

Age is deemed to be a critical factor that influences the acquisition of a second language (L2), and it has long been examined in studies of L2 acquisition. The age factor examined in L2 studies is usually the age of first exposure to the L2. However, in studies examining immigrant and refugee populations, the age of arrival (AoA) in the immigrant-receiving county is another important factor to consider (Flege, Yeni-Komshian, & Liu, 1999). Because children are better L2 learners than adults, arriving at a younger age in a L2 -majority environment leads to higher proficiency in the L2 skills (Flege et al., 1999; Dixon et al., 2012). According to different studies, young learners seem to show strengths in certain areas of L2 acquisition such as pronunciation (Flege, Munro, & MacKay, 1995; Flege et al., 1999), grammatical knowledge (DeKeyser, Alfi-Shabtay, & Ravid, 2010; Paradis, Tulpar, & Arppe, 2016), and some literacy skills (Jean & Geva, 2009; Geva & Wiener, 2014).

In terms of pronunciation, an advantage is present among younger learners. For instance, Flege et al. (1995) and Flege et al. (1999) showed that discernible foreign accents increased with increasing AoA in English L2 speakers with long-term residence in North America. Additionally, another area that is influenced by AoA is grammatical knowledge. A five-year longitudinal study that investigated the acquisition of English grammatical morphemes among native Mandarin speaking children and adolescents in the United States, (Jia & Fuse, 2007) found that performance was predicted by age of arrival with early arrivals achieving greater proficiency than late arrivals. In other words, Chinese-L1 children with AoAs in early childhood had more advanced levels of accuracy with English L2 verb morphology than those with AoA in late childhood/ adolescence (Jia & Fuse, 2007). In terms of literacy, previous research showed that there are differences among L2 learners in acquiring skills in the language of the immigrant-receiving county (Jean & Geva, 2009). Young L2 learners do not typically gain literacy skills such as reading comprehension, vocabulary knowledge and written language skills as their monolingual peers even after several years of formal instruction, and this is due to their relatively slow rate of acquisition at the beginning stages (Paez, Tabors, & Lopez, 2007; Jean & Geva, 2009; Geva & Wiener, 2014). However, a longitudinal study conducted in Canada by Lipka and Siegel (2007) found that there was an improvement among young English L2 learners from Kindergarten to the end of Grade 3. Their performance was equal to their L1 English-speaking peers on literacy skills such as phonological processing, memory, spelling, word reading, and lexical access.

Length of exposure (LoE)

The length of time children have been in school provides an index for the amount of language exposure. Previous research on language and literacy development investigated the

effect of length of exposure on L2 acquisition. According to several studies, L2 children take several years to achieve proficiency in oral and academic English skills at levels approaching those of their monolingual peers with substantial variability in individual outcomes. Cummins (1991) distinguished between two kinds of language proficiency. These terms are commonly used in discussion of bilingual education. First, Basic Interpersonal Communicative Skills (BICS) describe the development of conversational language used for oral communication, which are typically acquired quickly by many students. Second, Cognitive Academic Language Proficiency (CALP) describes the use of language in decontextualized academic situations and can take up to seven years to acquire. A study conducted by Hakuta, Butler, and Witt (2000) to investigate how long it takes ELLs to develop oral and academic English proficiency, the data clearly showed that academic English proficiency takes longer than oral English proficiency to develop. Specifically, it takes three to five years to develop oral language proficiency and four to seven years to gain academic English proficiency in optimum circumstances. However, Garcia (2000) indicated that disadvantaged children, children in poor schools or with interrupted schooling (e.g. Syrian refugee children) take much longer to acquire academic proficiency, up to ten years. Even though the individual differences among child L2 learners obviously existed, L2 children who had longer L2 exposure showed greater L2 abilities. According to Paradis (2011) children with longer L2 exposure have greater L2 morphosyntactic abilities and higher L2 vocabulary scores.

Interrupted schooling

School can be one of the most valuable sources that promotes academic, social, and emotional development. It can support young children to be successful in their later lives and deal with the challenges that they encounter in the early years (Correa-Velez, Gifford,

McMichael, & Sampson, 2017). Due to the war in Syria and/or living in the refugee camps, many Syrian children had limited access to education, disrupted schooling or no schooling; thus, they arrive in the host country with low L1 literacy skills (Hadfield, Ostrowski, & Ungar, 2017). According to Sirin and Rogers-Sirin (2015), over half of all Syrian children did not attend school during the 2014-15 school year because of the conflict in Syria. This disruption negatively influenced refugee children's academic skills and their language acquisition (McBrien, 2005). Brown, Miller, and Mitchell (2006) stated that refugee children with limited or interrupted schooling will be behind in all subjects and will encounter barriers to educational success. They might face difficulties in acquiring the language of the host country, especially during the first several years. Similarly, Garcia and DiCerbo (2000) found that after a brief intensive program, acquiring English as a second language seemed like a daunting task for students with interrupted schooling, especially, if they did not have first language literacy skills. These findings imply that literacy in the first language might be a foundation for acquiring a new language.

Family Factors

In addition to child factors, family factors also influence the rate of language acquisition.

Language and literacy richness at home

The amount and quality of input that children receive at home are strongly related to their early language and literacy skills. According to Paradis (2011) and Paradis and Jia (2017) the more input children receive, the better their performance on language skills. Moreover, many studies that have focused on monolingual children demonstrated that children who receive different sources of input such as watching television, listening to media, reading books, or playing with friends show positive effects on language learning (Hoff, 2006; Lieven, 2010; Scheele, Leseman, & Mayo, 2010). In terms of bilingual children, previously, researchers have

focused primarily on limited factors such as age of arrival to new country and length of residence as possible predictors of L2 proficiency (e.g., Asher & Garcia, 1969). However, recently, various researchers have identified and investigated more predictors such as media input in the L2 (e.g., TV, videos, and radio) and social interactions that positively influence L2 acquisition. For instance, Paradis (2011) found a positive correlation between language richness scores and screen time among children L2 learners. Also, a study was conducted by Scheele et al. (2010) to investigate the relationships between home language learning activities (reading, educational TV, parent-child conversation, and story-telling) and vocabulary among young bilingual immigrant Moroccan-Dutch and Turkish-Dutch. The results showed that there were significant relationships between the activities in the L2 and L2 vocabulary skills, which imply that higher quality of L2 input is associated with large vocabulary (see Paradis & Jia, 2017 for similar results).

In terms of literacy, researchers indicated that home literacy environment plays an important role in children's reading ability whether in the L1 or L2. According to de Jong and Leseman (2001), the home literacy environment may influence the development of reading. Similarly, Dickinson and Tabors (2001) reported that children whose home environments are rich in language and literacy resources are more likely to have better performance on literacy skills during the first years of education. For instance, Jia and Fuse (2007) found that language richness scores positively predicted children's L2 morphological skills.

For refugee children, the influences of language and literacy-rich environments are not only limited to success in early school grades but also extend to later education and effective participation in their new society. In the present study, a language richness score was calculated based on components that related to language and literacy-based activities at home (amount of

time the child spends doing speaking/listening activities, reading and writing activities, extra-curricular activities, and playing with friends using both L1 and L2).

Literacy acquisition

Literacy traditionally means both reading and writing skills. The key to literacy is reading development which includes a set of skills that begins with phonemic awareness, decoding, fluency, vocabulary and ends in a deep understanding of text (i.e., reading comprehension) (National Reading Panel, 2000). According to Ziegler and Goswami (2005), reading refers to the understanding of the meaning of printed words. In order to understand the meaning, the reader depends on lower level skills (e.g., letter recognition and phonemic awareness) as well as word recognition skills such as word pattern recognition. Because word recognition is considered as a starting point for the complex skill of reading comprehension (Gough & Tunmer, 1986), several models of word reading have been developed. One of these models is Dual route model.

Dual route model

The Dual route model is a theory about the cognitive structure of the information processing system used for reading and spelling (Coltheart, 2005). This model presents two routes for reading: a lexical route and a non-lexical (phonological) route (Coltheart, 2005). The lexical route is also named the direct route or visual orthographic route in which the reader connects the orthographic representation of a printed word directly to the meaning of the word that is stored in the reader's memory (Coltheart, 2005). Thus, word recognition by this route depends on the mental lexicon instead of sounding out the word. Nevertheless, this route fails when processing unfamiliar words or non-words because these words do not have lexical representations in the reader's memory.

The non-lexical route is named the indirect or the phonological route. In this route, a word is recognized when the phonological representations of this word are accessed. However, accessing the phonological representation of a target word requires several steps. For instance, the reader maps the letters onto sounds and blends these sounds to produce the correct pronunciation in order to retrieve meaning. Therefore, this route is necessary for reading new words and is useful for reading non-words that have consistent grapheme phoneme relationships (Seidenberg, 1987).

Bilingual context

The *linguistic interdependence hypothesis* formulated by Cummins (1979) and the *script-dependent hypothesis* proposed by Geva and Siegel (2000) provide theoretical frameworks for what occurs when children learn to read two or more languages. According to the *linguistic interdependence hypothesis,* knowledge of how to read in one language transfers when learning to read in a second language, which suggests that L1 proficiency is related to L2 proficiency either across general oral skills (Cummins, 1979; Geva &Siegel, 2000) or across specific linguistic skills such as phonological awareness (Durgunoglu, 2002). Therefore, the difficulties in language and literacy acquisition in the L1 influence children's ability to acquire the L2.

Alternatively, *the script-dependent hypothesis* proposed that the reading and writing difficulties emerging in two languages are due in part to the characteristic of different scripts. For example, English does not have a one-to-one relation between graphemes and phonemes whereas Arabic has much more predictable grapheme–phoneme correspondence rules than English (Abu-Rabia & Siegel, 2002). Thus, the difficulties that children encounter when learning to read in the L1 do not necessarily affect their ability to read in the L2.

Language and Literacy predictors of word reading

Understanding the basics of linguistic and cognitive skills of a language is important in order to understand reading development in a particular language. In fact, word recognition has been shown to be related to several non-reading skills including phonological awareness, morphological awareness, and vocabulary knowledge (Carlisle & Nomanbhoy, 1993; Deacon & Kirby, 2004; LaFrance & Gottardo, 2005; Carlisle, 2000; Nagy et al., 2003; Nagy, Berninger, & Abbott, 2006; Kirby et al., 2012; McKeown, Beck, Omaanson and Perfetti, 1983; Nation and Snowling, 1998).

Phonological awareness (PA)

Phonological awareness is a metalinguistic skill that involves awareness of the phonological or sound structure of spoken words independent of meaning (Hatcher, Hulme, & Ellis, 1994; Stahl & Murray, 1994). It is the awareness that one can detect sounds in words and can manipulate them through operations such as identifying, comparing, separating, and combining (Stahl & Murray,1994; Geva & Wiener, 2014). Phonemic awareness is a subset of phonological awareness, and this skill is generally measured by a phoneme elision task which is considered one of the most complex phonological awareness tasks. Based on various studies, phonological awareness skill is one of the essential factors that is strongly associated with reading development (Carlisle & Nomanbhoy, 1993; Gottardo, Yan, Siegel, & Wade-Woolley, 2001; Deacon & Kirby, 2004; LaFrance & Gottardo, 2005) as well as being considered as a reliable skill differentiating between skilled and poor readers (Shankweiler & Fowler, 2004). For example, a longitudinal study conducted by Lonigan, Burgess, and Anthony (2000) with a group of children who were followed from early to late preschool and another group who were followed from late preschool to kindergarten found that phonological awareness was the most

stable and the strongest indicator of reading compared to other predictors such as rhyming. Poor phonological awareness delays the acquisition of the alphabetic principle and the understanding of the relationship between letters and sounds (Deacon & Kirby, 2004), meaning that deficits in phonological awareness skills have an impact on reading development and are linked to reading disabilities.

Ample research evidence points to the relationship between phonological awareness and word reading in many languages including English, French, Dutch, Arabic, and Chinese (Stanovich, 1986; LaFrance & Gottardo, 2005; Laurent & Martinot, 2010; Verhagen, Aarnoutse and van Leeuwe, 2008; Saiegh-Haddad, & Geva, 2008; Taibah, & Haynes, 2011; Ho & Bryant, 1997; Gottardo et al., 2001). For example, a study conducted by Ho and Bryant (1997) with 45 first graders and 45 second graders in Hong Kong examined phonological development and its relationship to reading outcomes. The results showed that phonological awareness skills predicted word reading performance two and three years later. Hence, the relationship between learning to read and becoming phonologically aware is reciprocal throughout reading acquisition.

Morphological awareness (MA)

Morphological awareness is another component of general metalinguistic ability. Morphological awareness refers to children's ability to analyze words into meaningful units, as well as the ability to reflect on and manipulate morphemes (Carlisle, 1995). Morphemes are the smallest meaningful units in words that carry semantic information and that can be added or removed from a word to change its meaning (Kuo & Anderson, 2006) which means that morphological awareness is related to semantics and vocabulary. Morphemes are represented as prefixes, suffixes, root words, and grammatical inflections (e.g., the use of "s" to mark plural). For instance, the derived word "darkness" consists of two morphemes: the stem "dark" and the

suffix "ness". Recent research on reading in English has shown that morphological awareness is significantly associated with various aspects of literacy skills including word reading (Carlisle, 2000; Nagy et al., 2003; Nagy, Berninger, & Abbott, 2006; Kirby et al., 2012; Deacon, Benere, & Pasquarella, 2013). Several studies reported that children in the elementary grades differ significantly in their ability to manipulate morphologically complex words, and these variances reflect children's differences in word reading (Nagy, Berninger, & Abbott, 2006; Singson, Mahony, & Mann, 2000). These results show that morphological knowledge plays an important role in reading complex words. A longitudinal study conducted by Carlisle (1995) to examine the development of morphology in the period from kindergarten to the second grade indicated that morphological awareness was positively correlated with subsequent reading achievement and reading proficiency.

