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A Contrast of Bilingual and Monolingual Children in regards to Semantic and Syntactic Language Acquisition

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A Contrast of Bilingual and Monolingual Children in regards to Semantic and
Syntactic Language Acquisition

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Abstract

Multiple language acquisition has only recently become a heavily researched and focused topic. Many questions have been left unanswered and furthermore, experts in the field are coming to contradicting results and conclusions. The presented thesis investigates the culmination of recent research in this newly developed field, as well as provides feedback from bilingual individuals on their experiences of being bilingual. Through analyzing current studies, the conclusion is made that bilingual children will follow a series of stages in their semantic and syntactic acquisition in which there is a bilingual disadvantage, followed by a bilingual advantage, and lastly a continuous stage of neutrality between bilingual children and their monolingual peers. This theory combined with the positive social effects of bilingualism seen through results of the survey, encourage education systems to take responsibility in teaching children to be proficient in two languages.
In an increasingly diversified and multilingual world, more and more young children find themselves in an environment where more than one language is used (Annick De Houwer, 1999).

Introduction

The focus on bilingual individuals and the acquisition of two languages has become a central focus throughout the world. In 1996 it had been estimated that two-thirds of the world’s children grow up in a bilingual environment (David Crystal, 2004). This statistic has undoubtedly grown in the past decade. In May of 2007, the United States Census Bureau released a report which stated that the nation’s minority population reached 100.7 million. This means that about one in three U.S. residents is a minority and as the Census Bureau Director Louis Kincannon explains, “There are more minorities in this country today than there were people in the United States in 1910” (Robert Bernstein, 2007). With an ever growing minority population, our education systems face questions about teaching children a second language as well as English in the beginning of their schooling years. In order to make this decision, parents, educators, as well as researchers are wondering what the positive and negative implications are of bilingualism and what it means for a child to grow up bilingual.

This study has a dual focus; the first component is in regards to the differences in language acquisition for children learning two languages simultaneously in comparison to children learning one language. The first question is, do bilingual children have more advanced linguistic skills in comparison to their monolingual peers? Secondly, does the acquisition of two languages provide any social or educational advantages? By concentrating on current research and studies done by professionals, one is able to
formulate conclusions on how monolingual and bilingual children compare in terms of
developmental time and sequencing of language, including mastery of vocabulary and
grammar. Furthermore, any outside factors that may affect the bilingual population may
surface. Currently in the Speech-Language Pathology field, many of these questions
remain unanswered.
Literature Review

Multiple language acquisition has just become a heavily researched and focused topic in the past two decades. There are studies comparing monolingual individuals that have had strokes to bilingual individuals with strokes, (Hernandez, Martinez, Kohnert, 2000; Kiran, Lebel, 2007; Kohnert, 2004; Miertsch, Meisel, Isel, 2008) there is research on bilingual children and reading rate, (Edwards & Christophersen, 1988; Cummins, 1989; Eisemon, Prouty, Schwille, 1989; Beech & Keys, 1997; Miller, et al, 2006; King, 2008) as well as general information regarding bilingual education. However, these studies are not all all-encompassing, nor have they drawn the same conclusions. Furthermore, there are few studies that focus on the opinions of bilingual individuals themselves and what they feel are the positive and negative results of learning two languages.

Humans are born with more than 100 billion brain cells or neurons, although the cells contain no established pattern of wiring or connections. Synapses, or connections, in the neurons are made through sensory experiences. Those experiences and synapses create a functional architecture over time, which enable newborn infants to perceive their environment in terms of touches, sights, and sounds. By the time a child is three years old, his or her brain has formed about 1,000 trillion synapses. Beginning around the age of eleven, a child's brain removes the extra synapses in a process calling "pruning," gradually making order out of a thick tangle of connection "wires" in the brain. Therefore, if a pathway is not used, it is eliminated (Sean Brotherson, 2008). The focus on children, as opposed to an adult population, is important because it is clear that early development in the brain is vital. There is a window of time in the early years of a developing child's life in which the pathways of the brain are completely open for
development, particularly for the development of language. What happens in those early years of language development will affect the child’s brain processes for the rest of his or her life.

Language consists of many components; this study focuses on two main components of language, syntax and semantics. Syntax is composed of the grammatical rules for ordering words and sentence structure. More specifically, morphosyntax is the field of linguistics that studies the internal structure of words. Morphosyntax will be a topic of discussion through the analysis of recent journal articles. Semantics is the study of how meaning in language is created by the use and interrelationship of words, phrases, and sentences. Semantics is often measured in levels of vocabulary knowledge. In standardized tests, an individual’s vocabulary level is often a primary indicator of his or her overall intelligence (Wechsler, 1974). By focusing on bilingual semantic development and awareness, one is directly relating results to their overall intelligence. Semantics is also vital for language development because children who understand content can comprehend language more fully and have a greater variety of ways to express themselves.

