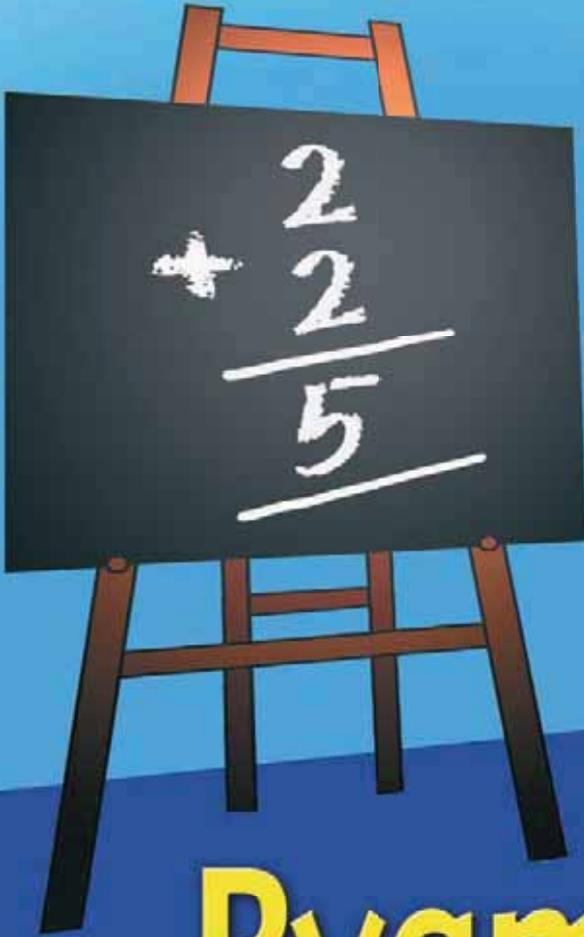


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Pygmalion in the Classroom

Teacher Expectation and Pupils'
Intellectual Development

Newly Expanded Edition

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in the
Classroom**

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Pupils' Intellectual Development**

by

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I

Everyday Life

The story was well-told by Robert Merton (1948). On a Wednesday morning in 1932, Cartwright Millingville comes to work. His place of business is the Last National Bank, and the office he occupies is that of its president. The tellers' windows, he notes, are rather busy for a Wednesday. Long lines of depositors are unusual for midweek, so far from payday. Millingville hopes sympathetically that they have not been laid off, and he begins his presidential chores.

The Last National Bank is a sound and solvent institution. Its president knows that, its stockholders know that, and we know that. But the people in those lines before the tellers' cages don't know that. They, in fact, believe that the bank is foundering, that if they do not quickly withdraw their deposits there will be none to withdraw, and so they are lined up now, waiting to withdraw their savings. Until they believed that and acted on their belief, they were quite wrong. But once they believed it and acted upon it, they "knew" a truth or reality unknown to Cartwright Millingville, unknown to the stockholders, and unknown to us. They knew that truth or reality because they caused that truth or reality. Their expectation, their prophecy, led to its own fulfillment. The bank failed.

Not only the collapse of economic institutions has been attributed to the operation of the self-fulfilling prophecy. Merton also pointed out the importance of such expectations in the relations among races and the behavior of minority groups generally. Inferiority of scholastic achievement among Negroes of a given state may indeed have become a reality when that state spent less than one fifth as much in the education of its Negro youth compared to the education of its white youth. Rose (1956) goes further, in a sense, by saying that both whites and Negroes expect the Negro to fail, a double expectation that "keeps the Negro from trying."

There is nothing in the concept of the self-fulfilling prophecy that makes it go in only one direction, however. That is nicely illustrated in the case of race relations by a particular self-fulfilling prophecy called "Sweeney's miracle" (*Look* Editorial Board, 1965).