Furthermore, morphological awareness is a crucial factor in predicting literacy among bilingual children. Ramirez, Chen, Geva and Luo (2011) investigated English morphological awareness skills among Chinese and Spanish L2 learners who are in Grade 4 and Grade 7. The outcomes showed that morphological awareness made a unique contribution to word reading in all groups after controlling some reading variables. Similar results were found in Saiegh-Haddad and Geva's (2008) study that focused on Arabic/English bilinguals. They found that English morphological awareness explained unique variance in word reading. Also, Wolter, Wood, and D'zatk (2009) found that performance on an oral morphological production task showed unique variance in reading and spelling after controlling for phonological awareness among Chinese/English bilinguals.

Vocabulary

Vocabulary knowledge refers to the ability to understand the meaning of a word. There are two types of vocabulary: Oral vocabulary which includes the words that are used to speak and understand oral language and reading vocabulary that includes the words used in print (National Institute of Child Health and Human Development, 2000). The importance of vocabulary in reading is related to both learning to recognize individual words and to text comprehension (McKeown, Beck, Omaanson & Perfetti, 1983). In other words, the reader needs to know the meaning of individual words that make up a written text to fully understand that text (McKeown, Beck, Omaanson and Perfetti, 1983; Nation and Snowling, 1998).

Furthermore, research reported that there is a reciprocal relationship between children's vocabulary and reading across development. According to Verhoeven, van Leeuwe, and Vermeer (2011), vocabulary knowledge has been consistently associated with reading achievement, particularly for reading comprehension. Also, Ricketts, Nation, and Bishop (2007) investigated literacy levels and vocabulary in 81 English-language children aged 8 to 10 years. The outcomes showed that reading skills were predicted by oral vocabulary. In terms of the relation between word recognition and vocabulary knowledge, Nation and Snowling (1998) reported that depending on the theories it is possible that vocabulary knowledge will help to support the development of word recognition skills by allowing the creation of mappings between visual, phonological, and semantic representations in an individual's developing lexical system. In terms of bilingual studies, even though bilingual children have shown delayed development of vocabulary knowledge within a specific language, some empirical studies indicated the importance of vocabulary in bilingual children's literacy levels. For example, one of the studies on bilinguals focused on the developmental progression of English reading among 39 bilingual

learners (from grade 3 to 4) (Burgoyne, Whiteley, & Hutchinson, 2011). They found that vocabulary knowledge emerged as a significant predictor of Grade 4 reading comprehension when entered after reading accuracy.

Overview of the Arabic Language

Arabic (العربية al-arabiyyah) is a Semitic language with an abjad orthography. It is the fifth most common language in the world in terms of the number of native speakers, with 300 million speakers, mostly in the Middle East and North Africa (Elbeheri & Everatt, 2007). In addition to this large number of native speakers, Arabic is used as an additional language by millions of Muslims around the world because it is the language of the Quran, the holy book of Islam, and is consequently considered the second most widely used language in the world after English (Mahfoudhi, Everatt, & Elbeheri 2011).

Arabic orthography

Arabic is represented by an alphabetic writing system including 28 consonants letters with the exception of three letters, which are long vowels (a, u, i) (Abu Rabia & Taha, 2006). Arabic has specific features that distinguish it from other languages including English. Arabic is a language written from the right to left, while English is written form left to write. Unlike English, there are no capital letters in Arabic. In addition, most Arabic letters have more than one written shape (four shapes) depending on the letter's position in a word :initial, middle, final, or isolated. (See Table 1)

Another feature of Arabic is the dot system which is used within its letters. Out of twenty-eight letters, fifteen letters are written with dots: ten have one dot, three have two dots, two have three dots, and the remaining thirteen letters are written without dots (Abu Rabia &

Taha, 2006). Thus, the number of dots is very important in Arabic as well as their position, below or above the letter. (See Table 2).

Arabic phonology

The most important skill in phonological processing is the association of sounds with letters. Phonological awareness refers to individual's ability to manipulate the smallest unit of sounds, phoneme, of spoken words (Stahl & Murray,1994). In comparison to English phonemes, Smart and Altorfer (2005) divided the Arabic phonemes into three groups. The first group of sounds is mostly like sounds in English such as b/, /d/, /dh (ð)/, /f/, /h/, /j/, / k/, / l/, /m/, /n/, /s/, /sh (ʃ)/, /t/, /th (θ) /, /w/, /y/ and /z/. The second group of sounds in Arabic does not exist in English but are found in other European languages such as the /r/ sounds which is like trilled r of Scottish 'very', the /gh/ sounds which is close to the /r/of Parisian French and the /kh/ sounds which is like to the German sound /ch/. The last group includes sounds which are specific to Arabic language such as /S/, /T/, /DH/, /aiyn/, /H/, and /hamzah/.

Similar to English, Arabic has two types of vowels including short and long vowels that are represented differently. The long vowels are represented by three letters ٱ/a:/, و /u:/ and ي /i:/. Short vowels are represented by three diacritical marks, which play an essential role in Arabic and contribute to the phonology of the Arabic alphabet (Abu-Rabia, 2012). (See Table 3)

Therefore, when Arabic words and texts are vowelized (using diacritics) such as in children's books, religious texts, and textbooks for beginning readers and foreign learners, Arabic is considered a shallow orthography (one-to-one correspondence between letters and sounds) meaning that each word has one possible pronunciation. Abu-Rabia (2001) indicated that vowel diacritics are significant facilitators of word recognition and reading comprehension regardless of the level of reading skill or the age of the reader. In contrast, Arabic script is

considered a deep orthography (less transparent correspondences between graphemes and phonemes) such as English when the script appears without the diacritics (un-vowelized), as in newspaper texts. When diacritics disappear, a specific word can have multiple pronunciations due to the homographic nature of Arabic orthography, which leads readers to depend more on context to support word processing (Abu-Rabia, 2001; Abu Rabia & Taha, 2004, 2006).

As in English, various research studies have suggested that phonological awareness skills play an important role in developing reading skills in Arabic (Abu-Rabia & Taha, 2004; Abu-Rabia, Share, & Mansour, 2003; Taibah & Haynes, 2011). For example, a study conducted by Al- Mannai and Everatt (2005) with 171 monolingual Arabic-speaking Bahraini children examined the effect of pseudoword reading, phonological awareness, short-term memory, processing speed, and nonverbal ability on single word reading. The outcomes showed that decoding and phonological awareness were the best predictors of word reading especially in the early grades. Similar conclusions were reported by Taibah and Haynes (2011) who investigated the contribution of phonological awareness to basic literacy skills in 237 children from kindergarten through Grade 3, whose native language was Arabic. The results showed that the best predictor of basic Arabic skills for Arabic-speaking children was phonological awareness.

In terms of bilingual Arabic-speaking children, Farran, Bingham, and Matthews (2012) found that for Grade 3, 4 and 5 English-Arabic bilingual children, word reading (both vowelised and non-vowelised Arabic words) was predicted by phonological awareness. Similarly, Saiegh-Haddad and Geva (2008) found that Arabic phonological awareness significantly predicted Arabic word reading among English-Arabic bilingual children in elementary grades.

In addition, there is evidence of cross-language transfer of phonological awareness between Arabic and other languages. For example, Farran, Bingham, and Matthews (2012) found

that phonological awareness in Arabic was correlated to phonological awareness in English. Similarly, a study conducted by Alshaboul, Asassfeh, Alshboul and Alodwan (2014) found evidence of phonological transfer from Arabic to English in first-grade Jordanian bilingual children aged 6 to 10. Hence, phonological skills are considered an important factor of basic literacy skills within and across languages.

Arabic Morphology

English is considered a concatenative language that uses linear morphological processes including prefixes and suffixes (e.g., un-happi-ness). However, Arabic is a non-concatenative language, which combines both linear and non-linear morphological processes (Boudelaa, 2014). In linear morphology, morphemes are added sequentially as prefixes or suffixes which mark the grammatical distinctions of a word such as person, gender, number (singular, dual, and plural) and time (Abu-Rabia, & Taha, 2006) (e.g., from the root "r.s.m", when add *T* in the beginning of word as prefix, it means ترسم "she draws" and when add *Na* as a suffix, it means رسمنا "we draw"). In nonlinear morphology, the combination of root and pattern into a word changes the internal structure of this word. For example, from the root "r.s.m", different words with different meaning can be derived /rassa:m/ "painter", /rasma/ "picture", /rusi:ma/ "was drawn".

Arabic roots are exclusively consonantal and provide the general meaning of the word (e.g., r.s.m). Roots are triliteral or quadriliteral, that is, with three or four consonants. In contrast, word patterns are built of long and short vowels and provide the morpho-syntactic and phonological information of words (e.g., rasama) (Abu-Rabia, & Taha, 2006). Hence, the combination of the root with the word pattern provides a meaningful word with different meaning and different grammatical structure (root: /r.s.m/ word pattern: rasama "to draw", verb).

Moreover, the complexity of the Arabic language is reflected in its morphology. Similar to other languages, Arabic morphology consists of two types of structures: derivational and inflectional. Derivational structures in Arabic differ from those in English and are represented by non-linear morphological processes. In contrast to the derivational morphology, the inflectional morphological system is similar to English and is represented by linear morphological processes.

The awareness of the morphological structures of a language was found to play an essential role in reading processes particularly in Semitic languages (Abu-Rabia, 2007; Saiegh-Haddad and Geva, 2008; Saiegh-Haddad, 2013; Tibi & Kirby, 2017). In terms of monolingual children, a study conducted by Abu-Rabia (2007) among Arabic dyslexic and typical readers in Grades 3, 6, 9 and 12 found that morphological skills and spelling were the strongest predictors of reading accuracy and comprehension. A study examining cross-language transfer of morphological awareness between Arabic and another language, Saiegh-Haddad and Geva (2008) revealed that Arabic morphological awareness predicted word reading in English.

Diglossia

Diglossia is a unique feature that distinguishes the Arabic language from English. It is defined as the existence of two different forms of the Arabic language. The first form is the spoken language. This language is learned informally at home and used for daily verbal communication; thus, it is considered the mother tongue (Maamouri, 1998). It also differs widely from country to country. According to Abu-Rabia and Taha (2004) and Biadsy, Hirschberg, and Habash (2009), there are many spoken dialects of Arabic based on geographic area. For example, there are several dialects such as the Gulf Arabic dialect for the Gulf States, the Iraqi Arabic dialect for Iraq, the Levantine Arabic dialect for Levant countries such as Lebanon, Syria, and

Jordan, the Egyptian Arabic dialect for Egypt, and the Maghrebi Arabic dialect for the Western

Arab countries such as Morocco, Algeria, Tunisia and Libya. On the other hand, the second form

is termed literary language or the modern standard Arabic language, which was used in the

measures of the current study. This language is typically learned at school and used for reading,

writing, and formal communication. The two forms of Arabic language are significantly different

in terms of vocabulary, phonology, syntax and grammar (Ibrahim, Eviatar, & Aharon Peretz,

2007; Saiegh -Haddad, 2003). In a series of studies, Saiegh-Haddad (2003, 2004, & 2005)

indicated that the linguistic distance between these two forms of Arabic language exists in all

aspects of the language especially in phonology, meaning that diglossia is considered a key

factor in making learning to read Arabic a challenging task for native speakers (Eviatar &

Ibrahim, 2012).

The Current Study

The present study examined factors that contribute to successes and challenges in

language and literacy development, both in Arabic the L1, and English the L2, of Syrian refugee

children as they settle in Canada. There were two main goals of this current study: First, to

investigate the literacy skills among young refugee children. Second: to reveal similarities and

differences between the determinants of refugee children's L1 and L2 development. These main

goals were described in terms of specific research questions and hypotheses.

Research Questions

Research Question 1: Which factors are correlated with Syrian refugee children's language and

literacy development?

   H1: The child (i.e., cognitive abilities and educational status) and family (i.e., richness of

   L1 environment) factors will be correlated with L1 language and literacy development.

H2: The child (i.e., cognitive abilities, age of arrival, and length of exposure to L2) and family (i.e., richness of the L2 environment) factors will be correlated with L2 language and literacy development.

Research Question 2: What are the within-language contributions of phonological awareness, morphological awareness, and vocabulary to Arabic and English word reading skill among Syrian refugee children?

H1: Phonological awareness, morphological awareness, and vocabulary will be correlated with word reading in Arabic and English.

H2: Phonological awareness will emerge as a strong and unique predictor of word reading in Arabic and English.

Research Question 3: What are the cross-language contributions of phonological awareness, morphological awareness, and vocabulary to Arabic and English word reading skill among Syrian refugee children?

H1: Phonological awareness in Arabic L1 will be correlated with word reading in English L2, and phonological awareness in English L2 will be correlated with vowelized word reading in Arabic L1.

