Language Difference, Not Language Disorder

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Abstract

When evaluating speech and language skills in children with SLI, children who speak African American English (AAE) are often evaluated by clinicians who speak Standard American English (SAE). Since AAE is a dialect that is different from SAE, there is a chance of inaccurate estimates of language in children who speak AAE. The results showed that children's performance on a phonological working memory task was an unbiased indicator of language disorder, but performance on a lexical access task was mainly influenced by dialect use. Clinicians should use a phonological working memory task when evaluating in children who speak AAE.

Introduction

The purpose of this study is to examine the difference in language difference and disorder. Language can be defined as the words, their pronunciation, and the methods of combining them used and understood by a community. One is surrounded by language even prior to birth. Language is universal, and is vital to communication. Language can define ones personal style, and also a variation of one's culture. There are numerous languages, and within each language there are numerous dialects as well.

A language disorder is a significant discrepancy in language skills compared to the normative standards for a client's age or developmental level (Paul, 2004). "A language difference is a rule governed language style that deviates in some way from the standard usage of the main stream culture" (Paul, 2004, p. 166). A dialect refers to a variation in language that is characteristic of a particular group of the language's speakers. According to Washington and Craig (2004) "misclassification based upon inappropriate interpretation of cultural interaction and communication styles may contribute to difficulty with detection of true language problems" (p. 330). The misdiagnosis of these language differences can have lasting effects on a child. Craig and Washington (2004) suggest clinicians use language screening to distinguish language difference or language disorder. These authors state that African American children compose 30.5% of children served for developmental delay (Craig & Washington, 2004, p.330). This

overrepresentation of African Americans diagnosed with language disorders is an indicator that there needs to be an efficient method of identifying these disabilities.

The true origin of African American English is not known (Green, 2000). Some researchers believe AAE originated from African slaves, Caribbean creoles, or Standard English forms. African American English has also been called Ebonics, African American Vernacular English, and Negro Dialect. For the purpose of this study the terminology will be African American English (AAE). Also Standard American English (SAE) is the variety of the English language that is generally used in professional writing in the United States and taught in American schools. Despite its ambiguous origin, AAE is a unique non-standard dialect.

African American English is a dialect that has unique phonological, morphological, syntactic, semantic, and lexical patterns. AAE phonology, which is the sound system associated the phonological representations of language in AAE, differs from SAE. Some differences include: final consonant deletion of sounds, devoicing stops, prosody, and liquid vocalizations. Examples of final consonant deletion are fast to [fas], band to [baen], bold to [bol] (Green, 2000).

One of the distinguishing components between AAE and SAE is the difference in use of morphological features. Morphological features are the smallest unit of language that can affect the meaning of a word. Some morphological features include: marking past tense, verbal s, and generative and habitual markings. In AAE, the past tense marking is not a significant difference in the simple past and past participles (Green, 2000). Dependent upon the verb, the past tense ends in either the /en/ or /ed/ form. The verbal s structure refers to the use of /s/ in both the singular and plural contexts, and a third person singular object. An example of the singular object structure is as follows: "Well, that's the way it bes" (Green, 2002, p. 101).

According to Green (2004), "Many of the well known features of AAE are from the syntactic component of the language system, the system defines the way words are put together to form sentences" (p. 34). The general public sometimes interprets AAE syntax as ungrammatical and ignorant. Syntactical structures such as the verbal marker are, auxiliary be verbal markers, past bin, and negation is often expressed differently in AAE as compared to SAE. An example of auxiliary be used in AAE is "Jonny be good" (Green, 2000, p. 35). In SAE the syntactical structure would be as follows, "Johnny is a good person (Green, 2000, p. 35). Negation is often expressed differently in AAE as compared to SAE. An example of negation "Don't no game last all night long" (Green, 2000, p. 78)." "No game last all night" in SAE (Green, 2000, p.78).