James Sweeney taught industrial management and psychiatry at

Tulane University where he was responsible for the operation of the Biomedical Computer Center. It was Sweeney's expectation that he could make even a poorly educated Negro into a computer operator. The poorly educated Negro chosen was George Johnson, a former hospital porter who became janitor at the computer center. In the morning he swept and cleaned, and in the afternoon he learned about computers. He was learning a great deal about computers when word circulated that to be a computer operator one had to earn a certain score on an IQ test. Johnson took the test, which showed that he should not even be able to learn to type, much less operate a computer. But Sweeney was not convinced. He went to the administration and threatened: no Johnson, no Sweeney. Both stayed; Sweeney still runs the Computer Center, and Johnson now runs the main computer room in which position he is responsible for the training of new employees.

Another major theorist to employ the concept of the self-fulfilling prophecy was Gordon Allport (1950). His application was to the field of international tension and war. It was likely, Allport suggested, that nations that expect to go to war, go to war. The expectation to wage war is communicated to the opponent-to-be who reacts by preparing for war, an act which confirms the first nation's expectation, strengthens it, leads to greater preparations for war, and so on, in a mutually reinforcing system of positive feedback loops. Nations expecting to remain out of wars sometimes seem to manage to avoid entering into them.

More prosaic but no less interesting than the analysis of large-scale social and economic phenomena is the analysis of the way a man golfs or bowls in relation to what is expected of him. As a participant observer, William Whyte (1943) studied the bowling behavior of a group of young men, members of Whyte's famous street-corner gang. That group, and especially its leaders, "knew" how well a man should bowl. On a given evening, the group "knew" that a given member would bowl well, and so he did. On another evening, the group "knew" that some member would bowl poorly, and so he did, even if he had bowled well the evening before. The group's expectancy of the members' performance seemed to be determining that performance. Perhaps the morale-building banter and encouragement given him who was expected to do well helped him to do so by increasing his motivation and by decreasing his anxiety with its interfering effects. The communication, to a member of the group, of the group's expectation that he would bowl poorly may have reduced his motivation and increased his anxiety to a point where it interfered with his performance.

Although not dealing specifically with the effects of one person's expectancy on another's behavior, some observations by Jastrow (1900) are relevant. He wrote of the athlete who so fears his failure that his coordination is impaired and he does fail. ". . . the entertainment of the notion of a possible failure to reach the mark lessens the intensity of one's effort, and prevents the accomplishment of one's best" (p. 301). In his examples, Jastrow did not specify that the expectancy of failure came from another person. The example provided by Whyte, however, does suggest that such expectancies often do come from other people.

The effects on a person's behavior of the expectancies others have of that behavior is further illustrated by the learning theorist E. R. Guthrie (1938). A shy and socially inept young lady became self-confident and relaxed in social contacts by having been systematically treated as a social favorite. A helpful group of college men had arranged the expectancies of those who met her so that socially adept behavior was expected of her. The expected adeptness was duly evoked by the expectation for it. In the more serious area of reactions to disaster, Goldstein (1962) notes Drayer's (1956) observation of the importance of the expectations of the rescue workers. In both civilian and military disasters, the victims seem to respond in accordance with the response expected of them by the rescue workers. Psychiatric experience in the United States Army seems to suggest that the more clearly a psychiatric casualty is treated as such, the less likely it is that he can return to duty (Bushard, 1957). In the more everyday experience of driving an automobile, Shor (1964) has pointed out that one driver's expectation of another's automotive behavior can serve as self-fulfilling prophecy.

Jastrow (1900) gives details of a well-documented case of self-fulfilling prophecies in the world of work. The year was 1890 and the Hollerith tabulating machine had just been installed at the United States Census Bureau. The machine, something like a typewriter, required the clerks to learn a new skill which the inventor, Hollerith, regarded as quite demanding. He expected that a trained worker could punch about 550 cards per day. After two weeks the workers were adequately trained and began to produce about 550 cards per day. After a while the clerks began to exceed the expected performance but only at great emotional cost. Workers became so tense trying to beat the expected limit that the Secretary of the Interior forbade the establishment of any minimum performance criterion. This was seen as a step necessary to preserve the mental health of the establishment.