H2: Phonological awareness in Arabic L1 will emerge as a strong and unique predictor of English word reading and vice versa.

Method

Participants

Seventeen Syrian refugee families with children between the ages of six and twelve years old were included in this study. Most of these families were privately sponsored refugees. The total number of child participants was 34 (16 males and 18 females), 2 per family. Children ages

6 to 8 years ($M = 7.21$, $SD = .95$) and 9 to 12 years ($M = 10.57$, $SD = 1.06$) were selected with a maximum of one child per family in each age group. The children in younger age group were 6 to 8 years old and the children in the older age group were 9 to 12 years old. The number of participants in each age group was equal with seventeen in each group. The participants were divided into two groups to determine the effects of learning experiences on the Syrian refugee children. Some children who were learning to read before the conflict were unable to continue their learning while others were able to continue their learning and attending schools. However, children who were very young or born during the conflict may have never been schooled or taught to read which seriously affects children's language and literacy development (UNICEF, 2016). In addition, this age range (6-12 years) is a critical period for language and literacy development as well as a time when children's abilities to learn new information and concepts develop. Children who participated in this study had between 8 to 25 months of exposure to English ($M = 16.50$, $SD = 6.30$) and came from newcomer (Syrian refugee) families residing Kitchener and Waterloo, Canada. Thus, these children were sequential bilingual learners, since they learned their L2 after having established their L1.

The families were recruited through ShamRose Refugee Support Center by contacting the center by telephone, email, and visiting the center. Furthermore, children in this study were tested on language and literacy measures in both English and Arabic. Because of interrupted schooling, some children might be unable to complete the literacy measures in either language; thus, the measures have basal rules, which enabled the examiner to discontinue the test when the items became too difficult for the children. In addition, parents were interviewed in order to obtain some information about their child's education and language development and language

literacy activities. This information was reported to gain a better understanding of the participants.

Measures

Children were tested on measures of cognitive skills (reasoning and spatial visualization), cognitive-linguistic processing skills (phonological awareness), language skills (morphology and vocabulary), and literacy skills (word reading) in both Arabic and English. The language and literacy measures of this study have been selected to be age-appropriate and widely used with established reliability and validity.

Language Environment Questionnaire

The Alberta Language Environment Questionnaire (ALEQ: Paradis, 2011) is designed to obtain detailed information about children's language development history, parent education and fluency in both languages English and Arabic, home and school language use, and information about language and literacy activities. This questionnaire was translated into Arabic, which was the parents' first and dominant language, by the author and graduate students who are native Arabic speakers. Then, the Arabic version underwent revisions and modifications with the help of two independent experts prior to its implementation. The questionnaire was also adapted for this refugee population to better capture some of their unique experiences. It includes a set of questions and was administered as an oral interview between the parent and the researcher. To determine child and family factors, certain components of this questionnaire were chosen with child's age, age of arrival, length of exposure to L2 and educational status as well as if the child experienced interrupted schooling or not, as child factors and richness of L1 and L2 environment as a family factor. A language richness score was calculated based on components that related to language and literacy-based activities at home, specifically amount of time the child spends

doing speaking/listening activities, reading and writing activities, extra-curricular activities, and playing with friends using both L1 and L2 (See Appendix A).

Cognitive and linguistic measures

Non-verbal Intelligence

To measure general non-verbal intellectual ability, The Reasoning by Analogy and Spatial Visualization subtests of Matrix Analogies Test (MAT) – Expanded Form (Naglieri, 1985) was used. Each of the 16 items for each subtest requires children to identify which one of six pieces appropriately completes the pattern. For this task, the examiner explained the test procedure and gave two practice items to the children with feedback. Then, children were asked to look at the existing pattern, notice the missing piece in the picture, and complete a matrix by choosing the missing item from six different pieces displayed at the bottom of the page. All items were administered to each child individually. The test was discontinued when the child fails four consecutive items within each subtest. The raw score was the total number of correct responses, so the score on the complete test ranged from 0 to 32. The Cronbach's alpha for this measure was .70.

Phonological awareness

In English. Phonological awareness was measured by the Elision subtest of the Comprehensive Test of Phonological Processing (CTOPP-2; Wagner, Torgesen, & Rashotte, 2013). This subtest consists of 34 test items. Children were asked to listen to individual English words read aloud by the examiner and repeat the word. Then, they were asked to delete a word part or sound in each presented word and state the remaining word (e.g., "say *toothbrush* without saying *tooth*" or "say *meet* without saying */t/*"). Testing was discontinued when the child missed three items in a row. The correct answers were recorded as 1 and incorrect answers as 0. The

total raw score was the number of correct test items up to the ceiling. The Cronbach's alpha for this measure was .89.

   In Arabic. The Arabic phonological awareness task was taken from Tibi and Kirby (2017) and was modified for the current study. The task was parallel in design to the English phonological awareness (elision) subtest. This task is comprised of six training items and twenty test items and was given orally. Children were asked to listen to individual Arabic words read aloud by the examiner and asked to repeat the word. Then, they were asked to delete a word syllable or particular phoneme either in the initial, middle, or final position from the word (e.g., "Say /samaa/ "sky" without /sa/ /maa/ "water" or "say /fiil/ "elephant" without saying /l/ /fee/ "in"). Feedback was given on all training items. The test was discontinued if the child missed three consecutive errors. Each correct answer was recorded as 1, so the total row score was the number of correct test items. The Cronbach's alpha for this measure was .80. (See Appendix B)

Morphological awareness

   In English. A derivational awareness task was used to determine children's morphological awareness of the base forms of words. This expressive derivational awareness task is adapted from Carlisle (2000) to be suitable for younger children and language learners. In this test, children were required to produce a derived word to complete a sentence. For example, "swim. She was a strong _____. [swimmer]". This test is contained of sixteen items. Raw scores were obtained from the number of correct sentences. The Cronbach's alpha for this measure was .75.

   In Arabic. The Morphological Production subtest of the Tests and Manual-Logat Elkaraa (TMLE; Asadi, Shany, Ben-Semon, & Ibrahim, 2014) was administered to examine children's morphological awareness. This task consists of seven morphological roots (two as practice items

and five as testing items) derived from three letters. The test was given orally. Each root was presented separately to children. After that, they were asked to produce at least two new words. The words that were produced could be verbs or nouns (e.g., kitaab/ "book", /kutub/ "books", /maktab/ "desk", /kaatib/ "writer", /taktub/ "she writes", /yaktub/ "he writes", and /katabu/ "they wrote"), but they have to be derived from the same three letter root presented in the task. Roots were selected to permit multiple responses generating high-frequency words. Five minutes were required to administer this test in which one minute was given to produce as many words as possible for each root. The children's responses were recorded as audio files. One point was given to each correctly produced word and repeated words were excluded. The total raw score was the number of correct words produced by the child. The Cronbach's alpha for this measure was .97.

Vocabulary

In English. The Peabody Picture Vocabulary Test, Fourth Edition, Form A (PPVT-IV; Dunn & Dunn, 2007) was administered to assess children's receptive vocabulary in English. The PPVT-IV test consists of 228 items equally distributed across twenty item-sets. Each item-set is comprised of twelve items of increasing difficulty. In this test, four pictures were shown to children, and they were asked to point to the picture that presents the word provided orally by the examiner. For example, after presenting the four pictures, the examiner said *"look at the pictures on this page. Put your finger on the picture that shows sleeping"*. The test was discontinued when the child failed at least eight items in a block of twelve items. The correct answers were recorded as 1 and incorrect answers as 0. The raw score was calculated by subtracting the total number of errors from the ceiling item. The Cronbach's alpha for the manual was .97.

In Arabic. To assess children's receptive vocabulary in Arabic, the Picture Vocabulary

subtest of the Tests and Manual-Logat Elkaraa (TMLE; Asadi, Shany, Ben-Semon, & Ibrahim, 2014) was used. The test consists of 73 items. Four pictures were displayed, and children were asked to point to the picture that best illustrates the word provided orally by the examiner. The test was discontinued after eight consecutive errors. The correct answers were recorded as 1 and incorrect answers as 0. The raw score of this test was the total number of correct responses. The Cronbach's alpha for this measure was .86.

Literacy Measure

Word reading

    In English. English word reading accuracy was measured using the Letter-Word Identification subtest of the Woodcock-Johnson III battery (WJIII; Woodcock et al., 2001). This test is standardized measure, and it includes 76 test items organized into sets of increasing difficulty consisting of one to eight words per set. The initial 16 test items require children to identify letter names or point to letters that match the letter name presented orally by the examiner. For the remaining 60 test items, children were asked to read aloud sets of English words that become gradually more challenging (e.g., is, had, together, astronomer). Each correct response was recorded as 1 and incorrect response as 0. The test was discontinued when the child incorrectly read six words in a row. The raw score was the total number of all items answered correctly. The Cronbach's alpha for the manual was .95.

    In Arabic. Word reading accuracy in Arabic was measured using Arabic vowelized Word reading test that had been created by Tibi and Kirby (2017). This test is comprised of 100 vowelized words (10 practice items and 90 test items), which are increasingly difficult in terms of the number of syllables, phonological structure, and morphological complexity. All words are vowelized and represent different parts of speech (noun, verb or adjective). In this test, children

were asked to read aloud the words presented visually by the examiner. Feedback was given on all practice items. The test was discontinued after ten consecutive errors. The correct responses were scored as 1 and incorrect responses as 0. The raw score of this test was the total number of words read accurately. The Cronbach's alpha for this measure was .97. (See Appendix C).

Procedure

The families were recruited through ShamRose Refugee Support Center by contacting the center by telephone, email, and visiting the center. This study involved parents and children. Parents were interviewed by the researcher at their home, which took approximately 30-45 minutes. Additionally, children were tested on language and literacy measures in both Arabic and English. Testing included two one-hour sessions. One session was dedicated to testing in each language. Testing occurred on separate days for each language. Session 1 measures were the following: Non-verbal intelligence (MAT), Receptive Vocabulary (Arabic), Phonological awareness (Arabic), Morphological awareness (Arabic), and Vowelized word reading (Arabic). Session 2 measures were the following: receptive Vocabulary (English), Phonological awareness (English), Morphological awareness (English), and Letter-word identification (English). Administration order of measures was static for all participants, but the order of presentation in terms of the languages was counter-balanced with some children being tested in Arabic first and others being tested in English first. Practice items were administered before each test and feedback was provided, but no feedback was given for the actual test items. English instructions were provided for all English measures while Arabic instructions were provided for the Arabic measures. All measures were individually administered in a quiet setting by trained undergraduate and graduate students. Finally, each family received $50 for participating in this study. Children received small gifts such as pencils, stickers, or small book after each session.

Data Analysis

In order to answer the research questions of this study, data were analyzed using a series of statistical procedures including descriptive statistics, correlations, and regression analyses. Descriptive statistics were used to present demographic information and dispersion (mean and standard deviations) of scores in both English and Arabic languages and reading measures. Demographic variables included chronological age in months, age of arrival, length of exposure to English, attending school before arriving in Canada, and richness of the Arabic and English environment outside school. Correlational analyses were conducted to determine the relations among variables, followed by regression analyses to investigate predictors of language and literacy measures, each consisting of one dependent variables (DV) and two or more independent variables (IVs). All tests of significance were two-tailed, and the significance level of .05 was used.

Results

Descriptive statistics

Table 4 summarizes the means, standard deviations, F-values, and p-values for demographic variables and for the raw scores of developed measures and standardized tests for each task in both languages: Arabic and English in both groups (young and older). The number of participants was equal, 17 in each group. The results of descriptive statistical analyses showed that there were group similarities and differences among variables and no floor or ceiling effects on most variables except English morphology, which showed floor effects. As shown in Table 4, there were significant group differences based on age for most variables. The older group outperformed the younger group on English measures of word reading ($M = 33.94$, $SD = 9.2$), which showed that the older group was at the age of 7 and at the grade level of 2.3. The mean

score for the younger group ($M = 22.71$, $SD = 10.3$) demonstrated that young children were at

the age of 6-8 and at the grade level of 1.3. The older group also outperformed the younger group

on phonological awareness ($M = 22.7$, $SD = 8.7$) and had marginally higher scores on English

morphological awareness ($M = 3.29$, $SD = 2.4$). Moreover, the older group had higher scores on

the Arabic reading and language measures, specifically word reading ($M = 37.0$, $SD = 31.3$),

phonological awareness ($M = 15.82$, $SD = 4.7$), morphological awareness ($M = 38.29$, $SD = 14.0$)

and vocabulary ($M = 49.12$, $SD = 9.5$). Interestingly, the groups did not differ on raw scores on

the measure of English vocabulary ($p = .946$). Both groups had very low scores on vocabulary.

The mean standard score for the younger group was 63.76, which was greater than 2 standard

deviations below the mean. The mean standard score for the older group on this test was 39.76,

which is greater than three standard deviations below the mean. The results also showed

similarities existed in length of exposure to the L2 ($p = .729$), English richness ($p = .532$) and

Arabic richness ($p = .200$), likely because the participants were matched pairs of siblings.

Correlational Analyses.

Correlations were used to examine the associations between child and family factors, as

well as language and reading variables based on the Pearson correlation coefficients. The first

research question examined which factors were correlated with Syrian refugee children's

language and literacy skills in both languages.

