Introduction
• Adults seem to privilege original function when conceptualizing artifacts, a “design stance”\(^1\),\(^2\)
• By 6-7, children start to develop these subtle intuitions about artifact history\(^3\)
• But, unclear how this occurs. Potentially language?
• Languages tend to extend word meanings based on function (hammer with a hammer, whisk with a whisk)
• Three experiments assessed how function affects the interpretation of polysemous labels and how polysemous labels affect judgments about function

Materials and methods
• Exp. 1 (98 4-year-olds, 36 adults) | Exp. 2 (word extension (polysemy) cond. 82 4 y.o., 36 adult; mutual exclusivity (contrast) cond. 93 4 y.o, 36 adult) | Exp. 3 (81 4 y.o, 36 adult)
• Three practice trials with common items. Five unique trials.
1. Learn about novel object
2. Learn original function
3. Learn current use
4. Provide a judgment

Exp. 1: Design stance replication: Is there an original function preference?
• Unlike previous studies\(^2\), original function was conventional
• A long time ago, people made mefs for pulling yarn.
• Now, everyone/Tina uses mefs for holding trumpets.
• Is the mef really for pulling yarn or holding trumpets?

Exp. 2: Choose this, not that: How is artifact-function polysemy understood?
• Word extension (WE) or mutual exclusivity (ME) task
• A long time ago, people made mefs for pulling yarn.
• Now, everyone/Tina uses mefs for holding trumpets.
• One picture is meffing and one is zotting. Touch meffing, don’t touch zotting!

Exp. 3: Language & design stance: Does polysemy shape function judgment?
• Conventional only. X axis indicates which function took polysemous label.
• A long time ago, people made mefs for pulling yarn and they call this meffing/zotting.
• Now, everyone uses mefs for holding trumpets and they call this zotting/meffing.
• Is the mef really for pulling yarn or holding trumpets?

Conclusions
• Replicated previous findings that adults (but not 4-year-old children) show design stance
• 4-year-olds expect artifact-function polysemy to correspond to original, designed function
• Polysemy might help to develop design stance
• Studies provide insight into relationship between artifacts, functions, and potential role of polysemy over development

Literature cited

Acknowledgments
This research is supported in part by a grant from the National Science Foundation and the University of California, Berkeley. We wish to thank Catherine Beres, Grace Horton, and all our other research assistants for help with data collection.