Then, a new group of some 200 clerks was brought in to augment the Hollerith machine work force. These clerks knew nothing of the

The Disadvantaged Child

It is usually in September that school opens, and thousands of near-six-year-olds from every conceivable kind of home start first grade. It is an anxious time for them, a mixture of uncertainty and excitement, confused with anticipatory feelings. "Will the teacher like me? When will I learn to read? Will she like *me*?"

Entering the first-grade classroom is a big step for a child. It can be a glowing or a devastating experience. The teacher smiles at the children, looking at them to see what the year will bring. The well-groomed white boys and girls will probably do well. The black- and brown-skinned ones are lower-class and will have learning problems unless they look exceptionally clean. All the whites who do not look tidy and need handkerchiefs will have trouble. If the teacher sees a preponderance of lower-class children, regardless of color, she knows her work will be difficult and unsatisfying. The teacher wants her children to learn, all of them, but she knows that lower-class children do not do well in school, just as she knows that middle-class children do do well. All this she knows as she smiles at her class for the first time, welcoming them to the adventure of first grade, measuring them for success or failure against the yardstick of middle-classness. The children smile back at her, unaware as yet that the first measurements have been taken. The yardstick will be used again when they speak to her, as she hears words spoken clearly or snuffled or stammered or spoken with an accent. And later they will be measured for readiness for reading or intelligence. Many times that first year the children will be examined for what they are, for what they bring with them when they come to school.

Down the hall, the second-grade teacher knows that most of *her* lower-class students are behind those of the middle class. All through the schools that first day in September the teachers look at their classes and know which children will and will not do well during the year. Sometimes the results of formal and informal measurement modify that first day's perception; a dirty child may be very bright, a brown child

may learn rapidly, a black child may read like an angel, and a tidy middle-class child may be hopelessly dull. Sometimes. Usually, the teacher is right when she predicts that middle-class children generally succeed in school and lower-class children generally lag behind and eventually fail.

THE DISADVANTAGE OF POVERTY

Currently attention has focused glaringly upon the educationally disadvantaged children in our schools, spotlighting their scanty experience with formal language, ignorance of school culture and concomitant poor school achievement. Numerous reports indicate that the IQ scores of disadvantaged children are lower than those of middle-class children, their reading is substandard, their attitudes are negative, and their behavior is annoying to teachers (Becker, 1952; B. Clark, 1962; Davis and Dollard, 1940; Sexton, 1961). Disadvantaged children by definition come from lower socioeconomic groups where low income is married to values alien to the school culture. A larger proportion of disadvantaged children than middle-class children are failing in school.

Havighurst, who refers to the children as socially disadvantaged, predicts that American schools will spend the next ten years in a "prodigious attempt to wipe out the social disadvantage that has prevented some fifteen percent of our children from learning anything useful in school . . . and this means some thirty percent of children in the low-income sections of our big cities" (Havighurst, 1965, p. 31). The U.S. Department of Health, Education, and Welfare is encouraging this effort through making available vast sums of money for schools in low-income attendance areas. This resulted from the Elementary and Secondary Education Act of 1965, Title I, which "places the major emphasis of this new law on meeting the special needs of educationally deprived children through the largest federal grant program ever authorized for such a task" (U.S. Office of Education, 1965).

The generally low educational achievement of lower-class children has caused consternation on the federal level because of the close tie between education and the development of talent, and talent gets top place in the marketplace today. Technological innovations and international political crises demand educated manpower, which means that those disadvantaged children who have not benefited from schooling represent a waste of future national skilled manpower.

There has been in the past few years an almost overwhelming amount of literature describing the educationally disadvantaged

learner, his home, family, neighborhood, and teachers, as well as the frustrations he encounters in the process of learning in the climate of a middle-class school. The sources of the disadvantages variously have been laid to economic, social, cultural, and/or linguistic factors, depending upon the orientation of the writer. Here we can only touch on some of the factors implicated.

