Interpersonal Expectancy Effects: A 30-Year Perspective
Robert Rosenthal

In the mid 1950s, the results of my doctoral dissertation were nearly ruined; it appeared that I might have treated my experimental subjects in such a way as to lead them to respond in accordance with my experimental hypothesis, or expectancy. All of this was quite unwitting, of course, but it did raise a sobering question about the possibility of interpersonal expectancy effects in the psychological laboratory. If it was my unintentional interpersonal expectancy effect or my “unconscious experimenter bias” that had led to the puzzling and disconcerting results of my dissertation, then perhaps my students and I could produce the phenomenon in our psychological laboratory. If it was my unintentional interpersonal expectancy effect or my “unconscious experimenter bias” that had led to the puzzling and disconcerting results of my dissertation, then perhaps my students and I could produce the phenomenon in our psychological laboratory.

To investigate the generality of these interpersonal expectancy effects in the laboratory, my colleagues and I conducted two studies employing animal subjects. Half the experimenters were told their rats had been specially bred for good maze (or Skinner box) performance, and half were told their rats had been specially bred for poor maze (or Skinner box) performance. In both experiments, when experimenters had been led to expect better learning from their rat subjects, their rat subjects became brighter when expected to by their experimenters, higher ratings than did experimenters expecting low ratings.

At the end of the school year, 8 months later, all the children were retested with the same test of intelligence. Overall, the children from whom the teachers had been led to expect greater intellectual gains showed a significantly greater gain than did the children of the control group, thereby supporting the “Pygmalion” hypothesis.

The earliest studies were conducted with animal subjects. Half the experimenters were told their rats had been specially bred for good maze (or Skinner box) performance, and half were told their rats had been specially bred for poor maze (or Skinner box) performance. In both experiments, when experimenters had been led to expect better learning from their rat subjects, their rat subjects became brighter when expected to by their experimenters, higher ratings than did experimenters expecting low ratings.

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Table 1. Interpersonal expectancy effects in eight research domains

<table>
<thead>
<tr>
<th>Domain</th>
<th>Weighted Mean</th>
<th>Unweighted Mean</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory interviews</td>
<td>0.14</td>
<td>0.17</td>
<td>0.54</td>
</tr>
<tr>
<td>Reaction time</td>
<td>0.55</td>
<td></td>
<td>0.84</td>
</tr>
<tr>
<td>Learning and ability</td>
<td>0.88</td>
<td></td>
<td>1.05</td>
</tr>
<tr>
<td>Person perception</td>
<td>1.73</td>
<td></td>
<td>0.70</td>
</tr>
<tr>
<td>Inkblot tests</td>
<td>0.70</td>
<td></td>
<td>0.74</td>
</tr>
<tr>
<td>Everyday situations</td>
<td></td>
<td></td>
<td>0.70</td>
</tr>
<tr>
<td>Psychophysical judgments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animal learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weighted mean*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. The effect sizes shown are based on Rosenthal and Rubin. The Pygmalion effects are based on 464 studies. The aspirin effects are based on 22,000 participants.

Table 2. Two binomial-effect-size displays

<table>
<thead>
<tr>
<th>Condition</th>
<th>Treatment</th>
<th>Control</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Favorable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pygmalion</td>
<td>0.65</td>
<td>0.35</td>
<td>1.00</td>
</tr>
<tr>
<td>Aspirin</td>
<td>0.08</td>
<td>0.92</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Unfavorable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pygmalion</td>
<td>-0.63</td>
<td>0.37</td>
<td>0.00</td>
</tr>
<tr>
<td>Aspirin</td>
<td>0.08</td>
<td>-0.92</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The 10-arrow model, designed to clarify the study of interpersonal expectancy effects, posits 10 links between five groups of variables: (a) distal independent (moderator) variables (e.g., stable attributes of the expecter and expectee), (b) proximal independent variables (the expectancies), (c) mediating variables, (d) proximal dependent variables (e.g., short-term outcome measures such as achievement on tests), and (e) distal dependent variables (long-term outcome variables). A useful feature of this model is that its 10 arrows represent the types of relationships that can be examined in research on expectancy effects (see Fig. 1). The arrows in the model are described in detail elsewhere, so I will not discuss them here. Instead, I will discuss only the two links relevant to the topic of mediation: the B-C and C-D arrows. B-C relationships describe the effect of the expectancy on the expecter's behavior. These are the relationships most often investigated in research on mediation. Equally important to understanding mediation, however, are the C-D relationships between the expecter's behavior and outcome variables. Research bearing on the B-C link tells which behaviors are induced by a given expectancy, but research bearing on the C-D link shows that these behaviors affect the expectee so as to create a self-fulfilling prophecy. As is evident, the two types of relationships address different questions, making the distinction important.
Table 3. Four factors in the mediation of teacher expectancy effects