Syntax and semantics are undoubtedly interconnected in language; when discussing bilingual children’s abilities, the focus on their dual syntactic development as well as their dual semantic development will be paramount. Researchers wonder if multilingual individuals create two different categories for each language in order to make sense of diverse structures and words which often operate simultaneously. Gawlitsek-Maidwald and Tracey (1996) argued that semantic knowledge in both of a bilingual’s languages may actually cause boosts in productivity across syntactic systems. However, there has been relatively less focus upon syntactic-semantic organization in
bilingual children in comparison to other linguistic domains (Lindholm, 1980). During normal monolingual language acquisition children babble at the age of six months, utter their first word at twelve months, combine words to make short phrases at eighteen to twenty-four months and acquire syntax for a language almost completely between the ages of four and five. By looking at bilingual language development, one can decide whether or not the acquisition of a second language will change any of the development times of these aspects or provide an intellectual advantage.

One of the most frequently expressed concerns is that a child exposed to two or more languages during early developmental phases might be confused linguistically and cognitively, therefore, lagging behind their monolingual peers (Holowska et al., 2002). Many studies have shown that children from bilingual backgrounds tend to score lower on standardized vocabulary tests in comparison to monolingual children (Duran, 1988; O'Brien, 1992; Peña & Quinn, 1997; Saville-Troike, 1991; Valdes & Figueroa, 1993). Pearson (1993) performed a study focusing on lexical development in bilingual infants and toddlers, comparing their capabilities to monolingual norms. His results warned of common syntactic delay in young bilingual people. Uccelli and Páez (2007) discussed vocabulary development of bilingual children from kindergarten to first grade. Their study showed that children might be at a serious disadvantage in terms of conceptual vocabulary in one or both of their languages. They presented the fear that if bilingual children's vocabulary levels were too low, that they will encounter substantial difficulties in other facets as well, such as literacy.

Umbel, et al. (1992) did a study measuring bilingual children's receptive vocabulary which yielded arguable bilingual disadvantages. Receptive vocabulary consists of words that a child comprehends but may not necessarily use. Participants
included 105 Spanish/English bilingual first graders, who ranged in age from five years eleven months to eight years six months, who were given a *Peabody Picture Vocabulary Test* as well as a Spanish adaptation of the same test. The English vocabulary performance of the bilingual children was on the low-average range. Umbel, et al. (1992) questioned a possible trend toward lower language performance in bilingual children. However, environmental factors may have impacted the study; in the United States, many children are migrating with their parents from Latin America in the middle of their schooling years. When they enter the education systems in the United States, they have not had English lessons or exposure. Those children, when tested, would obviously show low vocabulary scores.

In a more recent study conducted by Gathercole (2007), two groups of bilingual children were studied: Spanish/English bilingual children in Miami, Florida and Welsh/English bilingual children in Northern Wales. Gathercole, like her counterparts, found a bilingual disadvantage. The 55 participants, between the ages of five and seven, completed six semantic tasks: associations, characteristic properties, categorization, functions, linguistic concepts, and similarities and differences. Monolingual children were tested in their primary language and bilingual children were tested in both their languages. Although these populations differed in the specific languages they acquired, similar shortcomings were found in morphosyntactic and semantic tests. Monolingual children performed significantly better than any bilingual group in every task. Gathercole did note, however, that a test designed for one language group may not contain relevant semantic tasks for the comparison language. This would present a drawback for bilingual individuals before the task is even administered.
A receptive and expressive vocabulary study conducted by Thordardottir, Rothenberg, Rivard & Naves (2006) focused on 28 French/English, monolingual and bilingual, two and a half year old to three year old children. They discovered that bilingual children’s English scores were substantially and significantly lower in comparison to their monolingual peers in nearly every language category tested. Only in one receptive vocabulary section did bilingual children score within normal monolingual range. They noted that bilingual children may score radically lower and appear to be delayed in vocabulary and syntax if only measured in one language. Often, when both languages are measured together, a fuller vocabulary inventory could be seen.

On the opposite side of the spectrum, there have been many studies that proclaim a bilingual advantage, stating that bilingual children present greater linguistic and cognitive skills in comparison to monolingual peers. Bilingual advantage theorists speculate that bilingual children posses an early awareness that different words can label the same concept. They hypothesize that it is this awareness that can drive advanced early development of their semantic network and linguistic flexibility (Bialystok, 2001; Ollers et al, 1997; Ricciardelli, 1992; Cummins, 2001). Included in this theory is the idea that the addition of a second language imposes demands on bilingual children to exercise added selective attention and cognitive flexibility. In order to speak in one language, they must suppress the other language to allow for fluency and to avoid confusion and crossover between the two. Because of this necessary skill, bilingual children might be more efficient at exercising control in comparison to their monolingual peers (Morton and Harper, 2007). This increased attention and focus may enhance cognitive skills.