Income and School Success

Sexton's (1961) study on the relation between income and educational opportunity revealed that where the average family income exceeded \$7000, achievement was above grade level; and where the income was below \$7000, achievement was below grade level. Apparently, poor achievement is cumulative; that is, by grade eight, the lowest-income students were at least two years behind the highest-income students, a fact that confirmed Becker's (1952) widening gap, as well as being in accord with Kahl's (1961) findings that "common man" boys performed at much lower levels than high-status boys of equal intelligence by the time they were ready for grade nine, even though the boys had achieved similarly in their early school years.

Sexton found further differentiation between income groups in "Big City's" gifted-child program: out of 436 students selected for the program, not one came from an income group below \$5000, whereas 148 were selected from the above \$9000 group.

Achievement Training

Research in the area of achievement motivation points out that there are class and cultural differences in family training for achievement (McClelland, 1961), differences that may cause conflict when the child attends school where middle-class values are emphasized. It is known that middle-class children, notorious for their competitiveness, have been encouraged to achieve since diaper days because the child-rearing practices of American middle-class families radiate about the concept of achievement. Children from subcultures that have a similar achievement orientation also find the school culture familiar and nurturing (Rosen, 1959; Strodtbeck, 1961). Florence Kluckhohn's (1953) value orientations show a modal profile of the dominant American who is trained at home for an activity culture with emphasis on values that lead to an achieving personality. "A child who has not acquired these particular value orientations in his home and community is not so likely to compete successfully with youngsters among whom these values are implicitly taken for granted" (Cloward and Jones, 1963, pp. 193-194).

different standards for his assessment. Teachers may not only get more when they expect more, they may also come to expect more when they get more. Not all cycles are "vicious"; some are benign.

CLASSROOM BEHAVIOR

Teachers' assessments of their pupils' academic performance are routinely available in the form of report-card grades. Teachers' assessments of pupils' classroom behavior that is less directly related to academic achievement are not so routinely available. Therefore, toward the end of the school year of the basic study, all teachers were asked to make a number of judgments about the general classroom behavior of all their pupils. For each child, the teacher was asked to say how successful he would be in the future, the degree to which the child's behavior reflected intellectual curiosity, and the extent to which the child could be described as interesting, happy, appealing, well adjusted, affectionate, hostile, and motivated by a need for approval. Each child was rated by the teacher on each of these nine variables on a scale that went from 1 ("not at all happy") to 9 ("extremely happy").

This part of the research involved a so-called after-only design. That is, we had no pretest scores available for the children so that we shall be comparing only the postexperimental ratings of the children of the experimental and control groups. Because the children of the experimental program had been selected at random, this lack of pretest should not be too serious a problem, but we must recognize that the post-test-only measures are less precise than the change or gain scores employed in other phases of our research.

For each of the nine classroom behaviors, the mean rating assigned the children of the experimental group was compared to the mean rating assigned the children of the control group. Table 8-5 shows the nine comparisons. The children from whom intellectual growth was expected were described as significantly more likely to succeed in the future, as more interesting, as showing greater intellectual curiosity, and as happier. Children who were expected to grow intellectually seem to have benefited in other ways as well.

Earlier, when we considered expectancy advantages in terms of IQ gains and academic achievement, we wanted to know whether age, initial ability, sex, and minority-group status affected the magnitude of expectancy advantage. We want to have the same information for expectancy advantage as defined by classroom behavior. However, the complex analyses required, if applied to nine different measures, might be difficult to interpret since it was likely that some of the nine be-

haviors were even more strongly related to one another than were verbal IQ and reasoning IQ ($r = +.42$). It was decided, therefore, to reduce the nine variables to a smaller number of sets of variables each of which would not be too highly related to variables of the other sets.

