

impact of discrimination within a group of Latinx adults. The described relationship between discrimination and language performance in this cohort may be confounded by the language in which cognitive tests were administered. Future studies should consider how discrimination measures may be limited in their ability to accurately capture the experiences of US-born and immigrant Latinx groups and expand the measurement of cognition to additional domains.

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6 Code-switching, Language Attitudes, and Executive Function in Latinx Bilinguals

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Objective: Code-switching is when bilingual individuals alternate between two languages in the same conversation. Some studies find that code-switching frequency is associated with executive functioning, while others do not. Individual attitudes towards bilingual language use and code-switching may explain the inconsistency in the literature. For instance, greater positive attitudes towards code-switching may be associated with more likelihood to engage in that practice and thus strengthen the cognitive benefit in executive function. Additionally, code-switching between English and Spanish has been stigmatized in the U.S., therefore it is unclear what sociocultural factors may predict positive attitudes. In this study, we assessed Latinx bilinguals' attitudes on code-switching and investigated their relationship with code-switching frequency, sociodemographic and linguistic factors, and executive functioning.

Participants and Methods: Participants were 525 community-dwelling English-Spanish bilingual Latinx adults from the Offspring study (Mage= 55.38 (10.42); Mededucation= 12.62 (3.34); 71% women; 41% tested in English, 75% immigrant). A language history questionnaire assessed for bilingualism and code-switching frequency. Participants completed 7 questions on code-switching attitudes on a 7-point Likert scale ranging from Strongly Disagree to Strongly Agree (e.g., "switching between languages in a conversation is an important part of my identity"), that were summed for a total score with higher scores indicating more positive attitudes. Executive functioning was assessed with the NIH Toolbox Cognition battery, verbal fluencies, and the digit span test.

Sociodemographic and linguistic factors included age, sex, education, immigrant status, parental years of education, English and Spanish proficiency (average score on self-reported ratings on speaking, reading, writing, and understanding), and testing language. General linear models evaluated the association of code-switching attitudes on executive function, after adjusting for relevant covariates.

Results: Positive code-switching attitudes were correlated with greater code-switching, $r(499)=.33$, $p<.001$. Younger age $r(499)=-.11$, being born in the US $t(493)=-2.05$, greater English proficiency $r(497)=.15$, and English dominance $t(499)=2.22$, were associated with more positive code-switching attitudes (all p 's $<.05$). Sex, education, parental years of education, and Spanish proficiency were not associated with code-switching attitudes. Overall models of attitudes with executive function indicated that positive code-switching attitudes were associated with worse visual working memory ($b = -0.08$, $t(169) = -2.75$, 95% CI [-0.14, -0.02]) after adjusting for age, sex, education, immigration status, parental years of education and testing language. Code-switching attitudes were not significantly associated with other executive function measures.

Conclusions: Among a community-based sample of bilingual middle-aged Latinx adults, positive attitudes towards code-switching were associated with greater likelihood of code-switching in conversations, higher English proficiency, being US born, younger age, and English language dominance but negatively associated with visual working memory. These findings indicate that code-switching attitudes are influenced by sociodemographic and linguistic factors. Additionally, the negative

association between code-switching attitudes and visual working memory provides support for previous studies showing code-switching as a disadvantage to cognition. Results of this study suggest that detailed characterization of sociocultural factors and aspects of bilingualism can provide further clarity in determining if there is a potential bilingual cognitive advantage. Future research should examine the relationship of code-switching with other aspects of bilingualism (e.g., age of acquisition).

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7 A Comparison of Performance of Educationally Disadvantaged Non-English-Speaking Participants on a Category Verbal Fluency Test using English or the First Language

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Objective: South Africa has a multi-lingual population where fewer than 10% of the population speak English as a first language. This poses a challenge regarding language usage for a verbal fluency task. This study investigated the difference in number of words produced by independent groups of non-English examinees required to produce words in English, or in their first language, on a category verbal fluency task.

Participants and Methods: A study on South African non-English first language participants was conducted using the Category Verbal Fluency test (animals) for a sample of nonclinical adults ($N = 264$) aged 18-60 years with 8-12 years of disadvantaged (poorly resourced) quality of education. Participants either had an African indigenous first language, or Afrikaans (a Dutch derivative) as a first language. The data were derived from one group of either African indigenous or Afrikaans first language participants who were required to use English for word production (Group A

English) ($n = 159$; African indigenous $n = 135$; Afrikaans $n = 24$) and another group of participants who were required to use their first language (Group B First Language) ($n = 105$; African indigenous $n = 83$; Afrikaans $n = 22$). The comparative data were stratified for age ranges 18-20, 21-30, 31-40, 41-50 and 51-60 years. Level of education was broadly equivalent across the comparative groups. T-test analyses compared the number of words produced between the English versus indigenous African groups, and English versus Afrikaans first language groups for each age category.

Results: The comparison for the indigenous African first language participants, revealed no significant differences in word production for words produced in English or first language regardless of age. In the comparison for the Afrikaans first language participants there was a highly consistent tendency for better word production in Afrikaans than in English. These results indicate that socio-cultural factors may be influential for English language proficiency on a verbal fluency task, rather than the effect of first language usage "per se".

Conclusions: Since the dismantling of the Apartheid system in South Africa thirty years ago, English has become the main language used in government and business and is the preferred language of tuition in schools for those speaking English or an African indigenous language, whereas during the Apartheid era, two official languages were used for government, business, and schooling (Afrikaans and English). Currently, many Afrikaans speaking individuals continue to have Afrikaans as the preferred primary language of tuition in the schools and it persists as the preferred language for use in many Afrikaans dominated business arenas. This study attests to a high level of English fluency amongst those South Africans with an indigenous African first language, who clearly are as fluent in word production using English as they are when using their first language, in contrast to the indications for Afrikaans speaking individuals. Practitioners need to be alert to sociocultural factors that can impact on the optimal use of language in test situations, which may not necessarily be the first language.

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Keyword 3: assessment