The lexicon of AAE contributes to its diversity and is a unique quality of the dialect. Some lexicons may be found in both AAE and SAE. The difference would be in the semantics or meaning of the lexicon. Those who speak AAE may refer to a female as honey (Green, 2000, p. 28). In SAE, the word honey only refers to a type of sweetener. Also one word can have myriad definitions, in different contexts based upon class or demographics. The AAE lexicon structures are a key component of this language. It is often easier for speakers of AAE to be identified by their use of vocabulary not other language components.

There is a significant difference between a language disorder and a language difference (Paul, 2007). `A language difference does not equal a language disorder. There are numerous

language differences, including those that can be dependent on class, location, or ethnicity. The American culture is constantly changing, and SAE is not always the first language learned. Different environments and cultures have their own specific language. Many children are entering schools with a primary language that is not English. Some teachers and Speech Language Pathologists often misdiagnose their language difference as a disorder. According to Taylor (1986), "language disorders exist in a culturally or linguistically different environment (CLD) when the client language abilities are not equivalent to the norms in their environment and or community" (Paul, p. 177).

The task of determining a language difference or a language disorder can be difficult. According to Laing and Kamahi (2003) "The more diverse the population, the more likely it is that clinicians will encounter families from cultural, ethnic, and linguistic backgrounds different their own" (p. 44). Clinicians need to be aware of culturally and linguistically differences in the population. Laing and Kamahi (2004) argue that standard norm referenced tests should not be the only method evaluating children from diverse backgrounds. Standardized tests are known to be content and linguistically biased and have misappropriated representation in normative samples. Criterion based measures compare performance on a specific skill of the participants. Examples include measures of language samples, processing dependent measures, and dynamic assessment (Laing, Kamahi, 2003). Language samples present clear evidence of language skills of the participants. Processing dependent measures, which are not biased to prior knowledge, include nonword repetition (NWR;, Dollaghan & Campbell, 1998), Competing Language Processing Task (CLPT;, Gaulin & Campbel, 1994), and the Revised Token Task (RRT; Laing& Kamahi, McNeil & Prescott, 1978). According to Haynes and Rodekohr (2000), "the CLPT adequately differentiate between language disorders and typical developing participants without biasing again AAE speakers assessment" (pg. 267).

According to Weismer (2000), studies have shown that children with language impairment continue to perform significantly worse than normal language controls even when lexical feature of nonword stimuli have been adjusted to reduce word likeness (Dollaghan & Campbell, 1988; Edward & Lahney, 1998). They found no differences in responses children with or without language impairments. Minority children did not have differences in their performance on the processing measures such as nonword repetition. Dollaghan (1998) suggested that the nonword repetition processing task is a nonbiased language test (Weismer, p. 886). With nonword repetition task being suggested an unbiased test it can be a valuable assent for clinical use.

The purpose of this study was to investigate children's performance on four tasks, (1) a verbal working memory task, (2) a phonological working memory task, (3) a lexical access task, (4) word definition task; to evaluate the extent to which performance on these tasks reflects language difference or disorder.

Methods

The current study will consist of six eleven year old female participants. There were four African American participants and two Caucasian participants. Three of those participants were AAE speakers and three were SAE speakers. These children were students within the Madison, Wisconsin, metropolitan area schools. All participants qualified as having normal oral and motor speech functions and normal hearing. The participants included three AAE dialect users with a

language disorder, one AAE dialect user without a language disorder. Other participants included one SAE speaker with a language disorder, and one SAE typically developing. With this representative data set I systematically analyzed the effects of language disorder and dialect use on children's performance on the experimental tasks. This data was collected and stored onto audio files. The children with language disorders all received speech-language services in their schools. Clinical Evaluation of Language Fundamentals, Third Edition (CELF-3; Semel, Wiig & Secord, 1995) was used to assess the receptive and expressive language abilities. This standard language test was given to ensure that children with language impairments did in fact exhibit difficulties in language. The CELF-3 instructions for scoring AAE dialect features were followed in scoring dialect users performance.

