The Development of Preschoolers' Theory of Mind and Emotion Understanding

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Abstract

Children's understanding of emotions, even those at the basic level, are often discussed as if they belonged to a homogenous category, when in fact, emotions can be divided into two groups: those that require an understanding of others' desires (eg. happy, sad) and those that require an understanding of others' beliefs (sad, surprised). In the study presented, we assessed children's level of belief-desire understanding using Wellman and Liu's (2004) Theory of Mind Scale, and examine how the development of Theory of Mind Scale corresponds to children's understanding of belief vs. desire-based emotion categories.

Introduction

Within the developmental literature, basic level emotions are often discussed as a homogeneous group, with the results gleaned from the examination of children's understanding of a few emotions (usually happy and sad) and then applied to children's understanding of emotions as a whole (Moses et al. 2001). Emotions can be divided up into those that require an understanding of desire (happy, sad, angry) and those that require an understanding of belief (scared, surprised).

Children understand desires before they understand beliefs, this concept should apply to their understanding of desire and belief-based emotional facial expressions.

Study Overview

This study looks at the connection between children's performance on Theory of Mind tasks, using Wellman & Liu's (2004) Theory of Mind Scale) and their selection of the target label for desire- and belief-based emotional facial expressions.

Results and Discussion

Facial Expression Task.

Only one child selected the target label for both disgust facial expressions, so disgust was omitted from further analysis. Children's performance labeling desire-based emotions, sadness, anger, and belief-based (fear, surprise) emotions was then calculated (Table 2).

Table 1. Children's Labeling of Desire- and Belief-Based Emotions

<table>
<thead>
<tr>
<th>Emotion</th>
<th>Desire-Based</th>
<th>Belief-Based</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happy</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Sad</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Angry</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Fear</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>Surprise</td>
<td>*</td>
<td></td>
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</tbody>
</table>

Theory of Mind Tasks.

An unexpected consequence of converting the Explicit False belief task from one told using a colored illustration to one using toy props was that the new version of the task was easier for children than the Contents False Belief task.

- Thirteen children (30 % of the sample) passed only one of the two false belief tasks. Eleven of these children (84%) passed the Explicit FB task and failed the Contents FB task, while only 2 children showed the opposite pattern (Figure 1).
- Given that children overwhelmingly found the Explicit FB task easier, we altered the order of tasks on our scale to reflect this (Table 1).

Procedure and Scoring

Facial Expression Tasks. The first set of photographs was followed by the second set. Children were asked "How does she feel in this picture?" To be credited with passing a specific emotion, children had to select the target label (or a close synonym) for the facial expression in both sets of photographs.

Theory of Mind Tasks. For each task, the experimenter told a story about the protagonist (Table 1), and then asked the child a series of questions related to the story. In order to pass the task, children had to accurately respond to all questions related to the task (Table 1). Children's scores on individual tasks were then ordinalized from easiest to most difficult, according to the Theory of Mind scale (Table 1), and they were given a Theory of Mind score based on the number of tasks in a row they passed.

Transitional Response Patterns

The 20 children who showed a transitional pattern of responses for the Explicit False Belief task were more evenly divided. Twelve (.60) of the children passed the False Belief task and failed to label the surprise faces as surprised, while 8 (.40) showed the opposite pattern (Figure 2).

Children's performance on the Theory of Mind Scale predicted their performance labeling belief-based emotions, but not desire-based emotions.

Conclusions

- It is possible that labeling fearful facial expressions requires a cognitive skill not examined in this study.
- Another plausible explanation is that the fearful facial expression is a weak cue for children (Russell & Widen, 2002; Widen & Russell, 2004). Supporting this idea is the fact that less than 23% of our sample (N=10) was able to label the fearful facial expression.

- A relationship does exist between belief-based emotion labeling and Theory of Mind performance, irrespective of the child's age.
- Children found the false belief tasks easier than labeling surprise or fear, suggesting that children acquire an understanding of false belief before they are able to label belief-based emotions.
- The acquisition of false belief allowed children to label surprise but not fear.
- Children do not inherently understand belief-based emotional facial expressions, but rather, must pass specific cognitive milestones first.

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