Bialystok (2001) coined the phrase that “bilingual children are precocious in metalinguistic awareness”. The studies she performed suggested bilingual children were
better than monolingual children at judging the grammaticality of sentences containing distracting semantic ideas. Her studies pointed towards an advanced ability of bilingual children to attend and reflect upon the structural, or syntactic, properties of language (Bialystok, 1988, 1999). Other researchers have provided studies supporting Bialystok’s idea of “precocious metalinguistic awareness” (Langdon & Merino, 1993; Gathercole, 2007; Bialystok and Martin, 2004). Sheng, McGregor and Marian (2006) suggested that advanced metalinguistic skills may cause enhanced semantic development for bilingual individuals.

Bialystok and Martin (2004) carried out a study which provided results supporting the selective attention ability of bilingual children. The study involved 67 participants, 31 were Chinese-English bilinguals, whose mean age was four years and nine months old. The participants performed a four part computerized card sorting task that was based upon different levels of conceptualization and semantic grouping. In a task which required selective focus by participants to sort through misleading information, bilingual children asserted an advantage. Furthermore, Bialystok and Martin suggested that the semantic structure of a bilingual person might be more hierarchical than that of a monolingual person, predicting that words exist at a higher or more abstract level than the concrete connection of simply a word and its meaning. The study contributed to previous evidence that early childhood bilingualism alters development of control. Although in majority of the card sorting tasks the bilingual children outscored the monolingual children, researchers concluded that this was due more to selective control rather than a superior ability to represent complex stimuli.

While there are studies providing support for both bilingual advantage and disadvantage, a large group of studies have results that suggest bilingual children are
simply comparable to their monolingual peers for levels of semantic and syntactic development. Morton and Harper (2007) performed a study including 34 participants; seventeen were bilingual in English and French, with a mean age of six to seven. All children performed a computer-based version of the Simon says task; the study was in conjunction and replication of Bialystok and Martin’s (2004) card sorting experiment in which they found presence of the bilingual advantage. Morton and Harper’s study was paramount as it was the first of its kind to compare attention control in bilingual and monolingual children who were actually ethnically and socioeconomically identical. Their results showed that bilingual children did not show an advantage, despite their mastery of two languages. Their results convey that controlling for outside factors of socio-economic status (SES) and ethnicity can extenuate the bilingual advantage.

In a study which focused on the lexical-semantic organization in bilingual children (Sheng, McGregor, Marian, 2006), similar neutralized results were found. Five to eight year old Mandarin-English bilingual and monolingual students performed repeated word association tasks in which they had to generate words in different categories. Although it was expected that the bilingual children would accelerate in grouping words in a manner that expressed higher-level thinking, a majority of their results did not support this hypothesis. The researchers found that bilingual children’s semantic abilities were relatively unaffected by the exposure and use of a second language, thus putting them at an equal level with their monolingual peers.

When focusing on language acquisition, many studies have found a parallel development between bilingual and monolingual children (Holowska et al, 2002; Patterson, 1998, 2000; Pearson, 1995). Peña et al (2002) found that Spanish-English children named similar numbers of words for each language in a category task and
generated different specific items for each language. The patterns of bilingual children’s
responses for semantic tasks have appeared to fall along the same continuum as that of
monolingual children (Bedore et al, 2005).

In a series of studies on expressive vocabulary size, Pearson and her colleagues
showed that Spanish/English-speaking preschoolers scored comparable to monolingual
children in vocabulary size when measures were used that combined vocabulary
knowledge in both of their languages (Pearson et al, 1993). A similar finding was shown
for German/English bilingual children in a study done by Junker and Stockman (2002).
The researchers noted that some of their bilingual children scored comparably to
monolingual children even when they were given credit only for their stronger language.
Often the stronger, more dominant language for bilinguals may show equal scores, even
though a second language may appear delayed. This can often be due to the length of
exposure to each language.

Holowka (2002) performed a valuable long term study focused on infants. Six
hearing babies participated in the longitudinal study that lasted over a year. Once the first
word milestone was achieved, the babies were videotaped tri-monthly until
approximately two years of age. Three of the participants were acquiring French and
English. The other three were acquiring French and French sign language. The results
showed that bilingual children, even those whose second language was sign, achieved
normal first word acquisition in each of their languages and exhibited normal language
milestones, in comparison to the norms of monolingual children. Furthermore, they found
the categorization of bilingual infants’ lexicons demonstrated similar semantic
organizations to that of monolinguals. This study only focused on the first 50 words that a
child learned. Although it provided valid semantic information, it lacked information
about syntactic development and how the language development continued following the first 50 words. Furthermore, the study included only six bilingual individuals. Bilingual individual’s results were compared to statistical information about monolingual norms. It would have been valuable to actually have monolingual infants as controls in the study. Socioeconomic background for participants was not given. It would be helpful to duplicate this study for a group of children over the first five years of life. This study was one of the only studies to discuss bilingual children who have sign as one of their languages.

Through reviewing the studies and literature on bilingual acquisition, Bedore and Peña (2008) concluded that bilingual and monolingual children learn their first words at about the same age and that both groups have similar acquisition rates in terms of adding vocabulary to their lexicon systems. They observed that the order in which bilingual children learn the grammatical forms of each of the languages is similar to monolingual children.