Table 1. Participants Characteristics

Participants	Sex	Race	Age in Months	Language Status	Dialect	IQ SS	ELS	RLS
AAE-LI	Female	African American	11; 7	SLI	AAE	89	72	50
AAE-TY	Female	African American	11; 7	Typical	AAE	87	86	
AAE-L2	Female	African American	11; 2	Language Disorder	AEE	91	69	50
SAE-LI	Female	African American	11; 10	Language Disorder	SAE	87	53	53
SAE-L2	Female	Caucasian	11; 4	Language Disorder	SAE	98	65	80
SAE-TY	Female	Caucasian	11; 5	Typical	SAE	109	131	

Note: Participant characteristics: children's ages, race, dialect status, performance Intelligence Quotient (IQ) as measured by the Leiter International Performance Scale (Roid & Miller, 1997), Expressive Language Scale (ELS) and Receptive Language Scale (RLS) as measured by the Evaluation of Language Fundamentals, Third Edition (CELF-3;Semel, Wiig,& Secord, 1995).

Identification of the dialect users was essential to the study. The identification of the AAE speakers was determined by the data provided using the definition task. On the definition task, children were asked to explain meanings of words. Children's responses were audio recorded. The audio files were listened to two times each for each participant -to look for features of AAE or SAE dialect use. Appendix A lists the features of the three AAE dialect users produced. Appendix A also presents examples of the AAE features used by the participants.

Experimental Tasks

A gating task was used to access' children's lexical abilities. In the gating task, children listened to stimuli word in successive gates. There were 48 monosyllabic targets. The

participants were required to guess the stimulus based on the acoustical signals. The stimuli gates were presented at: 120s, 180s, 240s, 300s, 360s, 420s, 540s, 600s, 660s (Mainela-Arnold, Coady, Evans, 2008). Children's responses were audio recorded and transcribed orthographically; three variables were coded for each child. The variables were: (A) point of target first sound, the gate at which the child clearly produced a word with the target phoneme; (B) point of isolation where the child first correctly produced the target word; (C) point of acceptance, the gate after which the child did not change their guess of the correct word (Mainela-Arnold, Coady, Evans, 2008).

The Competing Language Processing Task (CLPT; Gaulin & Campbel, 1994) was used to assess children's verbal working memory. In the CLPT, participants listened to lists of sentences varying from one to six sentences per list. After each sentence, children answer yes or no to indicate if the sentence is false or correct. At the completion of each list, they are asked to repeat the last word of each sentence. The sentence consisted of three words, subject- verb - object, subject -auxiliary- main verb, and subject verb- modifier sentences. One's level of the working memory is based upon the maximum number of target words recall.

The word definition task was used to assess children's semantic skills (Mainela-Arnold, in press). In this task a word was presented to the participants, for example "What is a bath?" The children were told to explain the word as they would to a person who did not know what the word meant (Mainela- Arnold, in press). A practice trial was presented and the children responded appropriately. The words were in four clusters with 12 words in each. The four clusters were composed of three randomly chosen words. The stimuli were presented through head phones, and children were given as long as they needed to define the words. The responses were recorded on audio files, and orthographically transcribed (Mainela-Arnold, in press). The children's responses were coded using a system developed by Astell and Harley (2002) (Mainela-Arnold, in press). This system evaluates children's understanding of the meaning of the words (semantics), despite its language form.

Nonword Repetition was used as a measure of phonological memory. The task presented 16 nonword stimuli, one to four syllables in length. The phonemes were early acquired phonemes in infrequently occurring positions. Children were informed that they would hear made up words, and they had to repeat them as efficiently and quickly as possible. The task lasted for approximately one minute, and the repetitions were recorded for transcription (Mainela-Arnold, in press). The data was phonetically transcribed from the recordings of the experimental session and scored using a consensus method. The children's performance was assessed by two listeners and completed first –pass transcription then their results were compared to a third listener. The percent of phonemes correct was calculated as the number of targeted phonemes guessed correctly divided by total number or target phonemes (Mainela-Arnold, in press).

