How Adults’ Perceptions of Children are Affected by the Label “Prenatally Exposed to Cocaine” and the Number of Trials Presented

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Abstract
Past research has shown that labels can influence adults’ perceptions and expectations of children, leading to evaluations of the labeled children that are in some cases more positive and in some cases more negative. This experiment investigated the effect of the label prenatally exposed to cocaine on adults’ perceptions of children performing a standard cognitive task. Eight video clips of children performing the task either once or 3 times were shown to the participants, half of whom had been told that the children were prenatally exposed to cocaine. The participants rated the children’s cognitive ability and performance. No significant interactions were found, but main effects indicated that participants generally rated non-labeled children more positively than labeled children. Participants also gave higher ratings to children whom they saw perform the task once than to children they saw perform the task 3 times. These results support findings that labels exert significant effects upon adults’ perceptions but raise questions regarding the nature of those perceptions.
How Adults’ Perceptions of Children are Affected by the Label Prenatally Exposed to Cocaine and the Number of Trials Presented

Social perception constructs are a defining component of all interpersonal interaction, yet they are often overlooked in daily life because they function below conscious awareness. People view such concepts as gender and race as concrete characteristics, but in doing so, they fail to understand that all social perceptions are built upon layers of stereotypes, expectations, preconceptions, and prejudices that are often “taught” to children from birth. Thus, social perceptions necessitate study not just for their intrinsic complexities, but also for their practical impact upon behavior.

Stern and Karraker (1989) observe that social perception constructs, specifically gender role socialization, create a self-fulfilling prophecy process. Pre-conceived gender-role expectations may lead parents to treat their child in a specific way, eliciting expected behavior from the infant; such behavior then confirms the parents’ expectations and leads them to reinforce gender-stereotyped behavior. For example, parents may give their daughter a doll as opposed to a truck to play with because she is a girl; when their daughter plays with the doll, they interpret the child’s enjoyment as female-appropriate behavior and will continue to surround the child with “female-appropriate toys,” thus effectively locking the child into a socially-determined and stereotyped role as a girl.

Stern and Karraker (1989) conducted a meta-analysis of 23 studies in which neutrally-clothed infants were labeled as either male or female in varying conditions. Sixteen of the 23 studies, or 69.56%, reported at least one gender label effect. Studies that employed ratings scales of gender characteristics showed that labeled boys were consistently rated as bigger, stronger,
How Adults’ behavior found significant gender label main effects in 50% of the studies that involved toy choice. These studies asked an adult participant to choose a toy for the child to play with; adults chose gender-stereotypic toys (ex: boy = truck) a significant amount of the time. Overall, Stern and Karraker (1989) found that gender labels exert a stronger influence over adults’ conceptions of how the infant should behave as opposed to their perceptions of the infant’s characteristics.

The results of Stern and Karraker (1989) raise disturbing possibilities. Gender is generally a neutral characteristic, lacking particular affect, either positive or negative. However, gender perceptions exerted a strong influence over adults’ expectations of infant behavior, leading the adults to stimulate the infants into behaving according to those gender roles, constructs which are often based more in stereotype than in genetically-determined differences. To what degree, then, would a perception construct of negative affect influence individual behavior?

Bromfield, Weisz, and Messer (1986) pursue this question by examining the effects of stigmatizing labels upon interpersonal perception and expectation. Specifically, Bromfield et al. (1986) studied the label “mentally retarded.” Using a sample of students from grades 3, 6, and 9 broken up into groups, they presented their participants with a video of a young girl, Tammy, performing a block design task. All of the groups were given a description of the task and an evaluation of Tammy’s skill level. However, half of the groups were told that Tammy was mentally retarded, while half were given no other information. All groups watched Tammy fail the block design task and were then asked to determine whether her failure was due to insufficient effort, bad luck, insufficient ability, and/or task difficulty. Bromfield et al. (1986) found that the groups with whom Tammy had been labeled mentally retarded rated her effort as
higher, her ability as higher, and attributed less need to keep trying than did the groups with whom Tammy had received no label. In other words, the groups who perceived Tammy as being mentally retarded judged Tammy’s performance far more leniently and accepted her failure even though they had been informed that she possessed a specific skill level. These results supported the hypothesis of Bromfield et al. (1986) that people hold lower expectations for children labeled as mentally retarded; thus, they expect less from these children and give them less encouragement to persist in the face of failure. This, of course, creates a spiral in which the children’s performance will decline because they are never expected to improve.