With contradicting evidence across the field, one must question why such different results are being found. There are multiple outside variables to consider from the current studies that may be the true causes for any positive, negative or neutral results. These factors include general language differences, the interrelationship of culture/language, socioeconomic status, as well as the age of participants.

Foremost, one must consider that languages are all very different. Syntactically, the placements of language components are dissimilar. For example, in English, adjectives always precede the noun they are describing, whereas in Spanish the adjectives always go after the noun. In Italian the placement of the adjective simply depends on the sentence structure and what is being described.
Furthermore, the complexity of languages varies greatly. Not all languages are acquired by an individual in the same sequence or timing, therefore, the structure of the languages being learned play a significant role in the development of a bilingual individual (Gathercole, 2007; Bedore & Peña 2008). Thordardottir (2006) and her colleagues noted broad differences across the bilingual children population and proposed that a smaller vocabulary may be related to the complexity of the inflectional system. She found that French speaking children demonstrated smaller vocabularies, but yet more complex grammar in comparison to English speakers. The varying morphosyntactic rule systems and semantic variance may be why certain combinations of languages in bilingual children are yielding positive effects, whereas others are finding disadvantages.

Another variable that may be playing a larger role than it appears is that language is always interconnected with culture. Certain cultures may place emphasis on names or specific aspects of syntax. English children grow up being ingrained to answer the five ‘W’ questions of: ‘who, what, where, when, why?’ in relation to any event or action. Therefore, vocabulary and cognitive tests for English children often relate to those five components. However, this type of emphasis is not found in Mexican-Spanish culture. A research study or task may be given in both languages, yet still present unseen favoritism to the underlying structure of one language or another, thereby leading to false or abated results for certain bilingual populations. Future studies should focus on making tests as unbiased and impartial between both languages as possible (Peña, Bedore, Rappazzo, 2003). If studying Mandarin/English bilinguals, both underlying structures and cultural linguistic effects should be taken in consideration; those effects will most likely be different in contrast to other groups of bilinguals.
Another influential environmental factor that has not been considered in most of the current studies is the role that socioeconomic status (SES) plays in effecting language development for children. Statistics show that by the age of three, children who come from privileged families have heard 30 million more words than children from underprivileged families (Hart & Risley, 2003). The lack of exposure to language will affect the acquisition of vocabulary and overall language comprehension (Huttenlocher, et al, 1991, Pearson et al, 1997). Often SES is linked to other factors as well, such as familial stability, or parental level of education. When measuring differences between bilingual and monolingual children, one must consider how much equality exists for groups of participants in regards to their SES. There have been few studies that take this influential factor into account (Sheng, McGregor, Marian, 2006; Morton, Harper, 2007).

Many of the studies have large age ranges between participants. Although some studies give a ‘mean’ age of participants, there is no statement of how greatly participants vary in age, or when it is given, participants vary two or three years in age. The beginning years of language development are vital for a child; in the first few years of life, monthly changes provide great advancement in language and vocabulary comprehension. To carry out a bilingual language acquisition study in which the age difference between participants is greater than a year, underestimates the rapid development that occurs in such short periods of time for young developing children. Future studies should hone in on grouping together more comparable participants.

When considering the studies that have been performed, there are three sides to the bilingual language development issue: bilingual children have a linguistic advantage, the acquisition of two languages provides lower vocabulary scores and an over all disadvantage, or lastly, bilingual individuals have comparable scores and are no different
than monolingual children. One possibility that many researchers have not considered is that perhaps all three of these situations occur at different times during most bilingual individual’s acquisition. Conceivably, bilingual infants and toddlers, bombarded by two languages, struggle to sort out the differences and create two lexical categories in the beginning of their language development. Bosch and Sebastián-Gallés (1997) carried out a study with bilingual and monolingual infants in relation to native-language recognition. They predicted that bilingual infants would have faster reaction times to their native-languages. Their results actually yielded a longer pause by all bilingual infants, they felt this suggested infants from bilingual environments do not behave in the same way as infants growing up in monolingual environments. Bosch and Sebastián-Gallés (1997) hypothesized that processing language takes longer because of the difference between the types of input that the infant must comprehend.