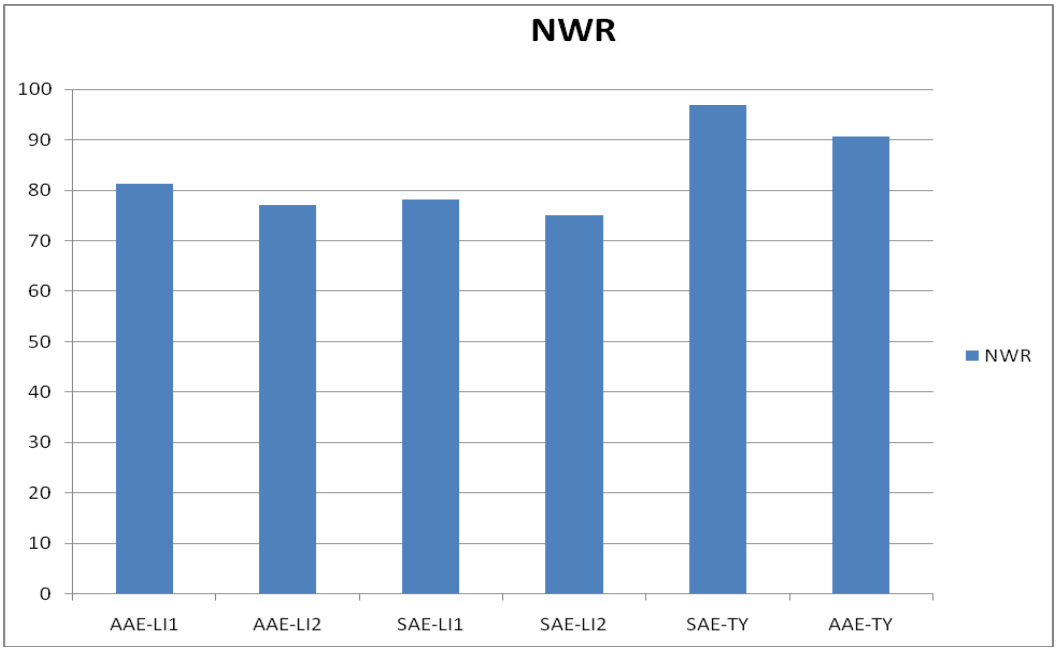
Results

In the current study, four experimental tasks – definition task, gating task, NWR, and CLPT – were given to examine what extent performance on them reflect language disorder and language difference.

The results of nonword repetition are displayed in Figure 1. Language impairment status had an impact on how many phonemes children were able to recall on the nonword repetition

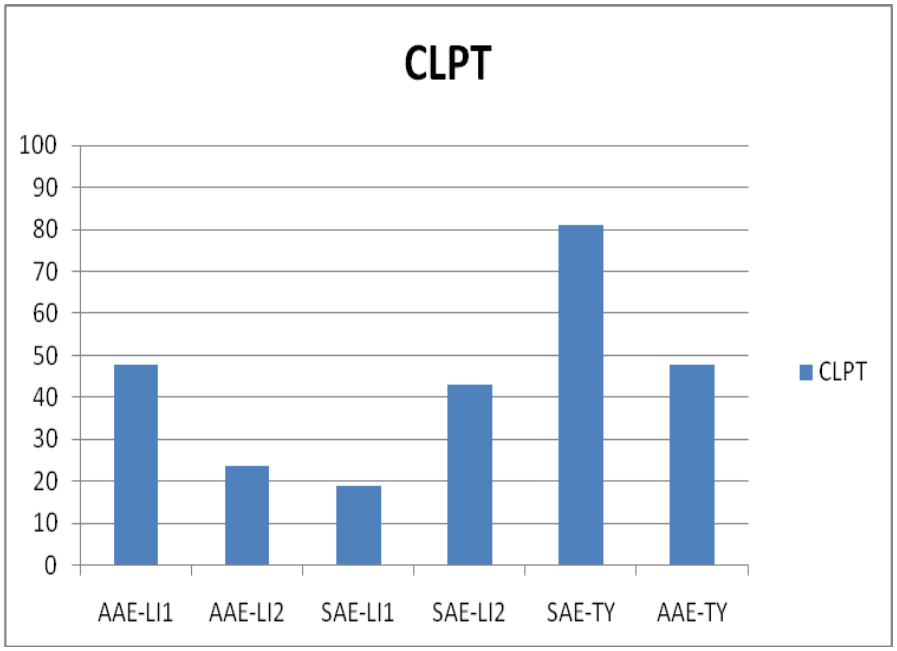
task. Children with typical development produced more phonemes correctly than children with language impairments. Dialect status did not affect the percent phonemes produced correctly. The AAE user with typical development produced as many phonemes correctly as the SAE user with typical development, and AAE users with language impairments produced as many phonemes correctly as the SAE users with language disorders.