Thurman, Brobeil, Ducette, and Hurt (1994) have furthered the research on stigmatizing labels. They examined the degree to which teachers and caregivers hold less positive attitudes towards and expect less of children labeled as prenatally exposed to cocaine. Thurman et al. (1994) gathered a sample of 179 early intervention personnel and showed them two videotapes of equal length, each depicting a 24-month-old boy in a non-laboratory play room playing with the available toys. One child had been prenatally exposed to drugs and the other had not. Subjects were told that researchers were developing a rating scale to detect children who may be at risk for disabilities and then randomly assigned them to one of three groups. The first group was told that neither of the toddlers were at risk in any way, the second group was told that both toddlers had been prenatally exposed to cocaine, and the third group was told that only one child had been prenatally exposed to cocaine while the other had not. Thurman et al. (1994) found that participants who were told that both children were non-exposed rated the child who had actually been prenatally exposed significantly more positively than did those subjects who were told that both children had been exposed or that one had been exposed and one had not. Furthermore, participants who were told that both toddlers had been exposed rated the actually nonexposed
child more negatively than did the other participants. Overall, the results suggest that a child who is not labeled is rated more positively than when he or she is identified as prenatally exposed to cocaine.

The research on social labels, particularly stigmatizing labels, indicates that labeling affects social perceptions and behavior towards labeled individuals, even amongst educated professionals who work with children who actually were prenatally exposed to drugs (Thurman et al., 1994). This study seeks to discover whether individuals who have little to no experience working with prenatally exposed children will display the same patterns of perception towards labeled children. Furthermore, current research has yet to address one component of the problem, namely the amount of exposure/information necessary for participants to be affected by labeling. Thus, in order to address this problem, this study presented participants with stimulus videos of differing lengths (video-taped children performed a delayed response task either once or 3 times). Judging from the past research that has indicated that labeling has a strong effect on participants’ perceptions (Stern & Karraker, 1989) we expect to find significant main effects in the labeled vs. non-labeled independent variable. However, the results of Bromfield et al. (1986) and Thurman et al. (1994) contradict each other in that the labeled children in the Bromfield et al. (1986) study were rated more positively, whereas the labeled children in the Thurman et al. (1994) were rated more negatively. Thus, whether the children labeled as prenatally exposed to cocaine will be given higher performance and cognitive ratings than the non-labeled children is uncertain. However, we expect that the children who perform the task 3 times will be rated more positively because the participants will have more information upon which to base a judgment, enabling them to look past “flaws” or “mistakes” that they perceive in the child’s performance in each trial.
Method

Participants

The participants in this study were 72 college students, 30 males, 39 females, and 3 missing gender-identification information, enrolled in a small, liberal arts college. The participants were volunteers who received no compensation for participating in this study.

Materials

Eight children of roughly 3 years of age were filmed while performing a delayed matching test. During this task, an experimenter would place a toy underneath one of two cups while the child watched. The experimenter would then place two screens, one opaque and one clear, in front of the cups. After counting to five, the experimenter would remove the opaque screen, leaving only the screen through which the child could see the cups. After a few seconds, the experimenter would remove this screen and allow the child to try and find the toy by picking up a cup. Participants were told that this test was designed to assess the children’s ability to correctly remember the placement of the toy as well as their ability to control their impulses (i.e. could they wait for the clear screen to be removed before reaching for the cups?).

These film segments were then converted into 8 separate digital video clips, which were accessed on computers with a web browser and speakers. Four of these clips showed the child perform one trial, and four showed the child perform three trials. The children were balanced across conditions for gender and race. Two boys, one Caucasian and one African-American, and two girls, one Caucasian and one African-American, were shown performing the trial once. Four different children arranged in the same gender/race breakdown were shown performing the trial 3 times.
Though the participants were told that the delayed matching test would assess the cognitive abilities of the children, tests were not real and were not properly controlled; they existed only to provide stimuli for the purpose of this experiment. Participants rated each child’s cognitive performance by answering a series of 8 questions. For a complete listing of the questions and rating scales, see appendix.