Table 8-5 Classroom Behavior after
One Year of Children in
Experimental and Control Groups

BEHAVIOR	CONTROL	EXPERIMENTAL	DIFFERENCE	$p \leq .20$, TWO-TAIL
Curious	5.50	6.25	.75	.01
Interesting	5.46	6.43	.97	.0008
Future success	5.53	6.48	.95	.0006
Adjusted	5.67	6.04	.37	
Appealing	5.78	6.23	.45	.14
Happy	5.77	6.33	.56	.05
Affectionate	5.72	6.01	.30	
Hostile	3.84	3.97	.13	
Needs approval	5.35	4.97	-.38	.20
$N \cong$	279	68		

When all nine variables were correlated with one another, three satisfactory sets of behaviors emerged, each showing higher relationships with the other variables in the same set than with the variables not in the set.⁴

The first set or cluster of variables was composed of ratings of intellectual curiosity, likelihood of a successful future, and being interesting. This seemed to be something of an intellectual curiosity cluster; and if that were an apt label, we might expect that children scoring higher on these three variables would have scored somewhat higher on the pretest and post-test IQs. That did turn out to be the case; the average correlation between the variables of this cluster with pretest IQ scores was $+.34$, and with post-test IQ scores it was $+.33$ ($p < .0001$).

The second cluster of variables was comprised of ratings on the dimensions adjusted, happy, appealing, affectionate, and nonhostile.⁵ This seemed to be an adjustment-friendliness cluster and if it were, its variables should not correlate as highly with IQ scores as the variables of the intellectual curiosity cluster. The average correlation of the "adjustment" cluster variables with both pretest and post-test IQ turned out to be only $+.11$ which, while greater than zero ($p < .05$),

was much less than either of the correlations of .33 and .34 found between IQ and the intellectual curiosity cluster ($p < .0001$).⁶

The third "cluster" stood quite alone both in terms of being made up of only a single variable, need for approval, and in terms of showing relatively little relationship to any other variables. The highest degree of association between need for approval was with the variable of adjustment. The correlation was $-.29$ ($p < .0001$), very similar in magnitude to the correlation of $-.25$ between need for approval and manifest anxiety reported by Crowne and Marlowe (1964) but unexpectedly in the opposite direction, since presumably adjustment and anxiety are in part opposite sides of the same coin. It was the important work of Crowne and Marlowe on the psychological importance of the need for approval that led to its inclusion in the present study. Crowne and Marlowe had found no relationship between intelligence and their measure of need for approval. Similarly, we also found no relationship between IQ and our measure of need for approval ($r = -.06$ with pretest IQ, $r = -.08$ with post-test IQ).⁷

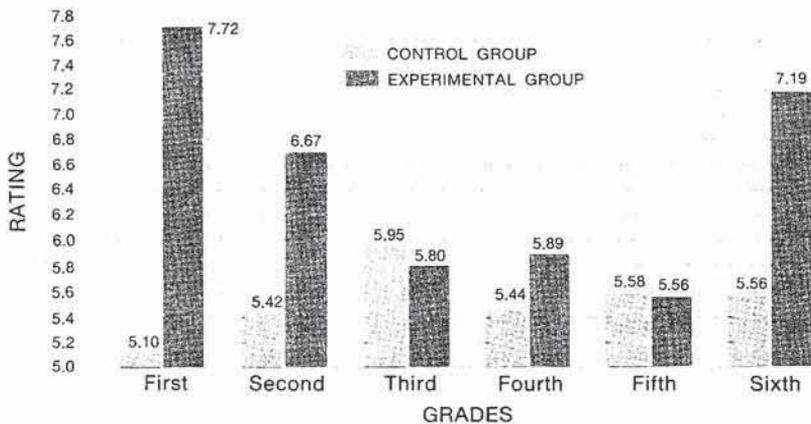
For each of the three clusters of variables the children of the experimental group were compared with the children of the control group to determine whether there was any expectancy advantage for the three clusters of behaviors as there had been for some of the behaviors taken individually. In addition, for each cluster, magnitudes of expectancy advantage were examined to learn whether they were affected by pupils' age, initial ability, sex, and minority-group status. The formal statistical analyses were carried out on cluster scores just as they had been for IQ and for academic achievement.