Figure 1. Percent phonemes children repeated correctly on the nonword repetion task



The CLPT was given to measure participant's performance word memory task. The results of the CLPT are displayed in Figure. 2. Neither language impairment status, nor dialect status seemed to systematically account for how many words children recalled on the CLPT. An AAE user with typical language development recalled as many words as an AAE user and a SAE user with language impairments. The child who recalled most words and the child who recalled the fewest words were both SAE users.

Figure 2. Percent words children called on the CLPT Task.



The definition task findings are presented in Figure 3. In addition to the using the transcripts from the definition task for defining children's dialect use, children's word definitions were examined for the content that they conveyed. The content of children's word definitions did not systematically separate language disorder or language difference and the children with the highest and the lowest word definition scores were both SAE users. An AAE typical language participant is almost equal to the performance of an SAE language impaired participant. The SAE and AAE language impaired have similar results". The data shows no clear direction between the highs and lows.

Figure 3. Children's average semantic scores on the word defintion task.

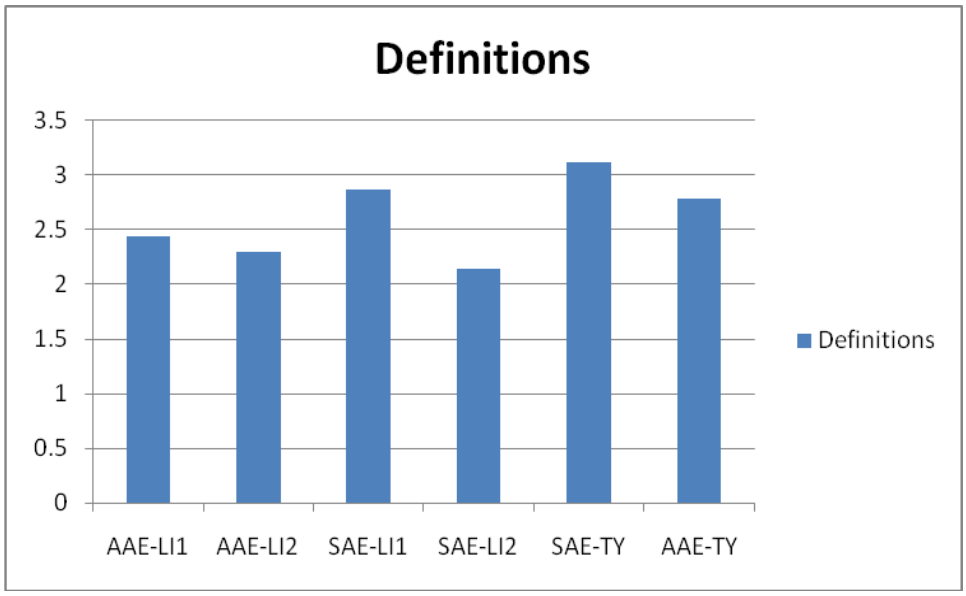


Figure 4 presents the points of first sound, i.e. the average gates at which children first produced a word beginning with the target sound during the gating task. "All children were quite proficient at perceiving the initial sounds. There is no difference between AAE and SAE users. It does no sepearate language impairemen from typically developing either. An AAE typical developing particpant is similar to a language. Figure 5 presents the point of isolation, i.e. the average gate at which children first produced the target word during the gating task. Figure 5 presents the point of isolation, i.e. the average gate at which children first produced the target word during the gating task. There appears to be only a slight difference between the particpants. There is no seperation between language diorder and typical language developing children. It does not display a difference betweeen of AAE or SAE. The results are similar for all participants. Children, regardless of langauge impairment and dialect status, identified the target words at equal time frames.