As stated earlier, amount of exposure affects the timing of language development. This is extremely important to consider for bilingual children; if they are hearing both languages equally, they will still only hear half as much input in each language as monolingual children of the same age. Monolingual children only need to focus upon the single linguistic structure of the one language that they are surrounded by. For bilingual children, their focus and time on each language is split in half. If language acquisition is dependent upon the exposure to different contexts and patterns, one could only expect that the bilingual child would take longer to master certain aspects of language in comparison to the monolingual child (Gathercole, 2007; Peña, Bedore, Rappazzo, 2003). At this point in a bilingual infant or toddler’s life, they might be construed to be at a disadvantage, as seen through the multiple studies discussed here.
One could expect to see a bilingual child catch up to his or her monolingual peers with time. Perhaps there is a period of time in which the two languages are bonded together by means of the child’s cognitive and semantic processing (Gathercole, 2007). There is a possible connection that falls into place where the languages share syntactic and semantic similarities that link them together by the way they express messages and meaning. What is being suggested is that a series of ‘light bulb’ moments occur for the bilingual child, where he or she unconsciously organizes both semantic and syntactic structures and can see them in a way that not only makes sense, but provides the child with a bilingual boost. That boost possibly enables the child to surpass their monolingual peers in a number of cognitive manners, providing them an ability to form more complex sentences with unique, higher-level vocabulary, as seen through many of Bialystok’s studies. Furthermore, one could expect to see stronger generalization across the syntactic structures, as mastery of syntax at its most basic form is the mastery of a set of rules (Gathercole & Hoff, 2007). For a period of time, bilingual children might possess a better understanding of the complex factors of language, in comparison to others at their age.

Eventually, one could expect to see neutralization of the differences between the two populations, as all groups of children will gradually gain a necessary core of linguistic information (Gathercole, 2007). This is the stage most studies investigate, which is understandable considering the majority of bilingual and monolingual children’s semantic and syntactic development will be in this state. Further research must be done in order to support this thesis; however it may help to explain the vast differences in test results. It would beneficial to see studies that minimize the effects of outside factors on bilingual and monolingual children, as well as focus on a specific age group. Most studies
in bilingual language acquisition are quantitative. To test any future hypotheses about bilingual language acquisition, it may be more beneficial to develop a number of in depth qualitative, longitudinal studies.

If the conclusion is that cognitively, bilingual children will be at the same level of monolingual peers, one should consider other factors in the decision for or against bilingualism in youth. Bilingual individuals themselves are the best group to ask about positive and negative social and emotional aspects of bilingualism. Through surveying bilingual individuals about their opinions and reflections one can decide if it diminished their social interactions as children. If bilingualism is a helpful ability, than it is something researchers, parents and teachers can encourage in a nation that is continually diversified in cultures and languages.
**Research Question**

By doing a questionnaire for bilingual adults, the intention is to answer the question: does the simultaneous acquisition of two languages provide perceived benefits to individuals? It is predicted majority of the bilingual individuals who respond to the survey will feel as if their bilingualism has been beneficial.

**Research Methods**

This study was conducted via an online survey, between January 26, 2009 and February 28, 2009, on surveymonkey.com. The purpose of the survey was to ask bilingual individuals their opinions and reflections on their own bilingual acquisition, as well as that of their children. The study targeted students and faculty at Butler University in Indianapolis, Indiana. The survey was distributed by means of a newsletter given to International Students and emails were sent out to the Foreign Language staff and foreign athletes. It was explained to all participants that results should remain anonymous and that the survey was optional. It could be terminated if an individual decided they did not want to complete it, however all 22 participants that started the survey, completed it as well.
Results

Question 1: Please check the box that best represents your age group (See Figure 1)

Participants had a choice between: 18-25, 25-32, 32-39, 40-47, and Over 40 years old. The age demographics for the survey showed that 77.3% of individuals were between the ages of 18-25, 13.6% of individuals were between the ages of 32-39 and 9% of individuals that completed the survey were over the age of 40.

Figure 1

Question 2: At what age did you begin learning two languages? (See Figure 2)

When asked about the age at which the individuals began learning two languages, 85% stated before the age of 10, with majority learning two languages since birth.
Question 3: What languages did you learn simultaneously as a child? (See Figure 3)
The languages learned varied to a large degree, although all stated English as one of their languages. Second languages included: French, Greek, Spanish, German, Polish, Chinese, Mandarin, Farsi, Lithuanian, Cantonese, Taiwanese, and Hindi.
Question 3: What languages did you learn simultaneously as a child?

<table>
<thead>
<tr>
<th>Participants</th>
<th>Question 3: What languages did you learn simultaneously as a child?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hindi and English</td>
</tr>
<tr>
<td>2</td>
<td>Spanish and English</td>
</tr>
<tr>
<td>3</td>
<td>I am German and learned English, French</td>
</tr>
<tr>
<td>4</td>
<td>None</td>
</tr>
<tr>
<td>5</td>
<td>Mandarin, Cantonese, Taiwanese, and English</td>
</tr>
<tr>
<td>6</td>
<td>I knew Lithuanian since I could speak; I began learning English in Kindergarten.</td>
</tr>
<tr>
<td>7</td>
<td>English, Portuguese</td>
</tr>
<tr>
<td>8</td>
<td>Portuguese and English</td>
</tr>
<tr>
<td>9</td>
<td>English and Farsi (Persian)</td>
</tr>
<tr>
<td>10</td>
<td>Spanish and English...but Spanish classes in elementary were a joke. I started learning more seriously in high school.</td>
</tr>
<tr>
<td>11</td>
<td>English and Spanish</td>
</tr>
<tr>
<td>12</td>
<td>Spanish and English</td>
</tr>
<tr>
<td>13</td>
<td>Chinese and English</td>
</tr>
<tr>
<td>14</td>
<td>Polish</td>
</tr>
<tr>
<td>15</td>
<td>Spanish and English</td>
</tr>
<tr>
<td>16</td>
<td>German and English</td>
</tr>
<tr>
<td>17</td>
<td>Spanish, English, French</td>
</tr>
<tr>
<td>18</td>
<td>Spanish/English</td>
</tr>
<tr>
<td>19</td>
<td>Spanish and English</td>
</tr>
<tr>
<td>20</td>
<td>Greek</td>
</tr>
<tr>
<td>21</td>
<td>French and English</td>
</tr>
</tbody>
</table>