Child and family factors with English language and literacy. The outcomes showed

that the child (chronological age in months, age of arrival, length of exposure to English, and

attending school) and family (richness of the English and Arabic environment outside school)

factors that contribute to the successes and challenges in language and literacy development in

both languages of Syrian refugee children were correlated with each other (see Table 5). For

example, strong correlations were found for the relationship between length of exposure and English vocabulary, $r = .69$, $p < .001$ and moderate correlations between length of exposure and English morphology, $r = .40$, $p = .017$, respectively. Child factors were positively correlated with English phonological awareness with correlation values of cognitive abilities, $r = .46$, $p = .006$, chronological age $r = .49$, $p = .003$, and age of arrival $r = .45$, $p = .006$. Child factors were also associated with English word reading with correlation values for cognitive abilities, $r = .61$, $p < .001$, chronological age, $r = .54$, $p = .001$, and with age of arrival, $r = .48$, $p = .003$, respectively. These results suggest that English language skills are correlated with length of exposure to English whereas English literacy skills are associated with chronological age, age of arrival, and cognitive skills.

Child and family factors with Arabic language and literacy. As indicated in Table 6, positive correlations were found for the relationship between chronological age, cognitive abilities, and attending school before arriving in Canada and Arabic language and literacy skills. Richness of the Arabic environment was significantly correlated with Arabic vocabulary, $r = .46$, $p = .005$, Arabic morphological awareness, $r = .48$, $p = .004$, and Arabic word reading, $r = .48$, $p = .003$.

Correlations between all English and Arabic measures within and cross-language are reported in Table 7. There were significant correlations between measures across languages and high correlations between measures within-language.

Within-language.

In English, the results showed that language and literacy measures were correlated with each other. A positive correlation was found between English vocabulary and the English morphological task, $r = .55$, $p = .001$, English word reading, $r = .35$, $p = .037$, but not with the

English phonological awareness task, $r = .12$, $p = .479$. English phonological awareness and

English morphological awareness were highly correlated with English word reading with

correlation values of English phonological awareness, $r = .81$, $p < .001$, and English

morphological awareness, $r = .64$, $p < .001$.

In Arabic, the results of the correlational analyses showed that Arabic language and

literacy measures were significantly correlated with each other. There were strong correlations

between Arabic phonological awareness and all Arabic measures. The highest correlation was

between Arabic phonological awareness task and Arabic vowelized word reading, $r = .71$, $p <$

.001, and the lowest correlation was between Arabic phonological awareness and vocabulary, $r =$

.55, $p < .001$. Also, Arabic morphological awareness and Arabic vocabulary were significantly

correlated with Arabic vowelized word reading ($r = .80$, $p < .001$; $r = .68$, $p < .001$).

Cross-language relations. As shown in Table 7, there were significant cross-language

correlations between English and Arabic variables. A high correlation was found between

English phonological awareness and Arabic phonological awareness, $r = .79$, $p < .001$, and

between English word reading and Arabic vowelized word reading $r = .69$, $p < .001$. A moderate

correlation was shown between English morphological awareness and Arabic morphological

awareness with correlation values, $r = .40$, $p = .016$. However, no correlation was found between

English vocabulary and any of the Arabic measures. Also, strong positive correlations were

found between Arabic phonological awareness and Arabic morphological awareness and English

word reading, the lowest correlation was found between Arabic vocabulary and English word

reading, $r = .49$, $p = .003$. In contrast, English phonological awareness was strongly correlated

with Arabic vowelized word reading, $r = .62$, $p < .001$, but no correlation was found between

Arabic vowelized word reading and English morphology or vocabulary.

Regression analyses.

Multiple regression analyses were performed to determine the statistical predictors of English and Arabic word reading within-language. Then, hierarchical regression analyses were used to determine the relative contributions of each of the standard predictors to word reading within and across language. The full sample was included in the regression analyses to increase sample power. The following were the variables that entered in the analyses: morphological awareness, vocabulary, and phonological awareness. These variables were selected as predictor variables based on the results of previous research (LaFrance & Gottardo, 2005; Taibah & Haynes, 2011; Kirby et al., 2012; Abu-Rabia, 2007; Tibi & Kirby, 2017) and significant correlations found for the variables. For both languages, the dependent variables (DVs) were Arabic vowelized word reading and English word reading. The independent variables (IVs) were English and Arabic morphological awareness, English and Arabic vocabulary, and English and Arabic phonological awareness.

Within-language predictors

English word reading. English morphological awareness, English vocabulary, and English phonological awareness explained a significant amount of variance in English word identification when entered together, $R^2 = .749$, $F(3,30) = 29.82$, $p < .001$. As shown in Table 8, the analysis revealed that English phonological awareness was the only significant predictor of English word identification, $\beta = .700$, $t(30) = 6.30$, $p < .001$.

To determine the relative contributions of each of the English standardized measures as predictors of English word reading after controlling for child age and age of arrival, hierarchical regression analyses were conducted. As indicated in Table 9, child age was entered in step 1, explaining 29% of the variance in English word reading, $F(1,32) = 13.59$, $p = .001$. After entry

of English morphological awareness at step 2, the total variance explained by the model as a whole was 49%, $F(2,31) = 15.35$, $p < .001$. Thus, English morphological awareness explained an additional 20% of the variance in English word reading after controlling for the child age. The contribution of English morphological awareness to the model was significant, $\beta = .501$, $p = .001$. After entry of English vocabulary at step 3, the total variance was 50%, $F(3,30) = 10.10$, $p < .001$. English vocabulary explained an additional 1% of the variance in English word reading after controlling for the child age and English morphological awareness. The contribution of English vocabulary to the model was not significant, $\beta = .086$, $p = .591$. In the last step, the English phonological awareness was entered. The total variance was 76%, $F(4,29) = 23.60$, $p < .001$. English phonological awareness explained an additional 26% of the variance in English word reading after controlling for the above mentioned variables. The contribution of English phonological awareness to the model was significant $\beta = .652$, $p < .001$.

Age of arrival is considered to be a critical factor that effects the acquisition of a L2 (Flege, Yeni-Komshian & Liu, 1999). Table 10 presented the results of the hierarchical regression analysis to determine the relative contributions of each of the English standard predictors to English word reading after controlling for child age of arrival. The results were similar to Table 9. As shown in Table 10, child age of arrival was entered in step 1, explaining 23% of the variance in English word reading, $F(1,32) = 9.94$, $p = .003$. After entry of English morphological awareness at step 2, the total variance explained by the model as a whole was 50%, $F(2,31) = 15.59$, $p < .001$. Thus, English morphological awareness explained an additional 26% of the variance in English word reading after controlling for the age of arrival. The contribution of English morphological awareness to the model was significant, $\beta = .544$, $p < .001$. After entry of English vocabulary at step 3, the total variance was 51%, $F(3,30) = 10.59$, p

< .001. English vocabulary explained an additional 1% of the variance in English word reading after controlling for the age of arrival and English morphological awareness. The contribution of English vocabulary to the model was not significant, $\beta = .146$, $p = .377$. At step 4, the English phonological awareness was entered. The total variance was 77%, $F(4,29) = 24.33$, $p < .001$. English phonological awareness explained an additional 25% of the variance in English word reading after controlling for the above mentioned variables. The contribution of English phonological awareness to the model was significant $\beta = .644$, $p < .001$. Age of arrival was not a unique statistical predictor.

Arabic vowelized word reading. Results indicated that Arabic morphological awareness, Arabic vocabulary, and Arabic phonological awareness explained a significant amount of variance in Arabic vowelized word reading when entered together, $R^2 = .701$, $F(3,30) = 23.49$, $p < .001$. As shown in Table 8, the analysis indicated that Arabic phonological awareness and morphological awareness significantly predicted Arabic vowelized word reading with phonological awareness, $\beta = .302$, $t(30) = 2.18$, $p = .037$, and morphological awareness, $\beta = .485$, $t(30) = 2.669$, $p = .012$.

Moreover, hierarchical regression analyses were conducted to determine which variables were uniquely related to Arabic vowelized word reading after controlling for child age. As shown in Table 11, child age was entered in step 1, explaining 20% of the variance in Arabic vowelized word reading, $F(1,32) = 8.37$, $p = .007$. After entry of Arabic morphological awareness at step 2, the total variance explained by the model as a whole was 67%, $F(2,31) = 32.36$, $p < .001$. Thus, Arabic morphological awareness explained an additional 46% of the variance in Arabic vowelized word reading after controlling for the child age. The contribution of Arabic morphological awareness to the model was significant, $\beta = .988$, $p < .001$. After

entering Arabic vocabulary at step 3, the total variance was 68%, $F(3,30) = 22.04$, $p < .001$.

Arabic vocabulary explained an additional 1% of the variance in Arabic vowelized word reading

after controlling for the child age and Arabic morphological awareness. The contribution of

Arabic vocabulary to the model was not significant $\beta = .171$, $p = .295$. In the last step, the Arabic

phonological awareness was entered. The total variance was 73%, $F(4,29) = 19.69$, $p < .001$.

Arabic phonological awareness explained an additional 4% of the variance in Arabic vowelized

word reading after controlling for the above-mentioned variables. The contribution of Arabic

phonological awareness to the model was significant $\beta = .288$, $p = .040$. Child age was not a

unique statistical predictor.

Cross-language predictors. Hierarchical regression analyses were conducted to determine

which variables were uniquely related to word reading across language. The IVs were Arabic

phonological awareness, Arabic morphological awareness, Arabic vocabulary, English

phonological awareness, English morphological awareness, and English vocabulary. Because the

sample size of study was small, controlling for within language variables was not included in the

analyses.

Prediction of English word reading. At step 1, Arabic morphological awareness and Arabic

vocabulary were entered, explaining 50% of the variance in English word reading, $F(2,31) = $

15.47, $p < .001$. After entry of Arabic phonological awareness at step 2, the total variance

explained by the model as a whole was 81%, $F(3,30) = 43.62$, $p < .001$. Arabic phonological

awareness explained an additional 31% of the variance in English word reading. The

contribution of Arabic phonological awareness to the model was significant, $\beta = .76$, $p < .001$

(see Table 12).

Prediction of Arabic vowelized word reading. English morphological awareness and English vocabulary were entered as step 1, explaining 9% of the variance in Arabic word reading, F $(2,31) = 1.66$, $p = .206$. After entry of English phonological awareness at step 2, the total variance explained by the model as a whole was 40%, $F(3,30) = 6.92$, $p = .001$. English phonological awareness explained an additional 31% of the variance in Arabic word reading. The contribution of Arabic phonological awareness to the model was significant, $\beta = .67$, $p <$ .001 (see Table 13).

Discussion

The purpose of the current study was to examine the factors that contribute to the successes and challenges in language and literacy development in both English the L2, and Arabic the L1, among Syrian refugee children who settled in Canada. The following discussion provides an interpretation of the results in light of existing literature and from the findings of this study. The *first research question* investigated which factors were correlated to Syrian refugee children's language and literacy in both languages. To determine child and family factors, certain components of the ALEQ questionnaire were chosen with child's age, age of arrival, length of exposure to L2 and educational status as well as if the child experienced interrupted schooling or not, as child factors and richness of L1 and L2 environment as a family factor. A language richness score was calculated based on components that related to language and literacy-based activities at home, specifically amount of time the child spends doing speaking/listening activities, reading and writing activities, extra-curricular activities, and playing with friends using both L1 and L2.

Language and literacy skills were tested by using vocabulary, morphological awareness, phonological awareness and word reading in both languages. The findings showed that the length

of exposure to the L2 was correlated to English vocabulary and morphology among Syrian refugee children. This outcome is consistent with our hypothesis, which was based on a previous study that found a relationship between length of exposure to the L2 and L2 oral skills (e.g., Paradis, 2011). Despite the strong correlation between vocabulary and length of exposure to the L2, interestingly, the results demonstrated that the two groups (young and older) did not differ in the performance on English vocabulary measure. Two interpretations are offered for this finding. *First*, these children have been in Canada about the same length of time, which means that they have learned vocabulary for a similar period of time. The length of exposure ranged from 8 to 25 months which might be considered a short and insufficient period to achieve proficiency in the L2 oral skills. According to different studies, children take several years to achieve proficiency in their L2, specifically oral skill. For example, it can take up to three to five years to reach levels approaching those of their monolingual peers, with substantial variability in individual outcomes (Cummins 1991; Hakuta, Butler, & Witt, 2000; Bialystok, et al. 2010). The second interpretation of this result might be related to the way vocabulary is taught in school, meaning that teachers teach vocabulary in an implicit way, teaching vocabulary incidentally in naturally occurring situations without separate instruction. Therefore, the amount of vocabulary that children acquire in school is not adequate to meet their language needs. Given the evidence presented here, the instructional methods of teaching vocabulary should be improved by teaching vocabulary explicitly. Explicit teaching of vocabulary enables a teacher to build strategies that facilitate vocabulary acquisition by using visuals, semantic, and mnemonic strategies and engage children in activates that focus attention on vocabulary. Thus, it is reasonable to assume that classroom input would have an important impact on vocabulary building in particular among Syrian refugee children who recently learned English as a second language.

In terms of English literacy, child factors including cognitive abilities, chronological age, and age of arrival were positively correlated with L2 literacy skill (phonological awareness and word reading), which shows that the individual factors related to child development are an advantage for the development of L2 literacy. Therefore, findings of this study supported the importance of child factors in acquiring L2 language and literacy skills among Syrian refugee children.

