

How Background Color Influences Multi-symbol Constructions in Adults



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Background

Why this matters

Children who do not develop functional speech need other means to communicate. Augmentative and alternative communication (AAC) offers these children a tool to get their needs met. One common approach to AAC is to display a variety of pictures in an array. The child then points to the picture that represents the concept she or he wishes to convey. SLPs frequently color code the background of symbols (Thistle & Wilkinson, 2015). One rationale for color coding the background of symbols was to support adult communication partners' use of aided language modeling. When providing an aided language model, the communication partner points to the symbols that correspond to the spoken input, providing both spoken and visual input and modeling the use of AAC.



Image courtesy of www.classinc.net

Research Question

Despite recognition of the value of aided language modeling, communication partners rarely provide such models (Barker et al., 2013). Perhaps background color can be used as a support to make an unfamiliar display more visually organized for the communication partner, thus increasing the use of aided language modeling. This research explored the effect of background color cueing on the speed with which adults selected 3 symbols in an array.

Contact & Disclosures

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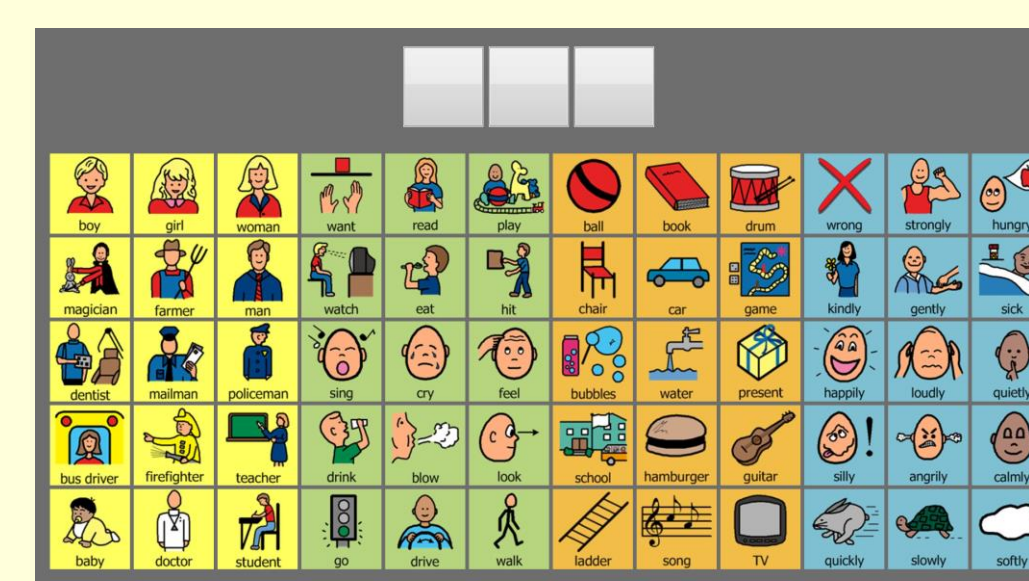
No financial or non-financial relationships to disclose.

Method

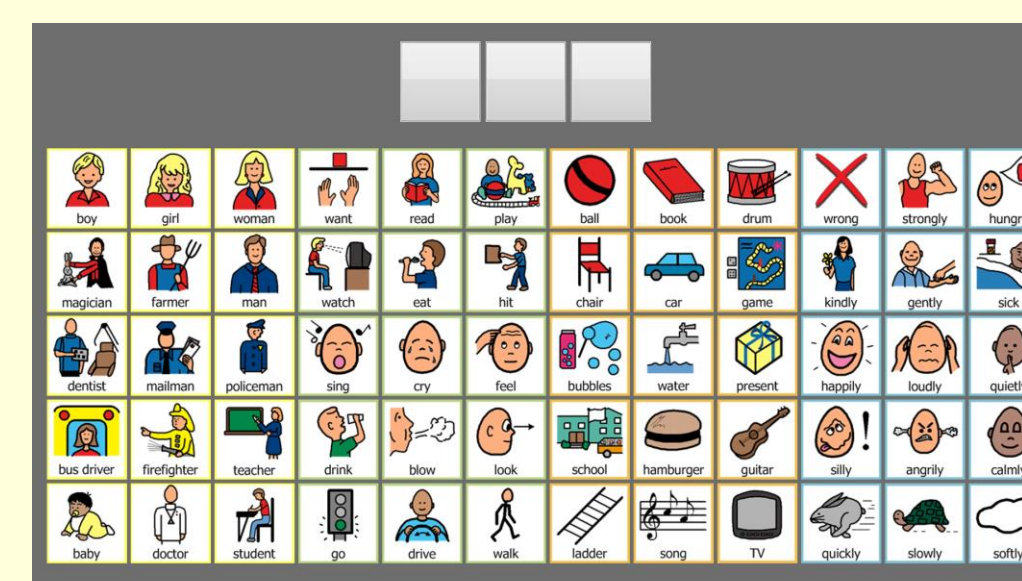
Participants:

- N=30, 10 in each condition
- No uncorrected vision impairments
- Ages 18-24

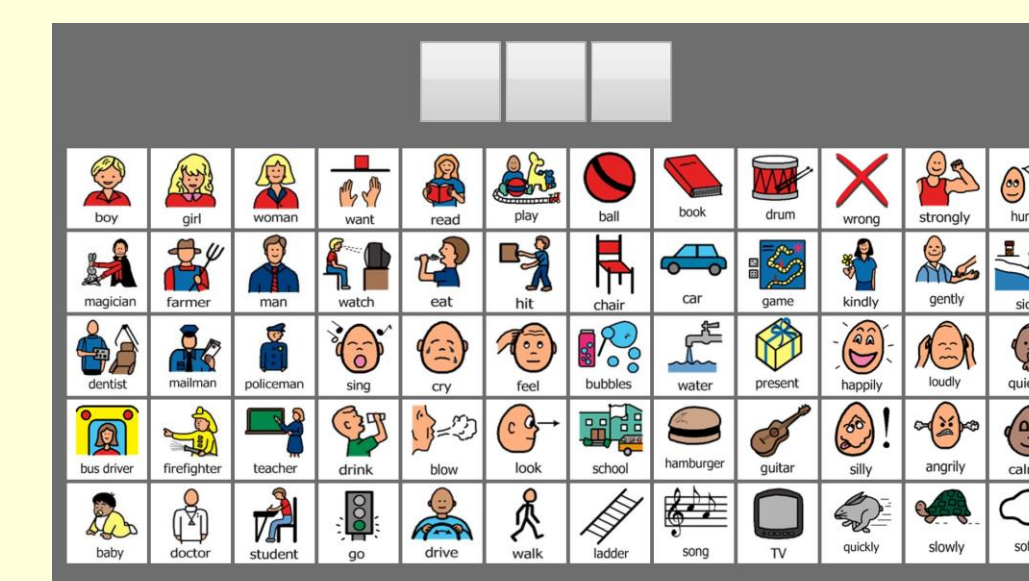
Conditions:



Color



Border

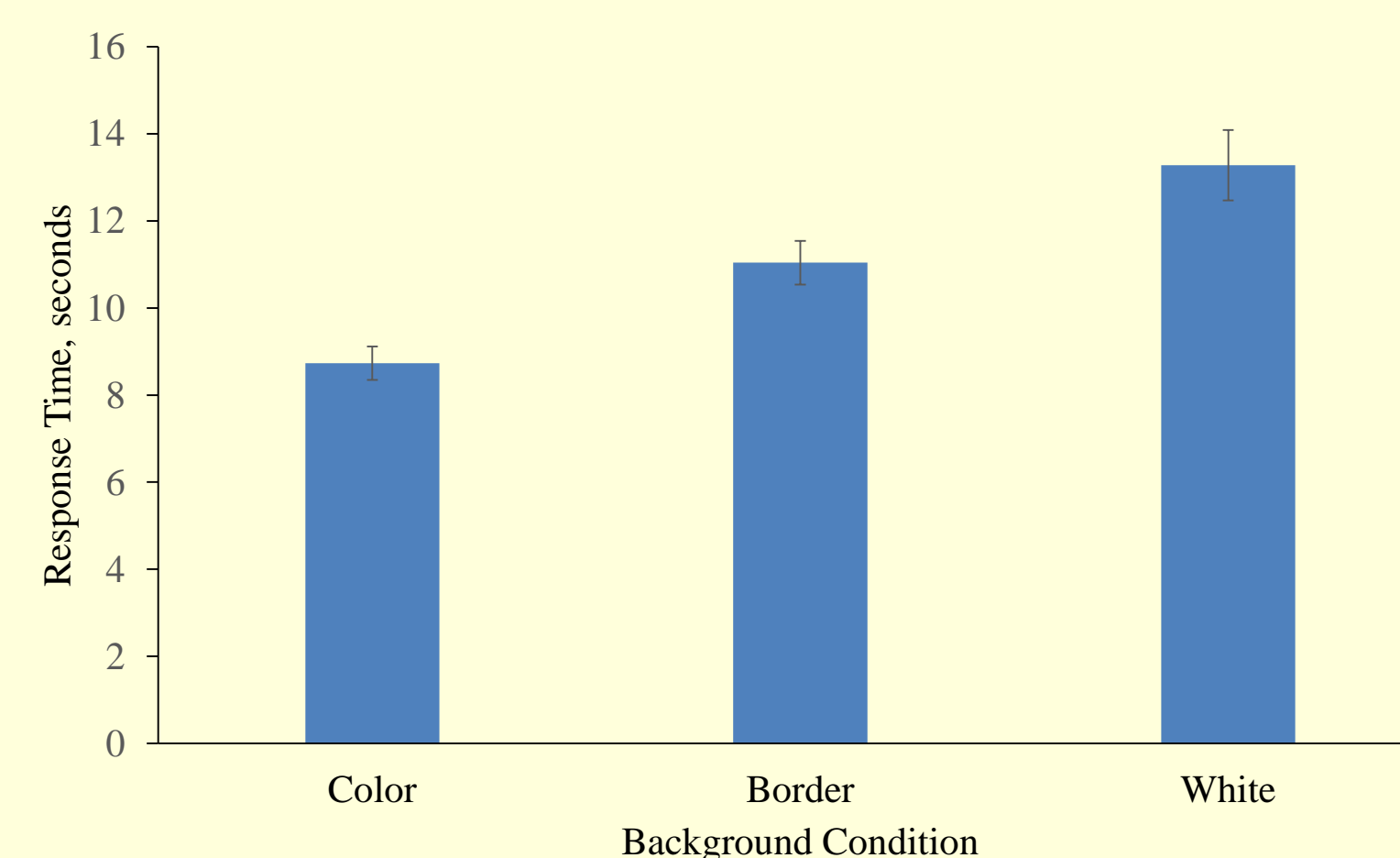


White

Results

Participants were faster locating and sequencing the symbols under the color condition than either border ($p = .009$) or white conditions ($p < .001$).

Participants were faster location and sequencing symbols under the border condition than the white condition ($p = .05$).



Implications

Conclusions

- Background color provided an advantage for participants
- Border color also resulted in faster response times
- Adult communication partners may benefit from color coding highlighting the parts of speech of symbols.

Clinical Implications

Previous research suggests some caution is warranted. As an implicit cue, background color results in slower reaction times in many children (Thistle & Wilkinson, 2009, 2014; Wilkinson & Coombs, 2010). Careful consideration of the benefits and trade-offs of including background color must be made. If a child's learning is not negatively influenced by the presence of background color, it may be useful to utilize this feature to aid the communication partner.

Future Directions

Previous research has highlighted individual variability (Thistle & Wilkinson, 2009; 2014). Such variability suggests a need for an assessment tool that identifies conditions for optimal responding. In order for an SLP to design a display that is best suited for a specific child, the SLP needs to identify what pattern of response that child demonstrates.

References

- Barker, R. M., Akaba, S., Brady, N. C., & Thiemann-Bourque, K. (2013). Support for AAC use in preschool, and growth in language skills, for young children with developmental disabilities. *Augmentative and Alternative Communication*, 29, 334–346
- Thistle, J. J., & Wilkinson, K. M. (2009). The effects of color cues on typically developing preschoolers' speed of locating a target line drawing: Implications for augmentative and alternative communication display design. *American Journal of Speech-Language Pathology*, 18, 231–240.
- Thistle, J.J., & Wilkinson, K. M. (2014). Effects of symbol arrangement and background color on typically developing young children's speed and accuracy constructing simple sentences. *Unpublished dissertation*.
- Thistle, J. J., & Wilkinson, K. M. (2015). Building evidence-based practice in AAC display design for young children: Current practices and future directions. *Augmentative and Alternative Communication*, 31, 124-136.
- Wilkinson, K. M., & Coombs, B. (2010). Preliminary exploration of the effect of background color on the speed and accuracy of search for an aided symbol target by typically developing preschoolers. *Early Childhood Services*, 4, 171–183.