Question 4: Where did you learn the languages? (See Figure 4)

Results indicated that 57.1% of participants learned one of their languages at home and one at school. Also, 23.8% of participants learned both of their languages at home, inferring that their families had most likely exposed them to both languages. Lastly, 19% stated that they learned both at school. In retrospect, this question was misleading because all participants learned at least one language at home when they were growing.
up; that language may also have been taught in school as well, but unconsciously, a child will begin to learn whatever language they are exposed to from birth. One participant stated that they actually learned one of their languages from TV since birth.

**Figure 4**

**Question 4: Where did you learn the languages?**

<table>
<thead>
<tr>
<th>Locations where languages were learned</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>One at home, one in school</td>
<td>14</td>
</tr>
<tr>
<td>Both in School</td>
<td>2</td>
</tr>
<tr>
<td>Both at Home</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
</tr>
</tbody>
</table>

**Question 5: Do you remember learning two languages?**

Out of the 22 participants, 68.2% stated that they remembered learning two languages growing up.

**Question 6: If you remember learning two languages, please rank the overall experience from 1-10, 10 being an extremely positive experience. (See Figure 5)**

Nearly all participants ranked above a five; over half of the participants ranked the experience as a ten, claiming it to be a predominantly pleasing experience.
Question 6: Please rank the overall bilingual experience from 1-10

Rating from 1-10 on experience

Number of Participants

10
9
8
7
6
5
4
3
2
1
0
1 2 3 4 5 6 7 8
9 10

Question 7: Was one language easier to speak, read, and write growing up? If so, which one? (See Figure 6)

Responses showed that 81.8% said one of their languages was easier to speak, read, and write growing up. Nine participants stated that English was the easier language, however, it should be noted that two participants stated that English was easier to read and write, but Spanish was easier to speak. Also because all participants had English as one of their languages, there were greater odds that a participant would choose English. The level of bilingual input is a significant factor for this specific topic because if a child isn’t exposed to both languages in equal amounts, one language would be expected to be easier and have an advantage over the other in terms of linguistic input.
Question 8: Can you read and write in both languages?

All participants could read and write in both languages.
Question 9: Did learning two languages make it difficult or easy for you to communicate as a child?

Results showed that 70% felt neutral; most likely they felt that being bilingual was normal since it was the only communication they were familiar with. 30% did state that it made communication easier. Two participants did not respond to this question.

Question 10: What advantages or disadvantages, if any, do you feel your bilingual ability has given you in terms of social interactions and career opportunities? (See Figure 7)

Twelve participants mentioned employment benefits. Other answers included that bilingualism expanded social interactions, helped in aiding others, increased critical thinking, broadened world view, and greater travel opportunities. Only three participants included what they felt were disadvantages. All three of the responses named occasional language difficulty as a reason and one participant included ‘accent’ as a disadvantage.
Figure 7

What advantages or disadvantages, if any, do you feel your bilingual ability has given you in terms of social interactions and career opportunities?