Additionally, child and family factors that related to first language and literacy development among Syrian refugee children whose first language is Arabic were examined. The findings yielded positive correlations between child factors (chronological age, cognitive ability and attending schools before arriving in Canada) and both language and literacy skills. This finding highlights the importance of education, especially, among refugee children who have been exposed to a variety of traumatic experiences. According to Correa-Velez, Gifford, McMichael, and Sampson (2017), education can support young children to be successful in their later life and deal with the challenges that they encounter in the early years. However, refugee children with limited or interrupted schooling might face difficulties in acquiring the language of the host country, especially during the first several years. Thus, attending school before arriving in their new country could facilitate learning the second language.

In addition to child factors, the richness of the Arabic language environment, which is considered as a family factor, was correlated to language and literacy skills. This result can be explained by the findings of Paradis (2011) and Paradis and Jia (2017) that the amount and quality of input that children receive at home are strongly related to their early language and literacy skills and may influence the development of reading (Jong & Leseman, 2001). The results revealed that there was a richness in the L1 (Arabic) environment compared to the L2

(English) environment. Two interpretations might explain this result. The first interpretation of the L1 richness might be related to the resources that children receive to develop and improve their Arabic language and literacy skills. For example, they use the Arabic for religious purposes such as for reading Quran (the holy book of Islam) and for praying. The second interpretation might be that since Syrian refugee families are newcomers to Canada and to an English-speaking environment. Arabic is the dominant language for daily use such as communicating with parents, family members and friends. This result suggests that the richness of the L1 environment among immigrants and refugee children plays an important role in maintaining the home language, helps children value their culture and heritage (Birman, 2006), and may confer cognitive advantages associated with bilingualism (Bialystok, 2007; Cummins & Swain, 2014). According to Paradis (2011), the maintenance of the L1 has many cognitive, psycho-social-cultural and educational benefits for minority children.

Word reading

The *second research question* was formulated to investigate the predictors of English and Arabic word reading within-language.

In English, the results revealed that English phonological awareness and English morphological awareness correlated significantly with English word reading skills, with phonological awareness showing higher correlations with English word reading than morphological awareness skills. In multiple and hierarchal regression analyses, English phonological awareness was strong and unique predictor of English word reading among bilingual Syrian refugee children. This result is consistent with our hypothesis, which was based on previous results that found English phonological awareness was uniquely related to English word reading (e.g., LaFrance & Gottardo, 2005; Saiegh-Haddad, & Geva, 2008). Although the

English morphological awareness measure was significantly correlated with English word reading, it made a small contribution to English word reading. The lack of contribution of morphological awareness to English could be due to the floor effect obtained on this measure. In this derivational awareness task, children needed to select a suffix that not only conveys the correct meaning, but also belongs to the syntactic category appropriate for the sentence and combines legally with the target word (e.g., swim. She was a strong _____. [swimmer]). Derivational morphology is a complex system, and as confirmed by previous research it takes a long time to develop (Nagy et al., 2003). Thus, one possible explanation is that the Syrian refugee children are considered new ELLs and their exposure to English ranged from 8 to 25 months which might be considered an insufficient time to develop their English derivational morphology skills.

In Arabic. Findings of the current study indicated that Arabic phonological awareness, Arabic morphological awareness and Arabic vocabulary were correlated with Arabic vowelized word reading. However, multiple regression analysis revealed that Arabic phonological and morphological awareness significantly predicted Arabic vowelized word reading, and no significant relationship was found for Arabic vocabulary. The findings of phonological awareness and its effect to Arabic vowelized word reading are consistent with many previous studies of Arabic (e.g., Abu- Rabia et al., 2003; Al Mannai & Everatt, 2005; Elbeheri & Everatt, 2007; Saiegh-Haddad, & Geva, 2008; Taibah, & Haynes, 2011). These findings suggest that children relied on phonology when reading vowelized words, which are examples of a shallow orthography. Thus, readers were capable of achieving word reading accuracy through reliance on the phonological information offered by the individual graphemes on the page (letters and diacritics). Since Arabic is a homographic language, vowels are essential facilitators in the

process of word recognition especially for beginning readers. At the same time, morphological awareness task was significant predictor of Arabic vowelized word reading. The results of the present study support the notion that readers need to use both phonological and morphological skills in reading Arabic vowelized words. These results are consistent with previous findings which indicated the importance of the role of the morphology in reading Arabic (Abu-Rabia, 2001; Abu-Rabia & Taha, 2006).

Links to models of English and Arabic word reading

The "Dual Route Model" is one of the important word reading models that has dominated word recognition theories involving the metacognitive perspective (Coltheart, 2005). According to the "Dual Route Model", successful reading relies on two routes: the sub-lexical and the lexical route. For the sub-lexical route of an alphabetic orthography, letters are decoded by phoneme-grapheme rules. In contrast, the lexical route is related to written words (visual representations) as a complete pattern without the necessity of phoneme-grapheme decoding (Zabell & Everatt, 2002). Several previous studies showed that phonological awareness was related to word reading in an alphabetic orthography (Durgunoglu, 2002; Abu- Rabia et al., 2003; Al Mannai & Everatt, 2005; LaFrance & Gottardo, 2005; Elbeheri & Everatt, 2007; Saiegh-Haddad, & Geva, 2008; Taibah, & Haynes, 2011). In this study, we found that both English and Arabic phonological awareness were related to word reading within each language among Syrian refugee children. These findings correspond with reading using sub-lexical route when Arabic bilinguals read words, in which children recognized the word pattern by phoneme-grapheme rules.

The *third research question* investigated the predictors of English and Arabic word reading cross-language. Strong positive correlations were found between Arabic phonological

awareness and Arabic morphological awareness and English word reading, the highest being with Arabic phonological awareness. Conversely, strong correlations were found for the relationship between English phonological awareness and Arabic vowelized word reading. Moreover, results of hierarchical regression analyses produced similarities in cross-language predictors of English and Arabic word reading. Arabic phonological awareness explained variance in English word reading and English phonological awareness explained variance in Arabic word reading. This finding supported by the *linguistic interdependence hypothesis* (Cummins, 1979) in which the knowledge of how to read in one language transfers when learning to read in a second language which suggests that the L1 proficiency is related to L2 proficiency. Therefore, the difficulties in language and literacy acquisition in the L1 influence children's ability to acquire the L2. In other words, if language learners have certain strengths in their L1, and those strengths are known to transfer across languages, then it could be expected that the language learners will develop those proficiencies in their L2 as their L2 proficiency develops (Durgunoglu, 2002). For example, according to our findings, Syrian refugee children who have some level of phonological awareness in their L1 are more likely to show that awareness in their developing L2 as well.

Limitations and future directions

This current study has some limitations that should be highlighted. First, the sample size of Syrian refugee children included in this study, 34 participants with 17 children in each group, was small when compared to other bilingual English-Arabic children's studies. Given the small sample size of the present study, the findings should be treated with caution. An ideal sample would allow comparisons by level of proficiency in L1 versus L2. Also, an adequate sample size such as 60 subjects (30 children in each group) could accommodate the number of control

variables required for a valid comparison and would be needed to ensure sufficient power to be able to extrapolate the statistical analysis results to the overall population. In other words, in order to consolidate the results reported in the exploratory study, and to make more generalizable claims about bilingual reading development, a large pool of participants is warranted. Therefore, it is important to note that this is not a limitation intrinsic only to this study, but rather, to the general study of ELLs and bilingual populations. In addition to the small sample size, most of these children are privately sponsored, which does not represent the immigration experiences of all Syrian refugee children. Private sponsorship is usually associated with greater day-to-day support for refugees, because members of sponsorship organizations form personal relationships with families and are available to answer questions or provide resources (e.g., driving, reading school consent forms). Second, the English morphological awareness task (derivational awareness) was included in this study, although it has floor effects, which did not capture enough variance to word reading. Indeed, the problem was not found with the measure itself, but the actual problem is with the level of children English proficiency in which their proficiency in English was not developed enough to be able to perform this task. This is considered a complex task that takes a long time to develop (Nagy et al., 2003). Thus, it is possible that the lack of contribution of English morphological awareness to word reading was due to the low level of proficiency in English language. To avoid this problem, conducting a pilot study prior to the main study can enhance the likelihood of success of this measure and potentially help to match the measure to the children's level of English morphology especially among new ELLs. Another recommendation that would be taken into consideration in future studies to solve this problem is selecting familiar roots, prefixes, and suffixes that commonly appear in their everyday life (e.g., suffix (er) when provided with a recognizable word teach). This would help to identify how the

pattern of association between morphological awareness and word reading develops among newcomer bilingual children and would also help to identify appropriate intervention strategies for theses specific group of ELLs. Finally, a longitudinal study with a nested design would be recommended for the future studies to measure the effect of different factors on language and literacy development at the individual and group level over time.

Conclusion

This study examined the factors that were related to the successes and challenges in language and literacy development in both languages, Arabic and English, of Syrian refugee children. These children are considered sequential bilinguals who have learned one language at home (L1) and then began to learn the societal language as a second language (L2) later when they immigrated to Canada. This study also examined the relationship between phonological, morphological, and vocabulary skills and reading outcomes at the word levels within and cross-language among bilingual Syrian refugee children. The results revealed that the individual factors related to child development (i.e., cognitive abilities, chronological age, age of arrival, and length of exposure to the L2, and attending school) play a significant role in the L1 and L2 acquisition. The results also revealed the importance of phonological awareness in reading words, showing within- and cross-language relations. These findings support the notion that phonological skills must be taught to young children prior to other language components. Moreover, this study is considered one of the first studies that focuses on refugee children in terms of language and literacy. It did provide some understanding of the development of L2 among Syrian refugee children. This area of research is important for educators and researchers to understand the process of the L2 language learning in refugee populations and the challenges that they encounter in L2 acquisition. Thus, this information can be used to assist educators in

planning and implementing instruction that will help these children understand their lessons

better and learn more effectively to be able to productively participate in Canadian society.

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Table 1

Example of different shapes of Arabic letter ب (ba)

	separate	initial	middle	final
Letter (ba)	ب	بـ	ـبـ	ـب
Example	هرب har**b**	بــارد **b**ared	صبـي sa**b**i	عنـب ina**b**
Meaning	Escape	Cold	Boy	Grapes

Table 2

Dots system in Arabic letters

One dot	ن - ف -غ - ظ - ض - ز - ذ - خ - ج - ب /b/ - /j/ – /th/- /kh/- /z/ – /d/– /th`/ – /gh/ – /f/ -/n/
Two dots	ي – ق - ت /t/- /q/- /y/
Three dots	ش - ث /th`/ - /sh/
Letters without dots	أ – ح – د – ر – ع – س – ص - ط– ك – ل – م – ه – و /w/ - /h/ - /m/ - /l/ - /k/- /t`/ - /s`/ - /s/ - /a/ - /r/ - /d/ - /h/ - /a/

Table 3

Arabic short and long vowels

Arabic Vowels						
Short vowels			**Long vowels**			
Short vowels marks	◌َ	◌ُ	◌ِ	Long vowels letters	ا	و	ي
Name of the marks in Arabic	فتحة	ضمة	كسرة	Name of the long vowels in Arabic	ألف	واو	ياء
Translate name of the marks In English	fatḥah	ḍammah	kasrah	Translate name of long vowels In English	Alif	Wāw	Ya'
Sound in English	a	u	i	Sound in English	aa	uu	ii

Table 4

Descriptive Statistics: Variable Mean, Standard Deviation, F-ratio and P-value Scores

Variables	Young (6-8) (n=17)		Older (9-12) (n=17)			
	M	SD	M	SD	F ratio	sig
Chronological age in months (Age)	86.47	10.7	127.18	13.0	.836	000
Age of arrival in months (AoA)	67.65	13.7	109.3	12.7	.141	.000
Length of exposure to English (LoE)	16.88	6.0	16.12	6.7	1.827	.729
Attending schools before arriving in Canada (ASchool)	.59	.50	.82	.39	8.784	.140
Richness of the English environment outside school (ENGRICH)	.37	.09	.40	.11	.838	.523
Richness of the Arabic environment outside school (ARARICH)	.44	.10	.49	.12	.070	.200
Non-verbal IQ (MAT)	5.71	3.6	11.76	5.3	4.529	.001
English Phonological Awareness (EPA)	13.41	9.4	22.7	8.7	.021	.005
English Word Reading (EWR)	22.71	10.3	33.94	9.2	.039	.002
English Morphological Awareness (EMA) (derivational)	1.65	2.1	3.29	2.4	.696	.049
English Vocabulary-raw score (EVOC)	57.65	14.7	58.0	20.3	1.664	.946
English Vocabulary- standard score	63.76	11.7	39.76	11.9	.002	.000
Arabic Phonological Awareness (APA)	10.82	6.1	15.82	4.7	2.479	.012
Arabic Vowelized Word Reading (AVWR)	10.65	22.1	37.0	31.3	6.758	.008
Arabic Morphological Awareness (AMA)	18.65	10.0	38.29	14.0	1.489	.000
Arabic Vocabulary (AVOC)	36.0	11.6	49.12	9.5	.666	.001

Table 5

Correlation matrix between child and family factors and English language and literacy skills for

Syrian refugee bilingual children

	Variables	1	2	3	4	5	6	7	8	9
1	N-VI	---								
2	Age	.450**	---							
3	AoA	.413*	.966**	---						
4	LoE	.081	-.043	-.297	---					
5	ENGRICH	-.035	.046	-.017	.306	---				
6	EVOC	.234	.081	-.098	.695**	.304	---			
7	EMA	.308	.452**	.328	.408*	.310	.552**	---		
8	EPA	.464**	.494**	.459**	.018	-.001	.126	.530**	---	
9	EWR	.612**	.546**	.487**	.132	.158	.359*	.645**	.816**	---

*P < .05; **P < .001

Note, N-VI = Non-verbal IQ (MAT); Age = chronological age in months; AoA = age of arrival; LoE = length of exposure to English; ENGRICH = richness of the English environment outside school; EVOC = English vocabulary; EMA = English morphological awareness (derivational); EPA = English phonological awareness; EWR = English word reading.