**Procedure**

Participants were tested individually at various locations. They could perform the experiment at any computer that had the requisite capabilities. Before beginning, all participants were told that the purpose of this study was to pre-test the validity of a coding procedure for the scoring of children’s performance on a standard cognitive task; they were also given a brief description of the nature of the matching test. However, half of the participants were told that all the children were prenatally exposed to cocaine (Condition B), while the other half of the participants were told that all the children were healthy and had experienced normal births (Condition A).

After being briefed, the participants were asked to read through the response questions so that they would know which characteristics and behaviors they should pay attention to while watching the clips. Once ready, the participants watched the first clip in its entirety and then filled out the response questions for that trial. The participant then proceeded to watch each clip and fill out the responses for each trial. Each clip was watched only once.

Upon completion of all of the clips, the participants were debriefed and informed of the true nature of the experiment. They were informed that none of the babies had been prenatally exposed to cocaine, and that the study was designed to test the effects of the label on perceptions of cognitive capacities and behavior.
Results

Seven 2x2 Mixed ANOVAs were calculated using a .05 level of significance. No interactions were found to be significant, and the remaining main effects involved only two factors, so post hoc analyses were unnecessary.

The dependent variables were the means of all participant scores to each individual assessment question. Each of the questions asked the participant to judge the child’s behavior or cognitive ability using a 5 point scale. The nature of the scale (i.e. 1 = best or worst) varied according to each question.

When participants were asked to rate the child’s performance on the task on a scale of 1 = excellent to 5 = poor, they gave better ratings of performance to children who were labeled as prenatally exposed to cocaine ($M = 3.49, SE = .06$) than to children who were not labeled ($M = 3.79, SE = .08$), $F(1, 70) = 7.61, MSE = .42, p = .007$. They gave the children better ratings of performance when they saw the children perform the task 3 times ($M = 3.32, SE = .05$) than when they saw the children perform the task only once ($M = 4.00, SE = .65$), $F(1, 70) = 85.26, MSE = .17, p < .001$. The interaction was not significant, $F(1, 70) = 2.63, p = .109$.

When asked to rate the child’s cognitive ability on a scale of 1 = excellent to 5 = poor, the participants’ ratings did not differ significantly between children labeled as prenatally exposed ($M = 3.79, SE = .08$) and children who were not labeled ($M = 4.10, SE = .08$), $F(1. 70) = 2.61, p = .111$. Nor did the participants’ ratings differ significantly between children they saw perform 1 trial ($M = 4.00, SE = .08$) vs. 3 trials ($M = 3.83, SE = .08$), $F(1, 70) = 3.61, p = .062$. Furthermore, the interaction was not significant, $F(1, 70) = 3.27, p = .075$.

When participants were asked to rate how easily distracted or fidgety the child seemed on a scale of 1 = quite distracted to 5 = not at all distracted, they rated the children labeled as being
prenatally exposed to cocaine ($M = 3.20$, $SE = .09$) as being more distracted than the children who were not labeled ($M = 3.50$, $SE = .11$), $F(1, 70) = 6.64$, $MSE = .52$, $p = .012$. They also rated the children they saw perform only 1 trial ($M = 3.94$, $SE = .09$) as being less distracted than the children they saw perform 3 trials ($M = 2.76$, $SE = .06$), $F(1,70) = 262.36$, $MSE = .19$, $p < .001$. The interaction was not significant, $F(1, 70) = .82$, $p = .37$.

When asked to rate the extent to which the child focused on the experimenter’s instructions on a scale of 1 = not at all to 5 = a great deal, the participants’ ratings did not differ significantly between children who were labeled as prenatally exposed to cocaine ($M = 3.39$, $SE = .08$) and children who were not labeled ($M = 3.61$, $SE = .09$), $F(1, 70) = 3.92$, $p = .052$. However, they did rate children they saw perform 3 trials ($M = 3.10$, $SE = .05$) as being less focused on the instructions than children they saw perform only 1 trial ($M = 4.00$, $SE = .09$), $F(1, 70) = 78.75$, $MSE = .29$, $p < .001$. The interaction was not significant, $F(1, 70) = .02$, $p = .877$.