<table>
<thead>
<tr>
<th>Participants</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I love travelling and it really makes everything easier</td>
</tr>
<tr>
<td>2</td>
<td>Not really. Advantages: many because you have the two languages and can communicate with more people. Disadvantages: sometimes I forget Spanish words when I am speaking Spanish so I say the English words. My social language is Spanish, but my school language is English so when I try to read or something in Spanish I have less vocabulary than if I try to read in English...but to have a normal conversation in English is harder.</td>
</tr>
<tr>
<td>3</td>
<td>Increased career opportunities. Cultural Exchange programs were great too due to my proficiency.</td>
</tr>
<tr>
<td>4</td>
<td>I am definitely at an advantage in pursuing careers. Employers are consistently impressed with bilingual services, especially in social services to Spanish speaking impoverished. Socially I can eliminated language barriers and impress people in most instances.</td>
</tr>
<tr>
<td>5</td>
<td>I believe that knowing two languages makes learning any other language easier. It also gives me more opportunities to relate to other people and other languages. I also believe it makes living in another country not as daunting which opens up so many doors of opportunity. I observed my parents learn a new language and set up a new life which makes me feel like anyone could do it.</td>
</tr>
<tr>
<td>6</td>
<td>It has been an overall advantage. Infinite advantages such as being able to communicate in most places where I have to go. Many job openings require the use of both languages as well so that is a plus. I also taught my parents a lot during my elementary school days.</td>
</tr>
<tr>
<td>7</td>
<td>It forces you to think about what you are about to say/ what we hear and read. Also, it makes learning additional (3rd/ 4th) languages easier... increased critical thinking.</td>
</tr>
<tr>
<td>8</td>
<td>I believe it has made me more marketable for employers. If nothing else it has broadened my worldview and allowed me to have a number of awesome opportunities for world travel.</td>
</tr>
<tr>
<td>9</td>
<td>It's advantageous due to the obvious demand in bilingual employees (in almost all fields of work). Moreover, it has allowed me to communicate with Spanish speaking people who have been immigrating to my hometown over the last 10 years.</td>
</tr>
<tr>
<td>10</td>
<td>In career opportunities, it obviously is advantageous to know more than one language in such an internationally-connected world. I think that being exposed to another culture (learning another language being one aspect of the culture) has also made me a more open-minded person when it comes to cultures that I am not as familiar with.</td>
</tr>
<tr>
<td>11</td>
<td>My bilingual ability is very important for further study and career as both languages are official languages of my city.</td>
</tr>
<tr>
<td>12</td>
<td>Disadvantages: I grew up with foreign parents so my I feel that my level of vocabulary in English is somewhat limited due to not having that at home advantages: every time someone learns that I am bilingual, they are amazed and interested in how that came to be. In the job search, this can put me ahead of others.</td>
</tr>
<tr>
<td>13</td>
<td>Meet more people. More careers want bilingual people</td>
</tr>
<tr>
<td>14</td>
<td>I became a German professor, which I wouldn't have if I hadn't grown up bilingual.</td>
</tr>
<tr>
<td>15</td>
<td>Advantages in Missions/Teaching</td>
</tr>
<tr>
<td>16</td>
<td>It's helped my career with the Canadian Govt.</td>
</tr>
</tbody>
</table>
Question 11: Do you sometimes use words from one language when speaking the other?

All of the participants answered yes, that they did, meaning they experienced cross-over between languages in which they used one language when speaking the other.

Question 12: If so why do you think this happens? (See Figure 8 and 9)

When asked why they thought this occurred, answers were greatly varied: 33.3% stated it was an unconscious process, 42.9% stated that they couldn’t find a word in the language they were speaking, so they made the switch to compensate, 23.8% stated they use both languages daily and therefore, on occasion, forget which words are associated with which language. One participant stated that they thought it occurred for all three reasons. Another participant checked other and wrote, “Sometimes it’s convenient to use the terms with those who are equally bilingual but there are times that meaning is conveyed with much more difficulty because the phrase is not quite there”. Another participant expressed that, “Sometimes when let’s say I’m thinking of a Spanish word and I’m talking with someone in English, the Spanish just suddenly starts coming out.” This response conveys the idea that both languages are constantly operating simultaneously in a bilingual individual and that there are times where they lack the ‘attention’ ability to mute one of the languages.
The last section of the survey focused on a series of questions about raising bilingual children. These questions were thought to be of value because if bilingual individuals felt their dual language acquisition and ability was advantageous, than they would most likely bring their children up to be bilingual as well. Also, it was predicted that they would be more aware of the process of language acquisition in their own children.
Question 13: If you have children, are you currently raising them to be bilingual?
Because of the young age group in the study, only eight participants had children and could answer this series of questions. Six of the eight participants who were parents stated yes, they were raising their children to be bilingual.

Question 14: Why or why not? (See Figure 10)
Five of the parents stated that they were raising their children to be bilingual because they saw it as being beneficial for them. One individual stated he or she was raising them to be bilingual by because two languages were spoken in the household so the child was in an environment where they were bound to acquire both. One of the parents stated that they were not raising their children to be bilingual because it is not important in their household.

Figure 10
Question 15: If you are planning on having children in the future, will you raise them to be bilingual?

This was an additional question that was added half way through the study to account for the fact that majority of the individuals participating in the study were in their early twenties and did not have children yet. Only six participants responded to this question, they all stated that they would raise their children to be bilingual. One bilingual individual stated that they may even raise their children to be trilingual. However, considering this question wasn’t included in this study until part way through, it would have been more valuable to have all applicable participants answer.