The point of acceptance, i.e. the average gates at which the children did not change their word guesses during subsequent longer gate durations during the gating task are displayed on Figure 6. In this gating task of acceptance dialect use does affect perfomance. The users of AAE seem to keep changing their word guesses at later gates when compared to the SAE users.

The language disorder stauts does not have an effect on this gating acceptance task. The SAE users with and without language impairments had similar points of acceptance and AAE users with and without language impairments had similar points of acceptance.

Figure 4. Children's average points of correct first sound on the gating task.

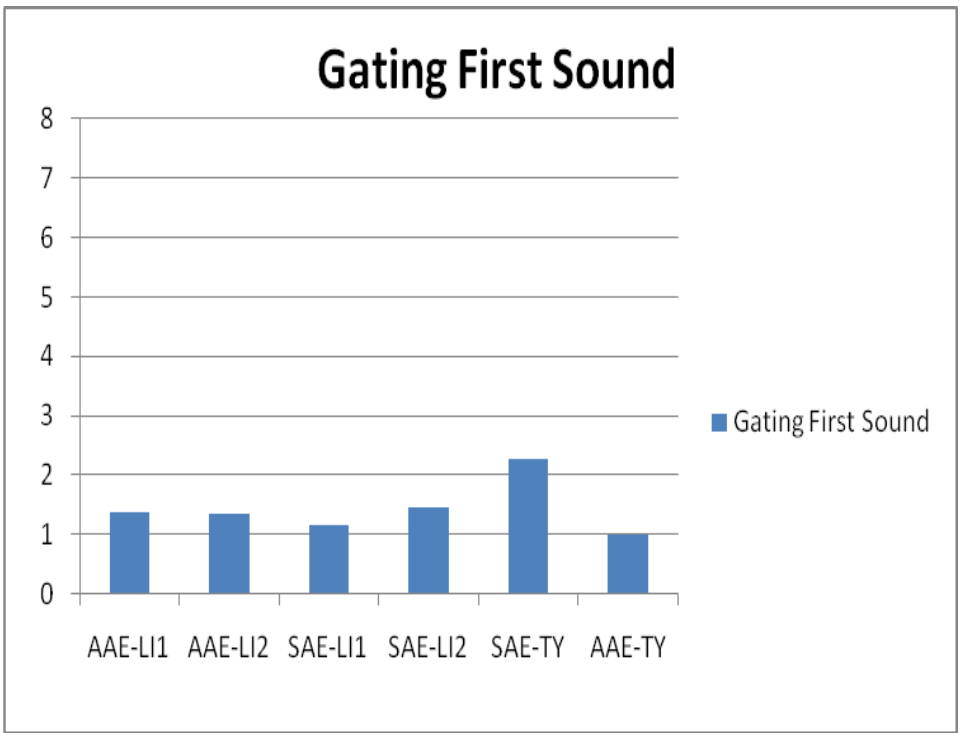


Figure 5. Children's average points of isolation on the gating task.