Table 6

Correlation matrix between child and family factors and Arabic language and literacy skills for Syrian refugee bilingual children

Variables	1	2	3	4	5	6	7	8
1 N-VI	---							
2 Age	.450**	---						
3 ASchool	.172	.323	---					
4 ARARICH	.439**	.163	.425*	---				
5 AVOC	.491**	.586**	.645**	.468**	---			
6 AMA	.565**	.721**	.480**	.486**	.770**	---		
7 APA	.562**	.468**	.432*	.308	.545**	.691**	---	
8 AVWR	.559**	.455**	.463**	.489**	.680**	.803**	.715**	---

*P < .05; **P < .001

Note, N-VI = Non-verbal IQ (MAT); Age = chronological age in months; ASchool = attending schools before arriving in Canada; ARARICH = richness of the Arabic environment outside school; AVOC = Arabic vocabulary; AMA = Arabic morphological awareness; APA =Arabic phonological awareness; AVWR = Arabic vowelized words reading.

Table 7

Correlation matrix between all English and Arabic measures for Syrian refugee bilingual children

Variables	1	2	3	4	5	6	7	8	9
English and Arabic Measures									
1 N-VI	---								
2 EPA	.464**	---							
3 EMA	.308	.530**	---						
4 EWR	.612**	.816**	.645**	---					
5 EVOC	.234	.126	.552**	.359*	---				
6 APA	.562**	.795**	.513*	.889**	.199	---			
7 AMA	.565**	.619**	.409*	.703**	.089	.691**	---		
8 AVWR	.559**	.622**	.222	.692**	-.060	.715**	.803**	---	
9 AVOC	.491**	.484**	.203	.495**	-.047	.545**	.770**	.680**	---

*P < .05; **P < .001

Note, N-VI = Non-verbal IQ (MAT); EPA = English phonological awareness; EWR = English word reading; EMA = English morphological awareness (derivational); EVOC = English vocabulary; APA =Arabic phonological awareness; AVWR = Arabic vowelized words reading; AMA = Arabic morphological awareness; AVOC = Arabic vocabulary.

Table 8

Multiple regression model predicting English and Arabic word reading

English Variables	β	Std. Error	t	sig
English Morphological Awareness (derivational)	.179	.603	1.357	.185
English Vocabulary	.172	.072	1.526	.137
English Phonological Awareness	.700	.123	6.301	.000
Arabic Variables	β	Std. Error	t	sig
Arabic Morphological Awareness	.485	.347	2.669	.012
Arabic Vocabulary	.142	.376	.905	.373
Arabic Phonological Awareness	.302	.694	2.188	.037

Table 9

Hierarchical regression analyses for variables predicting English word reading within language after controlling for the child age (N = 34)

Variable	β	t-value	R^2	ΔR^2
Model 1			**.298**	**.298**
Child Age	.546	3.687**		
Model 2			**.498**	**.200**
Child Age	.319	2.238**		
English Morphological Awareness	.501	3.509**		
Model 3			**.503**	**.005**
Child Age	.338	2.278*		
English Morphological Awareness	.445	2.513*		
English Vocabulary	.086	.543		
Model 4			**.765**	**.262**
Child Age	.153	1.411		
English Morphological Awareness	.121	.891		
English Vocabulary	.198	1.758		
English Phonological Awareness	.652	5.691***		

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

Table 10

Hierarchical regression analyses for variables predicting English word reading within

language after controlling for the age of arrival (N = 34)

Variable	β	t-value	R^2	ΔR^2
Model 1			.237	.237
Age of Arrival	.487	3.154**		
Model 2			.501	.264
Age of Arrival	.308	2.298*		
English Morphological Awareness	.544	4.054***		
Model 3			.514	.013
Age of Arrival	.354	2.460*		
English Morphological Awareness	.449	2.611*		
English Vocabulary	.146	.897		
Model 4			.770	.256
Age of Arrival	.174	1.651		
English Morphological Awareness	.121	.906		
English Vocabulary	.229	1.989		
English Phonological Awareness	.644	5.687***		

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

Table 11

Hierarchical regression analyses for variables predicting Arabic word reading within

language after controlling for the child age (N = 34)

Variable	β	t-value	R^2	ΔR^2
Model 1			**.207**	**.207**
Child Age	.455	2.894**		
Model 2			**.676**	**.469**
Child Age	-.256	-1.740		
Arabic Morphological Awareness	.988	6.698***		
Model 3			**.688**	**.012**
Child Age	-.267	-1.813		
Arabic Morphological Awareness	.864	4.608***		
Arabic Vocabulary	.171	1.066		
Model 4			**.731**	**.043**
Child Age	-.249	-1.783		
Arabic Morphological Awareness	.660	3.283**		
Arabic Vocabulary	.161	1.061		
Arabic Phonological Awareness	.288	2.152*		

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

Table 12

Hierarchical regression analyses for variables predicting English word reading cross language (N = 34)

Variable	β	t-value	R^2	ΔR^2
Model 1			.500	.500
Arabic morphological awareness	.791	3.972***		
Arabic vocabulary	-.115	-.576		
Model 2			.814	.314
Arabic morphological awareness	.273	1.905		
Arabic vocabulary	-.138	-1.119		
Arabic phonological awareness	.766	7.107***		

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

Table 13

Hierarchical regression analyses for variables predicting Arabic vowelized word reading

cross language (N = 34)

Variable	β	t-value	R^2	ΔR^2
Model 1			.097	.097
English morphological awareness	.366	1.791		
English vocabulary	-.262	-1.280		
Model 2			.409	.312
English morphological awareness	-.083	-.410		
English vocabulary	-.099	-.572		
English phonological awareness	.678	3.982***		

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

Appendix A

<u>Alberta Language Environment Questionnaire (ALEQ) - 4</u>

Child Code:…………… Date of interview : ……………….. Interviewer & city …………………………

****

1. البيانات العامة والأكاديمية

1.1 تاريخ <u>**ميلاد الطفل**</u> : ───────────────────── (Y-M-D)

1.2 <u>**جنس الطفل**</u>:   ◯ ذكر   ◯ أنثى

1.3 متى **وصلت عائلتك إلى كندا؟** ─────────────────(Y-M-D)

1.4 متى **بدأ طفلك الدراسة في كندا؟** ─────────────────(Y-M-D)

1.5 في أي مرحلة بدأ طفلك الدراسة عند وصوله إلى كندا؟

أخرى:....... 6   5   4   3   2   1   SK   JK

1.6 في أي <u>**مرحلة**</u> يدرس طفلك الآن؟

أخرى:....... 6   5   4   3   2   1   SK   JK

1.7 ماهي لغة مدرسة الطفل؟ <u>**(لغة المدرسة)**</u>   ◯ انجليزي   ◯ عربي

1.8 هل التحق طفلك بالمدرسة قبل الانتقال إلى كندا؟   ◯ نعم   ◯ لا

1.9 إذا كانت الإجابة "نعم" ، **فكم عدد السنوات الدراسية التي درسها باللغة العربية؟** ───────   ماهي المراحل؟ ───────

1.10 هل التحق طفلك بمدارس غيرعربية قبل انتقاله إلى كندا؟   ◯ نعم   ◯ لا

1.11 أين كان مكان التعليم؟ ─────────────────

1.12 ماهو <u>**بلدك؟**</u> ─────────────────

1.13 هل قضت عائلتك فترة من الوقت في بلد آخر قبل المجيء إلى كندا؟   ◯ نعم   ◯ لا

إذا كانت الإجابة "نعم"، في أي بلد؟ ─────────────   وكم المدة؟ ─────────────

1.14 هل قضت عائلتك فترة من الوقت في <u>**مخيم للاجئين قبل الانتقال إلى كندا؟**</u>   ◯ نعم   ◯ لا

إذا كانت الإجابة "نعم"، أين؟─────────   وكم المدة؟ ─────────────

1.15 تنتمي العائلة إلى أي ديانة؟   ◯ الإسلام   ◯ المسيحيـــة   ◯ لا تنتمي إلى أي ديانة

Age at Test		**Age of Arrival**		**Length of English School**	**Length of Arabic School**
	Year Month Day		Year Month Day	-Count in months from entry date (1.4) to date of interview	- Count in months based on 1.9
Date of Interview	_____ _____ _____	Date of Arrival	_____ _____ _____		-School year = 10 months

- Date of Birth	_____ _____ _____	- Date of Birth	_____ _____ _____	-School year = 10 months - If JK and SK are half days, cut months in half -Adjust based on answer to 1.7	-Adjust the number according to answers to 1.10 and to 1.7 and interview date
= Age at Test	_____ _____ _____	= Age of Arrival	_____ _____ _____		

2. تاريخ النمو اللغوي للطفل

2.1 في أي عمر نطق طفلك الكلمة الأولى؟

3	2	1
أكبر من 24 شهرا (طفل)	حوالي 16- 24 شهرا (المهد)	حوالي 11-15 شهرا (رضيع)

2.2 في أي عمر بدأ طفلك بوضع كلمات مع بعضها ليكوّن جمل قصيرة؟

مثلا:" أريد ماء ، هذه لي."

3	2	1
أكبر من 2.5/ 3 سنين أو أكثر	حوالي 25- 30 شهرا (2 إلى 2.5)	حوالي 16-24 شهرا (المهد)

2.3 حاليا , كيف تجدين قدرة طفلك في التعبير عن نفسه **بالعربية** مقارنة مع أطفال آخرين بنفس عمره؟

3	2	1
غير جيد/ أقل من الأطفال الآخرين	جيد/مثل الأطفال الآخرين تقريبا	ممتاز /أفضل من الأطفال الآخرين

2.4 هل سبق وأن شعرت بالقلق حول **تطوراللغة العربية** لدى طفلك؟

3	2	1
نعم	قليلاً	لا

2.5 هل تم تشخيص طفلك من قِبل الطبيب أو أي جهة طبية مختصة بأحد المشاكل التالية؟

(تأخُر في اللغة/ فقدان السمع أو التهاب الأذن/ التوحد/ صعوبات تعلم/ مشاكل سلوكية)

3	2	1
نعم	اشتُبِه بحالته لكن لم يُشخص	لا

إذا كانت الإجابة "نعم"، أرجو تحديد المشكلة: ــــــــــــــــــــــــــــــ

إذا كانت الإجابة "نعم"، هل تلقى طفلك أي علاج أو جلسات علاجية؟

3. اللغة المستخدمة في المنزل

3.1 ماهي اللغة التي تتحدث بها **الأم مع الطفل؟**

5	4	3	2	1
الإنجليزية فقط أو بشكل أساسي	غالبا الإنجليزية/ بعض الأحيان العربية	العربية والإنجليزية بنفس المستوى	غالبا العربية/ بعض الأحيان الإنجليزية	العربية فقط أو بشكل أساسي
انجليزي: 80-100%	انجليزي: 70%	انجليزي: 50%	انجليزي: 30%	انجليزي: 0-20%
عربي: 0-20 %	عربي: 30%	عربي: 50%	عربي: 70%	عربي: 80-100%

3.2 ماهي اللغة التي يتحدث بها **الطفل مع الأم؟**

5	4	3	2	1
الإنجليزية فقط أو بشكل أساسي	غالبا الإنجليزية/ بعض الأحيان العربية	العربية والإنجليزية بنفس المستوى	غالبا العربية/ بعض الأحيان الإنجليزية	العربية فقط أو بشكل أساسي
انجليزي: 80-100%	انجليزي: 70%	انجليزي: 50%	انجليزي: 30%	انجليزي: 0-20%
عربي: 0-20 %	عربي: 30%	عربي: 50%	عربي: 70%	عربي: 80-100%

3.3 ماهي اللغة التي يتحدث بها **الأب مع الطفل؟**

5	4	3	2	1
الإنجليزية فقط أو بشكل أساسي	غالبا الإنجليزية/ بعض الأحيان العربية	العربية والإنجليزية بنفس المستوى	غالبا العربية/ بعض الأحيان الإنجليزية	العربية فقط أو بشكل أساسي
انجليزي: 80-100%	انجليزي: 70%	انجليزي: 50%	انجليزي: 30%	انجليزي: 0-20%
عربي: 0-20 %	عربي: 30%	عربي: 50%	عربي: 70%	عربي: 80-100%

3.4 ماهي اللغة التي يتحدث بها **الطفل مع الأب؟**

5	4	3	2	1
الإنجليزية فقط أو بشكل أساسي	غالبا الإنجليزية/ بعض الأحيان العربية	العربية والإنجليزية بنفس المستوى	غالبا العربية/ بعض الأحيان الإنجليزية	العربية فقط أو بشكل أساسي
انجليزي: 80-100%	انجليزي: 70%	انجليزي: 50%	انجليزي: 30%	انجليزي: 0-20%
عربي: 0-20 %	عربي: 30%	عربي: 50%	عربي: 70%	عربي: 80-100%