Expectancy Advantage by Grades

INTELLECTUAL CURIOSITY

The results for the school as a whole are shown in the bottom row of Table 8-6. Children expected to show intellectual growth were judged by their teachers to show appreciably greater intellectual curiosity in their classroom behavior. The rest of Table 8-6 (and Figure 8-2) shows the assessments of intellectual curiosity of the experimental- and control-group children for each of the six grades.⁸ Just as we have by now come to expect, the two lowest grades show large differences between the groups. But there is also a surprise for us here, and that is the finding that the special children of the sixth grade also showed an expectancy advantage in classroom intellectual behavior as seen by their teachers. What made that surprising, of course, was the fact that these sixth-grade special children had shown no expectancy advantage

Figure 8-2 Ratings of intellectual curiosity in six grades.



in terms of IQ gains. Still, when expectancy advantages of the first two grades were compared to those of the last four grades, the younger children showed the significantly greater advantage (interaction $F = 4.65$, $p = .04$).

Table 8-6 Intellectual Curiosity of Experimental- and Control-Group Children in Each of Six Grades after One Year

GRADE	CONTROL		EXPERIMENTAL		EXPECTANCY ADVANTAGE	
	<i>N</i>	MEAN	<i>N</i>	MEAN	DIFFERENCE	ONE-TAIL $p < .05^a$
1	50	5.10	7	7.72	+2.62	.001
2	46	5.42	14	6.67	+1.25	.03
3	43	5.95	12	5.80	-0.15	
4	50	5.44	12	5.89	+0.45	
5	44	5.58	12	5.56	-0.02	
6	46	5.56	11	7.19	+1.63	.02
TOTAL	279	5.50	68	6.38	+0.88	.002

^a Mean square within treatments within classrooms = 4.3037.

Because of the unexpected expectancy advantage in the sixth grade, the correlation between grade level and expectancy advantage was not large or significant ($r = -.41$). However, despite the sixth-grade surprise, the more a given grade level benefited in IQ gains from

When first published in 1968, (later updated in 1992), *Pygmalion in the Classroom* was received with almost universal acclaim for its ground breaking research. The "Pygmalion phenomenon" is the self-fulfilling prophecy embedded in teachers' expectations. Simply put, when teachers expect students to do well and show intellectual growth, they do; when teachers do not have such expectation, performance and growth are not as encouraged and may in fact be discouraged in a number of ways. In the Oak School experiment, discussed in this book, teachers were led to believe that certain students, selected at random, were likely to be showing signs of a spurt in intellectual growth and development. The results were startling. At the end of the year, the students of whom the teachers had these expectations showed significantly greater gains in intellectual growth than did those in the control group.

From the foreword... "There are many determinants of a teacher's expectation of her pupils intellectual ability. Even before a teacher has seen a pupil deal with academic tasks she is likely to have some expectation of his behavior. If she is to teach a "slow group," or children of darker skin color, or children whose mothers are "on welfare," she will have different expectations for her pupils' performance that if she is to teach a "fast group," or children of an upper-middle-class community. Before she has seen a child perform, she may have seen his score on an achievement or ability test or his last year's grades, or she may have access to the less formal information that constitutes a child's reputation."

Now available once again, this book continues to be a "must" read for all who are engaged in the education and welfare of our children. Today, thirty-five years later, the conclusions of this book still continue to make waves throughout the educational community.

From a Review of the First Edition:

"The conclusions have great significance for this nation, preoccupied as it is with severe educational problems of many kinds...The lesson in the book is clear: All sorts of young children did very much better in school than others like them, presumably because their teachers expected them to become "bloomers." ...The authors, without attempting eloquence, have achieved the matter-of-fact eloquence that goes with an original, imaginative study of people and their doing with one another."

Robert Coles in *The New Yorker*



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