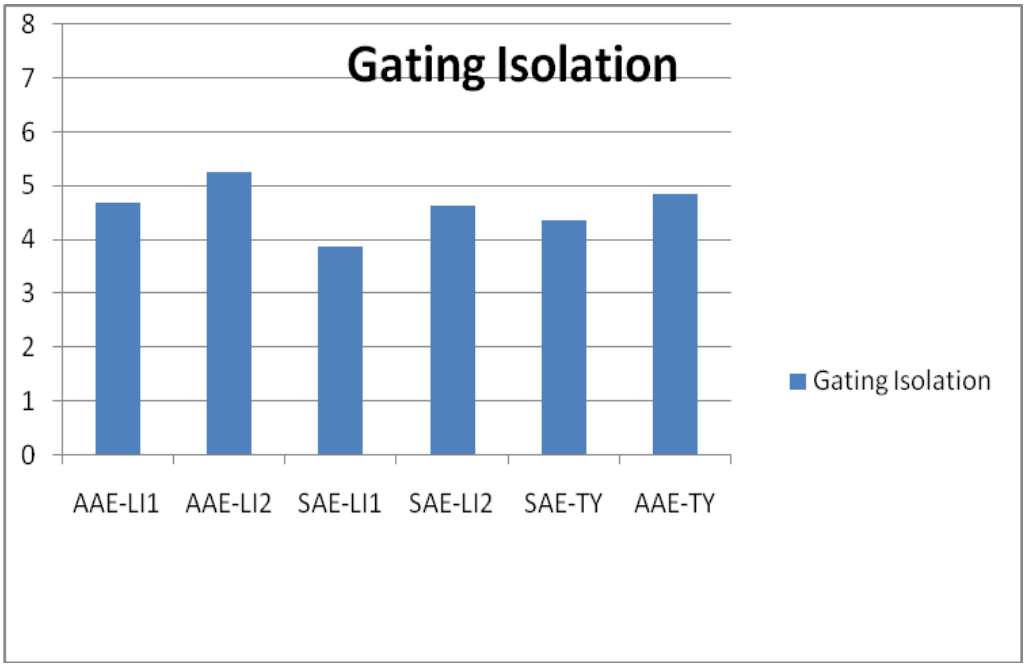
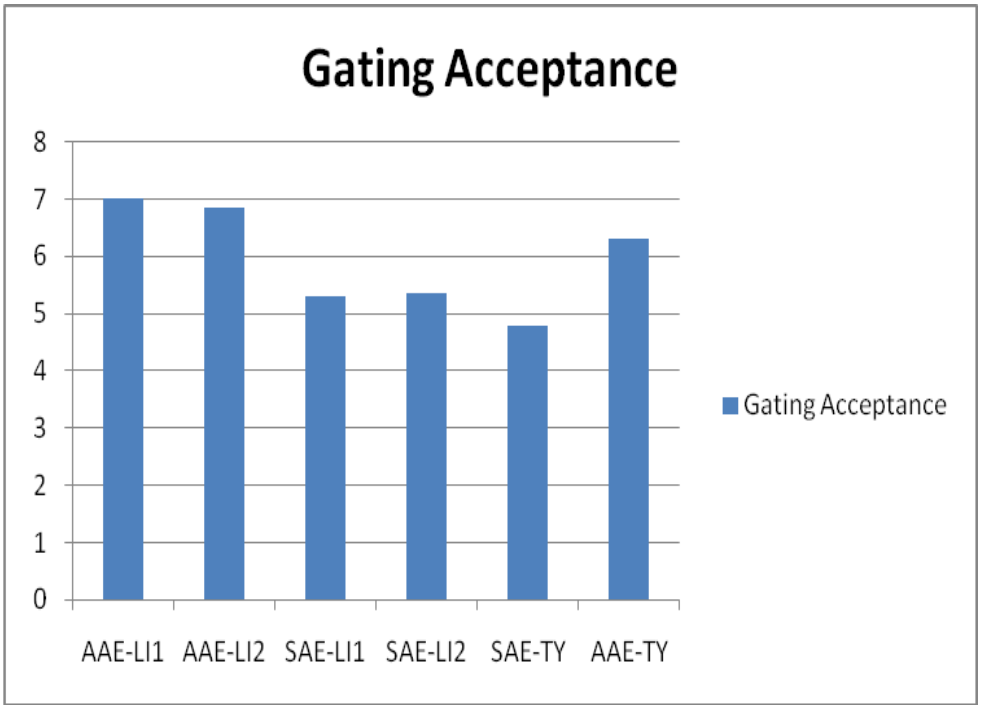


Figure 6. The children's average points of acceptance on the gating task.



