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Nicole Russo
Cleveland State University

Jamie Rodman
Cleveland State University

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Effects of Flanking Bigrams on Decision Performance in Selective and Divided Attention Tasks

College of Sciences and Health Professions

Student Researchers: Nicole Russo and Jamie Rodman

Faculty Advisor: Albert F. Smith

Abstract

In previous research, lexical decision performance for word targets flanked by pairs of letters was better when flankers consisted of letters in the target (e.g., BI BIRD RD; RD BIRD BI; IB BIRD DR; DR BIRD IB) than of non-target letters (e.g., CE BIRD NT). Also, performance was better when flankers contained letters ordered as in the target (e.g., BI BIRD RD; RD BIRD BI) than switched (e.g., IB BIRD DR; DR BIRD IB), but flanker order relative to the target did not affect performance. That flankers affect lexical decision performance indicates that participants do not attend selectively to the target. We sought to replicate and extend these findings and also examined performance in a comparison experiment that required attention to the flankers: Participants indicated whether the flanker letters were the same as (e.g., BI BIRD RD; NE BUNE BU) or different from (e.g., CE BIRD NT; CA BUNE RF) those in the target. We found no systematic effects of flankers on “word” responses in the lexical decision experiment. In the comparison experiment, for “same” responses, we found performance differences among flanker conditions. Further, although lexicality was irrelevant, we found directionally different effects of lexicality on “same” and “different” responses.