<table>
<thead>
<tr>
<th>Factor</th>
<th>Summary of the evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central factors:</td>
<td></td>
</tr>
<tr>
<td>1. Climate (affect)</td>
<td>Teachers appear to create a warmer socio-emotional climate for their &quot;special&quot; students. This warmth appears to be at least partially communicated by nonverbal cues.</td>
</tr>
<tr>
<td>2. Input (effort)</td>
<td>Teachers appear to teach more material and more difficult material to their &quot;special&quot; students.</td>
</tr>
<tr>
<td>Additional factors:</td>
<td></td>
</tr>
<tr>
<td>3. Output</td>
<td>Teachers appear to give their &quot;special&quot; students greater opportunities for responding. These opportunities are offered both verbally and nonverbally (e.g., giving a student more time to answer a question).</td>
</tr>
<tr>
<td>4. Feedback</td>
<td>Teachers appear to give their &quot;special&quot; students more informative feedback, both verbal and nonverbal, as to how these students have been performing.</td>
</tr>
</tbody>
</table>

Table 4. Meta-analytically derived average correlations representing the importance (effect sizes) of the four factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Correlation between expectation and expecter's behavior (B-C link)</th>
<th>Correlation between behavior of expecter and response of expectee (C-D link)</th>
<th>Geometric mean correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate (affect)</td>
<td>.23</td>
<td>.26</td>
<td>.29</td>
</tr>
<tr>
<td>Input (effort)</td>
<td>.18</td>
<td>.17</td>
<td>.16</td>
</tr>
</tbody>
</table>

Note. These data are from Harris and Rcsentbal (1986). All correlations are significantly greater than zero at p < .002. The correlation between the magnitudes of the average B-C and C-D links is .88.
tions of caretakers, and that teach-

dules, NI, 1985). Teacher Expectancies,
cy effects, in

the mediating variables are receiving

fulfilling prophecies in other

among nursing home residents can

be reduced by raising the expecta-
tions on students' IQ. Smith reported a \( d \) of 0.16 and

the Classroom

tion of the expectancy was credible (i.e., when

induc-
tancies could be demonstrated only when the induc-

experimental and control groups divided by the stan-

dard deviation of both groups combined. The latter

tional Researcher, 1b, 53-55 (1980), Both Raudenbush and Smith found

significant overall effects of interpersonal expecta-

797-

ted behaviors. Also surprising was the strength of both

research. For a summary of the criticisms and replies

D,P. Ray, Ed. (National Institute

Social Psychology,

V.C- Hall, and W.). Meyer, Eds. (Eribaum, Hills-

unconscious experimenter bias to teacher expectan-

— I thank the many stu-

Acknowledgments

preparation of this review was supported

that depression

was

intellectual tasks. In all these cases,

social Psychology,

journal of Education-

see M.J. Harris and R. Rosenthai, Mediation of in-

Interpersonal expectancy effects: The first 345 stud-

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7. R. Rosenthai and K.L. Fode, The problem of

teacher had known pupils only 2 weeks or less at

the time they were given the expectation). For the

seven studies in which teachers had known pupils 1

week or less, as was the case for the Pygmation

study, the mean effect-size \( d \) was 0.29, and \( r \) was

.14.

8. R. Rosenthai and D.B. Rubin, A simple gen-

eral purpose display of magnitude of experimental

effect, Journal of Educational Psychology, 74, 166–

169 (1982).

9. Steering Committee of the Physicians Health

Study Research Group, Preliminary report: Findings

from the aspirin component of the ongoing physi-


17. N. Ambady and R. Rosenthai, Thin slices of

expressive behavior as predictors of interpersonal

consequences: A meta-analysis, Psychological Bul-


Recommended Reading

Rosenthal, R. (1976). Experimenter Effects in Be-

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lion in the Classroom (Irvinton, New York).
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