

Early Engineering Identity: Examining Competence, Interest, and Affect

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Abstract

Early childhood beliefs play a crucial role in shaping engineering engagement. This study examines how engineering competence and interest vary across gender, race/ethnicity, and age among children aged 5–12 (n= 16; data collection ongoing), exploring the relationship between identity-related beliefs and task performance in a hands-on science museum. Participants were assessed on engineering-related perceived competence and interests, and parent's beliefs. Measures were correlated with persistence and effectiveness in an engineering activity (build a tinfoil boat) linked to problem-solving/creativity. Preliminary results suggest that boys and girls did not differ significantly in engineering perceived competence or interest. Girls were able to support twice as many marbles (25) in their created boat than were boys (12). Age weakly positively correlated with task performance. Our findings show no major gender differences in interest or perceived competence at these young ages, and could inform strategies to enhance STEM engagement among diverse learners.