3.5 إذا كان هناك تواجد لأحد الأقرباء الراشدين في المنزل (الجد/الجدة- العم/ة- الخال/ة):

ماهي اللغة التي يتحدث بها هؤلاء **الأفراد مع الطفل؟**

5	4	3	2	1
الإنجليزية فقط أو بشكل أساسي	غالبا الإنجليزية/ بعض الأحيان العربية	العربية والإنجليزية بنفس المستوى	غالبا العربية/ بعض الأحيان الإنجليزية	العربية فقط أو بشكل أساسي
انجليزي: 100-80%	انجليزي: 70%	انجليزي: 50%	انجليزي: 30%	انجليزي: 0-20%
عربي: 0-20 %	عربي: 30%	عربي: 50%	عربي: 70%	عربي: 100-80%

3.6 إذا كان هناك تواجد لأحد الأقرباء الراشدين في المنزل (الجد/الجدة- العم/ة- الخال/ة):

ماهي اللغة التي يتحدث بها **الطفل مع هؤلاء الأفراد؟**

5	4	3	2	1
الإنجليزية فقط أو بشكل أساسي	غالبا الإنجليزية/ بعض الأحيان العربية	العربية والإنجليزية بنفس المستوى	غالبا العربية/ بعض الأحيان الإنجليزية	العربية فقط أو بشكل أساسي
انجليزي: 100-80%	انجليزي: 70%	انجليزي: 50%	انجليزي: 30%	انجليزي: 0-20%
عربي: 0-20 %	عربي: 30%	عربي: 50%	عربي: 70%	عربي: 100-80%

3.7 كم عدد الأطفال في العائلة؟

(حجم العائلة) 9 8 7 6 5 4 3 2 1

3.8 ماهو **الترتيب الولادي** لهذا الطفل؟

طفل واحد فقط   الأول الثاني الثالث الرابع الخامس السادس السابع الثامن

3.9 ماهي اللغة التي يتحدث بها **الأشقاء الأصغر سنا مع الطفل؟**

5	4	3	2	1
الإنجليزية فقط أو بشكل أساسي	غالبا الإنجليزية/ بعض الأحيان العربية	العربية والإنجليزية بنفس المستوى	غالبا العربية/ بعض الأحيان الإنجليزية	العربية فقط أو بشكل أساسي
انجليزي: 100-80%	انجليزي: 70%	انجليزي: 50%	انجليزي: 30%	انجليزي: 0-20%
عربي: 0-20 %	عربي: 30%	عربي: 50%	عربي: 70%	عربي: 100-80%

3.10 ماهي اللغة التي يتحدث بها الطفل مع أشقائه الأصغر سنا ؟

5	4	3	2	1
الإنجليزية فقط أو بشكل أساسي	غالبا الإنجليزية/ بعض الأحيان العربية	العربية والإنجليزية بنفس المستوى	غالبا العربية/ بعض الأحيان الإنجليزية	العربية فقط أو بشكل أساسي
انجليزي: 100-80%	انجليزي: 70%	انجليزي: 50%	انجليزي: 30%	انجليزي: 0-20%
عربي: 0-20 %	عربي: 30%	عربي: 50%	عربي: 70%	عربي: 100-80%

3.11 ماهي اللغة التي يتحدث بها **الأشقاء الأكبر سنا مع الطفل؟**

5	4	3	2	1
الإنجليزية فقط أو بشكل أساسي	غالبا الإنجليزية/ بعض الأحيان العربية	العربية والإنجليزية بنفس المستوى	غالبا العربية/ بعض الأحيان الإنجليزية	العربية فقط أو بشكل أساسي
انجليزي: 80-100%	انجليزي: 70%	انجليزي: 50%	انجليزي: 30%	انجليزي: 0-20%
عربي: 0-20 %	عربي: 30%	عربي: 50%	عربي: 70%	عربي: 80-100%

3.12 ماهي اللغة التي يتحدث بها **الطفل مع أشقائه الأكبر سنا؟**

5	4	3	2	1
الإنجليزية فقط أو بشكل أساسي	غالبا الإنجليزية/ بعض الأحيان العربية	العربية والإنجليزية بنفس المستوى	غالبا العربية/ بعض الأحيان الإنجليزية	العربية فقط أو بشكل أساسي
انجليزي: 80-100%	انجليزي: 70%	انجليزي: 50%	انجليزي: 30%	انجليزي: 0-20%
عربي: 0-20 %	عربي: 30%	عربي: 50%	عربي: 70%	عربي: 80-100%

4. ثراء اللغة

لجميع الأسئلة: يسأل الوالدين عن المعدل أو المتوسط الأسبوعي. من الممكن أن يساهم الطفل في الإجابة على الأسئلة في حال لم يتمكن الأهل من الإجابة. لا يتوجب على الطفل القيام بجميع الأنشطة المذكورة ـ هي مجرد أمثلة ـ كما وأنه من الممكن أن يؤخذ عمر الطفل بالحسبان. أنشطة الحوار/التحدث لا تشمل الحوارات العائلية التي تدور بين أفراد الاسرة.

4.1 كم من الوقت يقضيه الطفل في القيام بأنشطة التحدث/الاستماع **باللغة الإنجليزية** أسبوعيا؟

أمثلة على ذلك: مشاهدة البرامج التلفزيونية ، الأفلام ، اليوتيوب، النتفلكس، الموسيقى، الهاتف، السكايب، الواتس أب، الغناء، الشعر، أو رواية القصص.

5	4	3	2	1
+20	20-10	10-5 ساعات	5-1 ساعات	0-1 ساعة
دائماً	غالباً	بانتظام	قليلاً/أحيانا	أبـدا/نادرا

4.2 كم من الوقت يقضيه الطفل في القيام بأنشطة التحدث/الاستماع **باللغة العربية** أسبوعيا؟

أمثلة على ذلك: مشاهدة البرامج التلفزيونية ، الأفلام ، اليوتيوب، النتفلكس، الموسيقى، الهاتف، السكايب، الواتس أب، الغناء، الشعر، أو رواية القصص.

5	4	3	2	1
+20	20-10	10-5 ساعات	5-1 ساعات	0-1 ساعة
دائماً	غالباً	بانتظام	قليلاً/أحيانا	أبـدا/نادرا

4.3 كم من الوقت يقضيه الطفل في القيام بأنشطة القراءة/الكتابة **باللغة الانجليزية** أسبوعيا؟

أمثلة على ذلك: قراءة القصص (للمدرسة أو المتعة الشخصيه)، تصفح المواقع، قراءة الرسائل (النصوص، أو البريد الالكتروني، الفيسبوك، الإنستاجرام، سناب شات)، أو الواجبات المدرسية.

5	4	3	2	1
+20	10-20	5-10 ساعات	1-5 ساعات	0-1 ساعة
دائماً	غالباً	بانتظام	قليلاً/أحيانا	أبــدا/نادرا

4.4 كم من الوقت يقضيه الطفل في القيام بأنشطة القراءة/الكتابة باللغة العربية أسبوعيا؟

أمثلة على ذلك: قراءة القصص (للمدرسة أو المتعة الشخصية)، تصفح المواقع، قراءة الرسائل (النصوص، أو البريد الالكتروني، الفيسبوك، الإنستاجرام، سناب شات)، أو الواجبات المدرسية.

5	4	3	2	1
+20	10-20	5-10 ساعات	1-5 ساعات	0-1 ساعة
دائماً	غالباً	بانتظام	قليلاً/أحيانا	أبــدا/نادرا

4.5 كم من الوقت يقضيه الطفل في حضور وممارسة الشعائر الدينية (الصلاة) أو حضورالمناسبات الاجتماعية العربية أسبوعيا؟

5	4	3	2	1
+20	10-20	5-10 ساعات	1-5 ساعات	0-1 ساعة
دائماً	غالباً	بانتظام	قليلاً/أحيانا	أبــدا/نادرا

4.6 كم من الوقت يقضيه الطفل في الأنشطة اللامنهجية المتعلقة باللغة الانجليزية أسبوعيا ؟

أمثلة على ذلك: الرياضية، الرقص، الموسيقى، أو برامج ما بعد المدرسة (نادي البنين والبنات، نادي الواجبات المدرسية)

5	4	3	2	1
+20	10-20	5-10 ساعات	1-5 ساعات	0-1 ساعة
دائماً	غالباً	بانتظام	قليلاً/أحيانا	أبــدا/نادرا

4.7 كم من الوقت يقضيه الطفل في الأنشطة الإثرائية باللغة العربية أسبوعيا؟ (مايطور/ينمي اللغة العربية خارج إطار المدرسة)

5	4	3	2	1
20	10-20	5-10 ساعات	1-5 ساعات	0-1 ساعة
دائماً	غالباً	بانتظام	قليلاً/أحيانا	أبــدا/نادرا

4.8 كم من الوقت يقضيه الطفل في اللعب مع الأصدقاء متحدثاً باللغة الانجليزية أسبوعيا؟

أمثلة على ذلك: قبل/ بعد المدرسة أو العطل، أصدقاء العائلة، أو الجيران في الحي.

5	4	3	2	1
+20	10-20	5-10 ساعات	1-5 ساعات	0-1 ساعة
دائماً	غالباً	بانتظام	قليلاً/أحيانا	أبــدا/نادرا

4.9 كم من الوقت يقضيه الطفل في اللعب مع الأصدقاء متحدثاً **باللغة العربية** أسبوعيا؟

أمثلة على ذلك: قبل/ بعد المدرسة أو العطل، أصدقاء العائلة، أو الجيران في الحي.

5	4	3	2	1
+20	20-10	5-10 ساعات	1-5 ساعات	0-1 ساعة
دائماً	غالباً	بانتظام	قليلاً/أحيانا	أبــدا/نادرا

4.10 كم عدد **الكتب الإنجليزية** المتواجدة في المنزل التي تتناسب مع عمر الطفل؟

(تشمل: الكتب المكتبية، الكتب المدرسية، كتب الكترونية } كتب بنصوص وكلمات ، كتب غير ملونة{)

5	4	3	2	1
50+	50- 25	25-10 كتاب	5-10 كتب	1-5 كتب

4.11 كم عدد **الكتب العربية** المتواجدة في المنزل التي تتناسب مع عمر الطفل؟

(تشمل: الكتب المكتبية، الكتب المدرسية، كتب الكترونية } كتب بنصوص وكلمات ، كتب غير ملونة{)

5	4	3	2	1
50+	50- 25	25-10 كتاب	5-10 كتب	1-5 كتب

5. المستوى اللغوي والأكاديمي للوالدين

يتعلق القسم 5 بالوالدين، ويتم اعطائها للأهل مرة واحدة في حال وجود أكثر من طفل مشارك من نفس العائلة. ويتم استخدام الصيغة المناسبة لكل من الأم أو الأب عند طرح السؤال.

5.1 تاريخ ميلاد الأم : ———————————— (Y-M-D)

5.2 هل اللغة العربية هي اللغة الأم (للأم)؟   ◯ نعم   ◯ لا

إذا كان الجواب "**لا**"، ماهي اللغة الأم؟ ————————————

(يرجى السؤال عن مدى إلمام الأم و قدراتها الحالية في اللغة العربية)

إذا كان الجواب "**نعم**"، ماهي اللهجة؟ ————————————

5.3 ما هو **المستوى التعليمي للأم**؟ (الرجاء إدخال البيانات المناسبة في الجدول)

ملاحظات	لغة تعليم الام	(عدد السنوات) عدد سنوات تعليم الأم		المستوى التعليمي للأم
			نعم/ لا	ابتدائي

			نعم/ لا	ثانوي
			نعم/ لا	كلية/ جامعة
			نعم/ لا	مهارات مهنية أخرى

5.4 هل التحقت الأم بأي دروس أو فصول في تعلم اللغة الانجليزية قبل مجيئها إلى كندا؟   ○ نعم   ○ لا

إذا كانت الإجابة "نعم"، أين؟ ـــــــــــــــ ، كم عدد السنوات؟ ـــــــــــــــ ، أي مستوى؟ ـــــــــــــــ

5.5 هل الأم ملتحقة أو التحقت ببرنامج (تعليمات اللغة للزائرين الجدد إلى كندا) (LINC) أو أي فصول انجليزية منذ الوصول إلى كندا؟

○ نعم   ○ لا

إذا كانت الإجابة "لا"، لمــاذا؟ ـــ

إذا كان الإجابة "نعم"، **انتقل إلى الأسئلة 5.6 إلى 5.9**

5.6 **متى بدأت الأم بدروس اللغة الإنجليزية؟** (تاريخ تقديري، مثل: مارس، ٢٠١٧) ـــــــــــــــ

متى أنهت الدروس؟ ـــــــــــــــ (إذا كانت مستمرة ، اكتب تاريخ يوم المقابلة): ـــــــــــــــ

هل كان هناك أي فترات انقطاع؟ ـــــــــــــــ   متى؟ ـــــــــــــــ

5.7 أين أخذَت أو تأخذ حصص/دروس اللغة الإنجليزية؟ ـــــــــــــــ

5.8 بأي مستوى بدأت؟ ـــــــــــــــــــــــــــــــــــــــ

(مثال: Benchmark, Canadian Language Benchmark 1-8)