When asked to rate the extent to which they thought that the child was ready for a preschool program on a scale of 1 = not at all ready to 5 = completely ready, the participants rated the children labeled as prenatally exposed to cocaine ($M = 3.15$, $SE = .08$) as less ready for preschool than children who were not labeled ($M = 3.47$, $SE = .09$), $F(1, 70) = 7.08$, $MSE = .51$, $p = .01$. They also rated the children that they saw perform 3 trials ($M = 2.91$, $SE = .06$) as less ready for pre-school than children that they saw perform only 1 trial ($M = 3.73$, $SE = .08$), $F(1, 70) = 159.80$, $MSE = .15$, $p < .001$. The interaction was not significant, $F(1, 70) = .14$, $p = .705$.

When participants were asked to rate the ease with which they thought the child would make friends once in pre-school on a scale of 1 = not at all easily to 5 = quite easily, their ratings did not significantly differ between children who were labeled as prenatally exposed to cocaine ($M = 3.39$, $SE = .07$) and children who were not labeled ($M = 3.56$, $SE = .10$), $F(1, 70) = 2.10$, $p$
How Adults’ 11

= .151. However, they thought that children that they saw perform the trial 3 times ($M = 3.08, SE = .05$) would have greater difficulty making friends than the children that they saw perform only 1 trial ($M = 3.87, SE = .09$), $F(1, 70) = 100.59, MSE = .22, p < .001$. The interaction was not significant, $F(1, 70) = .50, p = .484$.

When participants were asked to predict the child’s future performance on the delayed-matching task, their estimates of the number of trials on which they expected children to respond correctly were lower for children who were labeled as prenatally exposed to cocaine ($M = 3.23, SE = .07$) than for children who were not labeled ($M = 3.57, SE = .08$), $F(1, 70) = 9.56, MSE = .45, p = .003$. Estimates of the number correct were also lower after observing 3 trials ($M = 3.07, SE = .06$) compared with only 1 trial ($M = 3.73, SE = .08$), $F(1, 70) = 71.83, MSE = .22, p < .001$. The interaction was not significant, $F(1, 70) = 1.15, p = .29$.

Discussion

Due to the fact that no significant interactions were found, the main effects of the two independent variables are best examined individually.

Significant main effects for labeled as prenatally exposed to cocaine vs. not labeled were found in 4 of the 7 (57%) dependent variable questions. Non-labeled children were rated as less distracted, more ready to begin a pre-school program, and were expected to have better future performance on the task than children labeled as prenatally exposed to cocaine. These results are consistent with the findings of Thurman et al. (1994) that children who are labeled as prenatally exposed to cocaine are rated more negatively than children who are not labeled as such. However, children who were labeled as prenatally exposed to cocaine were given better ratings of general performance on the overall task; this finding is consistent with the results of Bromfield et al. (1986) that children given a stigmatizing label are rated more positively than
non-labeled children, which suggest that participants hold lower of expectations of labeled
children; thus, the participants are more inclined to be generous or lenient when rating the child’s
performance.

The contradiction of these results is perplexing; how can labeled children be given better
ratings of performance on the task as a whole, yet lower ratings on all component cognitive and
performance aspects of the test? Perhaps the results are due to the nature of the dependent
variable questions. The first question, which asked the participants to rate the child’s
performance on the task, is very general; the participants must examine the gestalt of the child’s
performance, and may thusly overlook specific perceived errors. Thus, they give the labeled
child a better overall score of performance than the non-labeled child because they held lower
expectations of the labeled child’s performance. However, when asked to examine specific facets
of the child’s performance, such as level of distraction or probable performance on future trials,
the participants’ attention is focused on a single factor; any and all flaws or deficits in the child’s
performance of that factor will be far more apparent because they are not mediated by success on
any other aspects of the test. Thus, participants give the non-labeled children higher ratings on
each specific component of the task.

The same pattern of results was found with the 1 trial vs. 3 trial condition. Significant
main effects for number of trials were found in 6 of the 7 (85.7%) dependent variable questions.
Participants rated the child whom they saw perform the task only once as less distracted, more
focused on the experimenter’s instructions, more ready to begin a pre-school program, more
likely to have ease making friends in pre-school, and were expected to have better future
performance on the task than the children whom they saw perform the task 3 times. These results
contradict our expectation that participants would give higher ratings to the children whom they
How Adults’ saw perform the task 3 times. This expectation was only supported in one dependent variable question; just as with the label condition, participants gave higher ratings of overall performance to children whom they saw perform the task 3 times, yet they gave higher ratings on all other dependent variable questions to the children they saw perform the task only once. We feel that a similar logic can explain this contradiction, as well. The first question requires the participant to evaluate the gestalt; over 3 trials, the participant would be more likely to integrate the positive aspects of the child’s performance and overlook the negative. When focused on the singular aspects of all other questions, viewing the child perform 3 trials probably led the participant to see more mistakes as opposed to better performance; with only 1 trial, the participants would have less of a chance to identify mistakes or errors, leading to a better evaluation of performance.