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Conclusion

The current study examined to what extent language processing tasks reflects language difference or disorder. Nonword repetition task was a consistent indicator of language disorder. All children with language disorder produced fewer target phonemes than typically developing children. Dialect use did not seem to affect performance on the nonword repetition task. These results are in line with Dollaghan's (1998) study. Dolloghan (1998) posits, "A nonword repetition task that is carefully constructed not to have words that resemble words known to children seems to be a linguistically and culturally unbiased indicator of language disorder" (pg.1144). Rodekohr and Haynes (2001) also found in their studies of NWR that there was a difference between the normal language group and the language impaired group. The difference between language status participants and typically developing participants has various predictors. Language acquisition can be a factor since a characteristic of SLI is delayed language development. Their language development is begins normally, but then makes little progression and does not meet the developmental norms.

The NWR task is an unbiased assessment of language disorder. It accurately measured the phonology of SAE and AAE typically developing participants, and dialect was not a factor. The typically developing speakers had a similar performance on this task. The results agree with Dollaghan's (1998) argument that "processing dependent measures are better suited to identifying fundamental language processing deficits than typical language test, because they are less dependent on prior knowledge" (pg.1141). Dolloghan suggested cultural knowledge was not a factor, once the results from different ethnic groups were compared. The NWR is an unbiased tool that can be a good indicator of language disorder. Clinicians should use this measure when accessing culturally linguistically diverse children.

The CLPT was found to not be a reliable source of determining language disorder of language difference. In contrast, Arnold and Evans (2005) found that the SLI and the typically developing did not differ systematically. In the current study, there was one language-impaired participant who performed similar to typically developing participants. The data was not consistent, and no conclusion could be made. It was ambiguous, and neither language status nor dialect seemed to fully account for children's performance. The definition task was also found to not be accurately distinguished language difference or language disorder. The definition task did not present accurate results of separation from dialect. It displayed no clear separation between language impairment or dialect status. This show there is no clear separation from the language status or dialect.

Children's performance on the gating task seemed to be affected by dialect status, but not by language disorder status. All children, regardless of language disorder and dialect status, were quite proficient at initially activating target words in their lexicons. However, compared to SAE users, AAE dialect users seemed to vacillate between multiple word candidates when activating target words. One possible explanation is that it may be a lack of confidence, which makes the AAE users, vacillate between multiple word candidates. Alternatively, AAE users may be more distracted by competing lexical activations when compared to SAE users. AAE users may hinder their performance on this gating task due to their working memory when distracted. The children may have to rethink their initial guess because during the task. It is unclear at this point why this should be the case. However, the gating task had a clear testing bias towards AAE speakers. This task is not recommended to use in a clinical setting with

culturally and linguistically diverse. Future research on lexical access and activation should carefully consider what the linguistic and cognitive factors are contributing to cultural and dialectical differences in lexical access.

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Appendix A: Features of African American Dialect from the AAE Speakers

Features of African American English – AAE-LI	Standard American English Comparison
“teik a fork and /id/id/”	“Take a fork and eat it”
’’when /s^mbodi/tell on you , you didn’t do it”	“When someone tells on you and you did not do it”
“washing tv”	“watching tv”
“when you cuts some food up”	“When you cut food up”
/los/	/lost/
/wor/	/work/
/baf/	/bath/
/sumfin/	/something/
“/fIfin/ pole to get a /fif/”	“fishing pole to get a fish”
/sto/	/stove/
/animo/	/Animal/

Features of African American English AAE-L2	Standard American English
"/bein/ like a object"	"Being like an object"
/vike/	/Bike/
/kina/	"kind of"
"to get /klien/	"To get clean"
/putIn/	/Putting/
/helpIn/	/Helping/
/coutIn/	/Counting/
"/comin/ through your hair if it needs to be done.	Combing through your hair when it needs to get done.

Features of African American English AAE-TY	Standard American English
“blame /sumbdi/of doing something”	“To blame someone of doing something”
“do nothing stupid”	“Do not do anything stupid”
“ count how many stuff you have”	“Count how much stuff you have”
/baf/	/Bath/
/”fesh a fish/	“Fetch a fish”
/pickin/	/picking/
/playin/	/Playing/
“/comIn/ nappy”	“Combing nappy hair”