5.9 ما هو أعلى مستوى وصلت إليه (إذا انتهت من الحصص/الدروس) أو أعلى مستوى لها الان (**إذا ما زالت مستمرة في أخذ الحصص**)؟ ـــــــــــــــــــــــــــــــــــــــ

5.10 ماهو متوسط تفاعل الأم مع الآخرين خارج المنزل باللغة الإنجليزية؟

(أمثله: الانتظار اثناء حصص السباحة، المعلمين في المدرسة، الجيران، العمل، ...الخ)

5	4	3	2	1
20+	20-10	10-5 ساعات	5-1 ساعات	1-0 ساعة
دائماً	غالباً	بانتظام	قليلاً/أحيانا	أبــدا/نادرا

5.11 ما مدى إلمام الأم باللغة الانجليزية (تحدثا وفهماً)؟ (تقييم ذاتي) **(طلاقة الأم باللغة الانجليزية)**

5	4	3	2	1
طلاقة عالية	طلاقة متقدمة	طلاقة متوسطة	طلاقة محدودة	لا أجيد اللغة الإنجليزية

أفهم كل شيء وأعبرعن نفسي بكل أريحية باللغة الانجليزية	أفهم اللغة الانجليزية واستخدمها في إطار العمل ومعظم المواقف التي أمر بها	أفهم اللغة الانجليزية جيداً واعبر عن نفسي باستخدامها في العديد من المواقف	أفهم القليل، ويمكنني التحدث بجمل بسيطة وقصيرة	لا أفهمها ولا أستطيع التحدث بها
	أمثلة: يمكنني التواصل بفاعلية مع المعلمات في اجتماع الأهالي في المدرسة؛ يمكنني العمل في قطاع الخدمات؛ يمكنني متابعة الأفلام والبرامج التلفزيونية	مثال: يمكنني الذهاب إلى الطبيب وشرح الحالة المرضية	مثال: يمكنني الإجابة على الهاتف؛ يمكنني شراء المشتريات من السوبرماركت	

للمناقشة: معرفة إذا كانت الأم تعمل خارج المنزل قبل الانتقال إلى كندا؟ وماهي المهنة؟

معرفة إذا كانت الأم تعمل خارج المنزل حاليا؟ وماهي المهنة؟

5.12 تاريخ ميلاد الأب : ———————————————— (Y-M-D)

5.13 هل اللغة العربية هي اللغة الأم (للأب)؟   نعم ◯   لا ◯

إذا كان الجواب "لا"، ماهي اللغة الأم؟ ————————————————

(يرجى السؤال عن مدى إلمام الأب و قدراته الحالية في اللغة العربية)

إذا كان الجواب "نعم"، ماهي اللهجة؟ ————————————————

5.14 ما هو **المستوى التعليمي للأب؟** (الرجاء إدخال البيانات المناسبة في الجدول)

ملاحظات	لغة تعليم الاب	**عدد سنوات تعليم الأب** (عدد السنوات)		**المستوى التعليمي للأب**
			نعم/ لا	ابتدائي
			نعم/ لا	ثانوي
			نعم/ لا	كلية/ جامعة
			نعم/ لا	مهارات مهنية أخرى

5.15 هل التحق الأب بأي دروس أو فصول في تعلم اللغة الانجليزية قبل مجيئه إلى كندا؟   نعم ◯   لا ◯

إذا كانت الإجابة "نعم"، أين؟ ——————— ، كم عدد السنوات؟ ——————— ، أي مستوى؟ ———————

5.16 هل الأب ملتحق أو التحق ببرنامج (تعليمات اللغة للزائرين الجدد إلى كندا) (LINC) أو أي فصول انجليزية منذ الوصول إلى كندا؟

نعم ◯   لا ◯

إذا كانت الإجابة "لا"، لمـــاذا؟ ————————————————————

إذا كانت الإجابة "نعم"، **انتقل إلى الأسئلة 5.6 إلى 5.9**

5.17 متى بدأ الأب بدروس اللغة الإنجليزية؟ (تاريخ تقديري، مثل: مارس، ٢٠١٧) ─────────

متى أنهى الدروس؟ ───────────── ───────── (إذا كان مستمراً ، اكتب تاريخ يوم المقابلة): ─────────────

هل كان هناك أي فترات انقطاع؟ ───────── متى؟ ─────────────

5.18 أين أخذَ أو يأخذ حصص/دروس اللغة الإنجليزية؟ ─────────────────────────

5.19 بأي مستوى بدأ؟ ───────────────────────────────────

(مثال: Benchmark, Canadian Language Benchmark 1-8)

5.20 ما هو اعلى مستوى وصل إليه (إذا انتهى من الحصص/الدروس) أو أعلى مستوى له الان (إذا ما زال مستمرا في أخذ الحصص)؟
─────────────────────────

5.21 ماهو متوسط تفاعل الأب مع الآخرين خارج المنزل باللغة الإنجليزية؟

(أمثله: الانتظار اثناء حصص السباحة، المعلمين في المدرسة، الجيران، العمل، ...الخ)

5	4	3	2	1
20+	20-10	10-5 ساعات	5-1 ساعات	1-0 ساعة
دائماً	غالباً	بانتظام	قليلأ/أحيانا	أبـــدا/نادرا

5.22 ما مدى إلمام الأب باللغة الانجليزية (تحدثا وفهماً)؟ (تقييم ذاتي) (طلاقة الأب في اللغة الانجليزية)

5	4	3	2	1
طلاقة عالية	طلاقة متقدمة	طلاقة متوسطة	طلاقة محدودة	لا أجيد اللغة الإنجليزية
أفهم كل شيء واعبر عن نفسي بكل أريحية باللغة الانجليزية	أفهم اللغة الانجليزية واستخدمها في إطار العمل ومعظم المواقف التي أمر بها	أفهم اللغة الانجليزية جيداً واعبر عن نفسي باستخدامها في العديد من المواقف	أفهم القليل، ويمكنني التحدث بجمل بسيطة وقصيرة	لا أفهمها ولا أستطيع التحدث بها
	أمثلة: يمكنني التواصل بفاعلية مع المعلمات في اجتماع الأهالي في المدرسة؛ يمكنني العمل في قطاع الخدمات؛ يمكنني متابعة الأفلام والبرامج التلفزيونية	مثال: يمكنني الذهاب إلى الطبيب وشرح الحالة المرضية	مثال: يمكنني الإجابة على الهاتف؛ يمكنني شراء المشتريات من السوبرماركت	

للمناقشة: معرفة إذا كان الأب يعمل قبل الانتقال إلى كندا؟ وماهي المهنة؟

معرفة إذا كان الأب يعمل حاليا؟ وماهي المهنة؟

Appendix B

حذف الأصوات وإعادة نطق الكلمة (Syllable/ Phoneme Deletion Test)

(Scoring Sheet)

اسم المفحوص: ━━━━━ ━━━━━   رقم المفحوص: ━━━━━ ━━━━━

التـاريخ: ━━━━━ ━━━━━   اسم الفـاحص: ━━━━━ ━━━━━

أمثلة للتدريب:

a.	انطق الكلمة بدون (أ).............أعَادَ	عَاد
b.	انطق الكلمة بدون (م).............مُسَلَّمين	مسلِّين
c.	انطق الكلمة بدون (ون).............مُدَرِّسُون	مُدَرِّس

الاختبار:

Syllable deletion.			
الرقم	الكلمة	الإجابة الصحيحة	إجابة التلميذ
1.	انطق الكلمة بدون (سَ).............سَمَاء	ماء	+ / -
2.	انطق الكلمة بدون (دَ).............مَصْدَرْ	مصر	+ / -
3.	انطق الكلمة بدون (ات).............طَالِبَات	طالب	+ / -

أمثلة للتدريب:

d.	انطق الكلمة بدون (ت).............تُفَاحْ	فَاح
e.	انطق الكلمة بدون (ي).............صَيْدْ	صَد
f.	انطق الكلمة بدون (ل).............فِيلْ	في

الاختبار:

إجابة التلميذ	الإجابة الصحيحة	الكلمة	الرقم
	Initial, Middle & Final phoneme deletion.		
+ / -	ثَار	آثَارْ ....انطق الكلمة بدون (آ)	4.
+ / -	باب	ضَبَابْ ....انطق الكلمة بدون (ضَ)	5.
+ / -	شَق	شَرْقْ.............انطق الكلمة بدون (ر)	6.
+ / -	يَم	يَوْمْ.............انطق الكلمة بدون (و)	7.
+ / -	عش	عُشْبْ ....انطق الكلمة بدون (ب)	8.
+ / -	قَرَأ	قَرَأْتْ.............انطق الكلمة بدون (ت)	9.
+ / -	صح	أصَحْ ....انطق الكلمة بدون (أ)	10.
+ / -	شر	شَهْرْ ....انطق الكلمة بدون (هـ)	11.
+ / -	شم	شَمْسْ.............انطق الكلمة بدون (س)	12.
+ / -	حَب	حَبْلْ ....انطق الكلمة بدون (ل)	13.
+ / -	أثَر	أكْثَرْ.............انطق الكلمة بدون (ك)	14.
+ / -	أرَق	أزْرَقْ.............انطق الكلمة بدون (ز)	15.
+ / -	مَصَف	مَقْصَفْ.............انطق الكلمة بدون (ق)	16.
+ / -	لَوِّن	ألَوِّنْ ....انطق الكلمة بدون (أ)	17.
+ / -	دَرَج	دَحْرَجَ.............انطق الكلمة بدون (ح)	18.
+ / -	مَضَى	مَرْضَى.............انطق الكلمة بدون (ر)	19.
+ / -	مَلايا	مَلَارْيَا.............انطق الكلمة بدون (ر)	20.
_____	عدد الإجـــابـات الصحيحة: _____		

Appendix C

#	Words	+ / –	Comments
1	فِي		
2	أَنَا		
3	كَانَ		
4	أُم		
5	بَاعَ		
6	هُوَ		
7	أَخَذَ		
8	دَارٌ		
9	أَبِي		
10	بَيْتاً		
11	مَلِك		
12	أَزْرَق		
13	الوَطَن		
14	أَمِير		
15	لَذِيذ		
16	اللهُ/ الله		
17	الصَّفُّ		
18	مَاذا		
19	الكِتَابُ/ الكِتَابْ		
20	الَّذِي		
21	أَقْرَأُ		
22	الأَطْفَالُ		
23	الأَرْضُ		
24	تَحْتَهَا		
25	ذلِكَ		
26	مُعَلِّمِي		
27	المُلَوَّنَةُ / المُلَوَّنَه		
28	سَيَفْعَلُ		
29	الفَتَى		
30	الأَسْئِلَةُ / الأَسْئِلَه		
31	المَدِينَةُ / المَدِينَه		
32	بِطَاقَةٌ		
33	المَفَاهِيمُ / المَفَاهِيمْ		
34	عَنْكَبُوتْ		
35	الصِّحَّةُ / الصِّحَه		
36	رَئِيسْ		
37	يَسْتَخْدِمُ		
38	نِهَاية		
39	أَتَذَكَّرُ		
40	أَعْجَبَتْنِي		

41	مَسْرَحِيَّةٌ		
42	أَزْهَاراً		
43	عِبَارَتَيْن		
44	اخْتِرَاعْ		
45	شَاطِئْ		
46	الآخَرِين		
47	كَثِيراً		
48	يَحْفَظُهَا		
49	دَائِرَةٌ / دَائِرَه		
50	الرِّيَاضِيَّةُ / الرِّيَاضِيَّه		
51	إِضَاءَةٌ		
52	الجَائِعَةُ / الجَائِعَه		
53	تَنْبَعِثْ		
54	زُمَلَائِي		
55	وَظِيفَتُهَا		
56	قَرَّرَتْ		
57	خَمْسِينْ		
58	المُتَسَابِقُونْ		
59	التَّخَصُّصِي		
60	أَتَأَمَّلُ / أَتَأَمَّلْ		
61	مُسْتَطِيلْ		
62	المُؤَلَّفُونَ / المُؤَلَّفُون		
63	رَأْسِيَّتَانْ		
64	حَيَاتُنَا		
65	سَرِيرَهُ		
66	عَزِيمَتُكَ		
67	لِيُعَالِجَ		
68	اسْتَفَدْتُ		
69	يُنَاقِشُ		
70	يُحَلِّلُهَا		
71	اشْتَرَى		
72	اسْتَمَعَتْ		
73	القَرَوِيِّين		
74	مُبْصِراً		
75	لَاحَظْنَا		
76	المُسْتَشْفَيَاتُ / المُسْتَشْفَيَاتْ		
77	يَتَفَاءَلُ		
78	الرَّحَالَتَانِ / الرَّحَالَتَانْ		
79	الإِيمَاءَاتْ		
80	يَنْشِدُونَ		
81	المُتَفَوِّقُونْ		
82	شَلَّالَاتٌ / شَلَّالَاتْ		
83	وُجُوهُهُم		
84	ضَوْءَك		
85	صَائِمِينْ		

86	أَضْحَى		
87	الخُضْرَاوَاتُ / الخُضْرَاوَاتْ		
88	سَيُكَرِّرْنَ		
89	لِيَبِيعَهَا		
90	اصْبِروا		