Overall, the results of this experiment support past findings (Stern and Karraker, 1989) that labels affect adult perceptions of how children should behave. However, the results are not as strong as might be expected. Main effects for labeling were found in only a little over 50% of the dependent variable evaluations; for the remaining questions, the fact of whether or not the child was labeled had no affect upon participants’ perceptions and ratings. Do these results indicate that labels exert only a weakly significant effect over adult perceptions of children, or does the study lack sufficient power to display the true strength of the labeling effect? It is possible that the population of participants used in this study decreased the power of the study. The college students used in this study probably had no significant knowledge of the effects of prenatal exposure to cocaine on children’s cognitive abilities. Furthermore, they probably have little to no experience working with children who were prenatally exposed to cocaine.Labels are meaningless unless they evoke connotations and expectations in the mind of the individual judging the labeled child. If our participants truly had no sense of what it would mean for a child
to be prenatally exposed to cocaine, then they simply would have been evaluating the
performance of children. Thus, it probably would have been useful to run a manipulation check
in this study to determine what the label prenatally exposed to cocaine meant to our participants.
In a future study, the experimenters could give the participants some background information
about the effects of prenatal exposure to cocaine so that the participants in the experimental
condition would have a clearer delineation in their mind of normal child behavior as opposed to
disabled behavior as a result of prenatal expose to drugs.

Furthermore, would it be possible to support the hypothesis that participants would give
higher ratings to the children whom they saw perform the trial 3 times? Perhaps even 3 trials
proved to be too little information, which led participants to focus on mistakes and weaknesses in
the children’s performance as opposed to strengths. The introduction of additional conditions
with more trials, perhaps 6 or 9, could possibly alter the results. Such an extended span of trials
might lead the participants to focus once again on the gestalt of the children’s performance, even
when rating individual characteristics. In other words, it is easy to remember specific mistakes
over 3 trials, but over 9, even mistakes might begin to blur together, yielding an overall
perception of better performance.
References


Appendix

Example of Response Questions and Ratings Scales

Child 2

Rate the child's performance by circling one number for each question:

1. Overall, how well do you think that this child has done on the task?

<table>
<thead>
<tr>
<th>Excellent</th>
<th>Above Average</th>
<th>Average</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

2. Based on this child’s performance, how would you rate his or her cognitive ability?

<table>
<thead>
<tr>
<th>Excellent</th>
<th>Above Average</th>
<th>Average</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

3. How easily distracted (or fidgety) does the child seem to you?

<table>
<thead>
<tr>
<th>Quite Distracted</th>
<th>Somewhat Distracted</th>
<th>Average</th>
<th>Not Easily Distracted</th>
<th>Not at all Distracted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

4. To what degree did the child interact with the parent during the exercise?

<table>
<thead>
<tr>
<th>Not at All</th>
<th>Somewhat</th>
<th>Not Much</th>
<th>A Good Deal</th>
<th>A Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

5. To what extent was the child focused on the experimenter’s instructions?

<table>
<thead>
<tr>
<th>Not at All</th>
<th>Somewhat</th>
<th>Not Much</th>
<th>A Good Deal</th>
<th>A Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

6. To what extent do you think that this child is ready for a pre-school program?

<table>
<thead>
<tr>
<th>Not at All Ready</th>
<th>Fairly Unprepared</th>
<th>In Between</th>
<th>Fairly Ready</th>
<th>Completely Ready</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

7. How easily do you think this child will make friends once he or she begins a pre-school program?

<table>
<thead>
<tr>
<th>Not at All Easily</th>
<th>With Some Difficulty</th>
<th>Average Ease</th>
<th>Easily</th>
<th>Quite Easily</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

8. If there were 10 trials, on how many of those trials do you think this child would respond correctly?