

**BAR-ILAN UNIVERSITY**

**The Relation between Executive Functions  
and the Understanding of Emotions in  
Preschool Children**

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## Summary

The understanding of emotions, including mixed emotions, has a crucial role in children's development, as it helps children to explore and understand the social world that surrounds them. It is therefore important to identify the developmental factors that contribute. The aim of the current study was to understand the association between the understanding of basic and mixed emotions and Executive Function (EF).

The first research question was about the association between EF and the understanding of simple and mixed emotions. Simple and mixed emotion understanding was evaluated using pictorial cartoon illustrations and verbal scenario descriptions. The second research question was about the association between EF and the expression of simple and mixed emotions in drawings. For this question, children indicated the emotions expressed in the scenarios by free drawings.

The study involved 90 typically developing, kindergarten children (46 boys and 44 girls), between the ages of 4 – 6 years. In order to verify the visual stimuli, 25 young adults (12 men and 13 women) participated. Working memory and self-regulation were assessed as part of EF. Children responded to a forced-choice identification task of basic and mixed emotions using cartoon facial expressions as part of the test for emotions understanding. Additionally, scenarios describing simple and mixed emotions were presented to the children. Children responded to the scenarios verbally and through the use of drawings. All the children were tested individually in a private room by the experimenter in their kindergarten or class. Adults were individually tested in the afternoon hours.

The analysis took into account EF beyond previously presented tasks. The results of the study showed that EF contributed to the understanding of basic emotions

in the force choice task, as well as in the verbal and drawing responses to the scenarios. As for mixed emotions, EF contributed only to the identification of mixed

Emotions in the forced choice task, but did not contribute further to the verbal and-drawing responses to the scenarios. Contributing factors to the verbal and drawn responses were identification of simple cartoon facial expressions and drawing of simple emotional expressions.

The implications of this study are to recommend that kindergarten teachers employ various age-appropriate methods (including drawings and illustrational cartoons) when teaching children about emotions.