**Project Title:** Code-mixing rates and patterns in the spontaneous productions of Jamaican Creole and English-Speaking preschoolers: A pilot study

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**Project Description**

Current clinical and educational approaches to child language in the United States (U.S.) are largely based on the characteristics of monolingual English speakers (Fabiano Smith & Hoffman, 2018; Skahan et al., 2007). However, speech-language pathologists (SLPs) and teachers are increasingly being asked to make decisions about the need for treatment in children from culturally and linguistically diverse backgrounds, including bilingual children (McLeod et al., 2013; 2017). Without specific knowledge of bilingual speech-language profiles, a disproportionate number of bilingual children are under- or over-referred for treatment. Under-diagnosis puts bilingual children at risk for academic and career underachievement, while over-diagnosis, which occurs in up to 9% of cases, puts the child at risk for social stigma and has been associated with an average cost to the system of $10,000 per misdiagnosed child (Klinger & Artiles, 2003). Of particular concern is the prevalence of code-mixing (i.e., overlapping use of native and second languages) in bilingual populations (Paradis et al., 2011). Children’s use of code-mixing reflects communicative competence, is a naturally occurring phenomenon in bilingual development, and is influenced by contextual factors, but is often misidentified by monolingual SLPs and teachers as communication delay or impairment. The lack of clear and scientifically valid standards for bilingual populations is a significant contributor to educational and healthcare disparities in the U.S. population.

Although immigrants from Jamaica represent the third largest Caribbean-born group in the U.S. (~20%; US Census, 2015), there is little clinically-applicable information about developmental profiles for expressive language in this population. The Jamaican situation also represents a classic example of code-mixing in language use (i.e., between Jamaican Creole and English) in response to external and internal contextual factors in formal and informal
discourse contexts that complicates provision of services. Our long-term goal is to build a model of bilingual language acquisition and code-mixing using Jamaican Creole as a model system. A crucial first step is to characterize the developmental profile of Jamaican Creole and English code-mixing rates and patterns for expressive language in a sample of young typically developing Jamaican children. We will utilize a study protocol with feasibility of tasks established, as well as cross-sectional (sample size, n=60) and longitudinal (sample size, n=15) designs that inform developmental profiles across groups of children and over time in each language spoken.

In this WISE project, the scholar will learn about and employ approaches that analyze code-mixing rates and patterns. The scholar will use a corpus of existing data from a group of 4- to 5-year old bilingual children in the US and in Jamaica, so that their use of code-mixing is better understood. We will apply an existing Psycholinguistic framework, the Index of Productive Syntax (IPSyn; Scarborough, 1990), which has clinical utility in the Jamaican context (Washington et al., 2016; 2018) to characterize code-mixing rates and patterns in these children’s spontaneous productions. This information will be used to improve SLPs’ and teachers’ cultural competence. We will address the following hypotheses:

Main Hypothesis: Code-mixing is an expected pattern of language use in bilingual children that is predicted by personal and environmental factors unique to children.

Sub-hypothesis: Children speaking JC and English have predictable code-mixing rates and patterns influenced by age, nonverbal IQ, maternal education, %language input, and cultural context (U.S./Jamaica).

Impact
This exploratory study addresses a long-standing, unmet need to better understand code-mixing rates and patterns in bilingual children. A clearer scientific delineation of appropriate and inappropriate bilingual language development will enable SLPs and teachers to improve clinical and educational services for bilingual children. While providing systematic documentation of typical levels of code-mixing in bilingual development, we will also demonstrate that code-mixing may not only not be pathological, but may actually be beneficial in bilingual development. The chosen target population is under-served and also enhances the impact of our work by broadening our theoretical understanding of bilingualism, with specific implications for other cases of bilingualism in a creole language and its lexifier, as well as bidialectal development (e.g., Standard English and African American English). Our hypotheses are designed to provide information that is specifically useful for SLPs and teachers working with Jamaican Creole-speaking children, but that is also applicable to the larger bilingual population.

Project Elements for WISE scholar:
- Complete IRB procedures to be added to the already approved study protocol
• Complete training sessions, including a reading list, on the Jamaican language and culture, (e.g., Writing Jamaican the Jamaican Way; Jamaican Language Unit, 2009)
• Complete readings on bilingual language development, code-mixing, and the IPSyn framework
• Complete an introduction to cultural and linguistic diversity using the Multilingual Children’s Speech Website, http://www.csu.edu.au/research/multilingual-speech, as well as training on working with children speaking more than one language, http://www.leadersproject.org/ceu-courses/grammar-fundamentals-for-a-pluralistic-society/
• Complete a training session with establishing inter- and intra-rater reliability and reviewing statistical analyses such as the Kappa Statistic
• Organize and enter relevant child and parent data
• Complete language transcripts in each language spoken
• Complete code-mixing analyses
• Support dissemination activities (e.g., ASHA 2018 Convention, manuscript preparation)

Background Characteristics of WISE scholar:
• Communication Sciences and Disorders background
• CITI training completed (-can be completed during the first few weeks of the program)

Reference List:


member of this consortium of researchers.


