Can Designing Self-Representations through Creative Computing Promote an Incremental View of Intelligence and Enhance Creativity among At-Risk Youth?

# Details

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## Sample

The participants were 117 youths from central Israel, 62 (53%) of whom were male. All of the participants were high school teenagers (Range: 14-17, Average: 14.98, SD: 0.73, Median and Mode: 15, Skewness: 0.232). Among the participants, 61 (52%) were at-risk youth who had dropped out of the education system

## Implications For Policy Makers About

Stepping up awareness and empowerment

# Abstract

Creative computing is one of the rapidly growing educational trends around the world. Previous studies have shown that creative computing can empower disadvantaged children and youth. At-risk youth tend to hold a negative view of self and perceive their abilities as inferior compared to “normative” pupils. The Implicit Theories of Intelligence approach (ITI; Dweck, 1999, 2008) suggests a way of changing beliefs regarding one’s abilities. This paper reports findings from an experiment that explores the impact of a short intervention among at-risk youth and “normative” high-school students on (1) changing ITI from being perceived as fixed (entity view of intelligence) to more flexible (incremental view of intelligence) and (2) the quality of digital self-representations programmed though a creative computing app. The participants were 117 Israeli youth aged 14-17, half of whom were at-risk youth. The participants were randomly assigned to the experimental and control conditions. The experimental group watched a video of a lecture regarding brain plasticity that emphasized flexibility and the potential of human intelligence to be cultivated. The control group watched a neutral lecture about brain-functioning and creativity. Following the intervention, all of the participants watched screencasts of basic training for the Scratch programming app, designed artifacts that digitally represented themselves five years later and reported their ITI. The results showed more incremental ITI in the experimental group compared to the control group and among normative students compared to at-risk youth. In contrast to the research hypothesis, the Scratch projects of the at-risk youth, especially in the experimental condition, were rated by neutral judges as being more creative, more aesthetically designed, and more clearly conveying their message. The results suggest that creative computing combined with the ITI intervention is a way of developing creativity, especially among at-risk youth. Increasing the number of youths who hold incremental views of intelligence and developing computational thinking may contribute to their empowerment and well-being, improve learning and promote creativity.

# Outcome

The study (Blau Benolol, 2016) indicated that short and quite simple training can change Implicit Theories of Intelligence: youth can perceive intelligence as less fixed and more changeable and are able to evolve. As for creative computing, the findings showed a consistent advantage of at-risk youth over normative students. Namely, they were able to convey the idea for their digital self-representations more clearly and to create Scratch projects that were rated by a rater, who was unaware of the research hypotheses, as more creative and aesthetic