Question 16: If you already have children learning two languages, please check the following that apply to their language development

The choices included: He/she mixes words from different languages in the same sentences, he/she switches between one language to the other in conversation, he/she can switch between languages with ease, he/she has difficult with verb tenses in both languages, he/she has difficulty writing in one language or both, he/she has difficulty reading in one language or both, he/she is learning a second language through school, but not at home. Only two out of 22 participants answered this question. One stated that they observed their children mixing words from different languages in the same sentences. The other participant, (or possibly it was the same participant, seeing as an individual could check more than one response if they chose to) stated that the children are learning a second language through school, but not at home, therefore, the parental experience of observing the combination of both languages decreases.
Question 17: Please feel free to add any additional comments here (See Figure 11)

For any other thoughts that participants wanted to add, one bilingual individual expressed, “I find it extremely important for kids to start learning a second or even a third language when they are young just because it is when their language abilities are being developed the best so it is easier to pick up on the language than starting to learn it in middle/high school...etc.” One individual declared their support of bilingualism: “I think knowing more than one language is the best gift I have ever been given and would without a doubt pass it on to my children. I also would like to learn additional languages.” For many multilingual individuals, to only speak one language would mean eliminating a meaningful part of their life (Umbel, et al, 1992). Another individual remarked very inquisitively, “I think that being bilingual is a great quality in a human being for not only cultural personal knowledge but for the world itself. If everyone spoke at least 2 different languages no matter where people traveled they could interact with one another.”

Figure 11

<table>
<thead>
<tr>
<th>Participants</th>
<th>Response Text</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>I find it extremely important for kids to start learning a second or even a third language when they are young just because it is when their language abilities are being developed the best so it is easier to pick up on the language than starting to learn it in middle/high school...etc.</td>
</tr>
<tr>
<td>2</td>
<td>I think knowing more than one language is the best gift I have ever been given and would without a doubt pass it on to my children. I also would like to learn additional languages.</td>
</tr>
<tr>
<td>3</td>
<td>It's fine to learn three languages at the same time.</td>
</tr>
<tr>
<td>4</td>
<td>I think that being bilingual is a great quality in a human being for not only cultural personal knowledge but for the world itself. If everyone spoke at least 2 different languages no matter where people traveled they could interact with one another.</td>
</tr>
</tbody>
</table>
Discussion of Results

Language is the connection between us. It is what allows us to communicate and express fully. As the last participant remarked, having two languages provides us with greater links with one another and greater opportunities to meet those outside our culture or country. Having two languages provides one of the greatest assets in terms of international traveling, job networking, and vast social interaction. Furthermore, two languages provide two words, if not more, for everything one might desire to express as that which does not exist in one language, may very well exist in the other. Therefore, when discussing social and emotional health, it is hard to deny that having two languages, two forms to express feelings or thoughts, enhances life in a positive manner. Through this survey, one can see the overwhelming positive social and emotional effects of bilingualism.

With such a vast array of languages to compare to English, it is curious that different bilingual people felt English was easier for the survey. In the discussion about differences between languages, it would be valuable to further research similarities and differences between language structures in relation to their difficulty to master. Also, this may impact what languages we would like further generations to learn.
**Conclusion**

Bilingual individuals, including children, have a unique configuration of languages in comparison to monolinguals (Grosjean, 1989; Peña, Bedore, Rappazzo, 2003). Through the review of current research on childhood bilingualism, one can see the necessity to reduce outside factors for further studies, possibly provide more longitudinal focuses, as well as include participants that are from more limited age groups. It is inferred that the multitude of varying results are due to the influence of outside factors as well as the age and degree of language development for the children participants.

The conclusion is that bilingual children will follow a series of stages in their semantic and syntactic acquisition: in the beginning, one can expect to witness a bilingual disadvantage in which an individual is attempting to sort through and categorize the somewhat confusing input of two languages and therefore, falters behind their monolingual peers. This is followed by a bilingual advantage in which an individual excels ahead because of a series of ‘light bulb’ moments in which their understanding of the complexity of language allows them to outscore that of monolingual children on vocabulary and attention tasks. Lastly, a continuous stage will begin of semantic and syntactic neutrality between the bilingual child and his or her monolingual peers, as the monolingual child reaches a similar level of language understanding. With this knowledge, included with the positive social effects of bilingualism, it is encouraged that education systems take responsibility in cultivating children who are proficient in multiple languages.

As it is been seen through majority of the studies, there are differences in the way bilingual individuals process language. Furthermore, it is estimated that one in five children will speak a language other than, or in addition to, English in the United States
by the year 2010 (U.S. Bureau of the Census, 2000) Regardless of whether or not we teach children a second language, the bilingual population will continually increase; it is imperative we study the bilingual population and look for ways to aid them and their needs. It will be essential in further testing to avoid over diagnosing bilingual language disorder, merely because professionals lack understanding of this population. In contrast, it will be paramount to avoid allowing a multitude of bilingual children who are in need of language services, slip through the cracks of the education systems. The differences between bilingual and monolingual children, however vast they are, provide significant forewarning as it will require speech-language pathologists to test and approach bilingual children and adults with language disorders differently in comparison to how they work with monolingual individuals with language disorders.

Many researchers are devoting their life’s work to this topic of bilingualism and the bilingual research field is ever growing. As we come closer to understanding how the human brain processes language, we can better use this knowledge to educate our children.
Bibliography


Uccelli, P. & Páez, M. (2007). Narrative and Vocabulary Development of Bilingual Children From Kindergarten to First Grade: Developmental Changes and


