favorably biased ratings that teachers gave to the African-American students in the predominantly African-American district. Similarly, student sex had no influence on teacher perceptions of talent, after controls were used for students' actual achievement and motivation (although student sex did influence teacher perceptions of performance and effort—which we discuss later). These results clearly show that teachers did not rely on stereotypes to arrive at these judgments of students. Teachers were either oblivious to sex, class, and ethnic stereotypes, or they did not apply their stereotypes when evaluating their students.

Teachers probably were not oblivious to three of the major stereotypes in American culture. The cumulative wisdom of years of social psychological research on stereotypes instead points to the second explanation—that teachers did not apply their stereotypes in their evaluations of students. Thus, our results are consistent with abundant laboratory and field research showing that perceivers evaluate targets far more on the basis of targets' personal characteristics, than on targets' membership in social groups (e.g., Krueger & Rothbart, 1988; Linville, 1982; Locksley et al., 1980; see Fiske & Neuberg, 1990; Jussim, 1990, 1991, 1993, for reviews). In general, the more individuating information perceivers have, the less they rely on stereotypes (Eagly et al., 1991; Krueger & Rothbart, 1988; Locksley et al., 1980). Of course, teachers interacting with students over the first month of the school year generally have considerably more (and probably more objective) individuating information about students than do subjects in even the most ecologically valid laboratory experiment. Therefore, perhaps it should come as no surprise that, in general, these teachers did not rely much on their stereotypes when evaluating students.

There were a few exceptions to this pattern. In the case of student sex, teachers did seem to rely on their stereotypes regarding performance. They apparently evaluated students' performance based on their sex, independent of their actual achievement. However, the extent to which they did so yielded a relationship between student sex and teachers' perceptions that corresponded well with actual prior sex differences in achievement. It is important to highlight just what this means. Because even a valid stereotype does not apply equally well to all members of the stereotyped group, teachers probably misperceived some boys and girls. However, it also means that there was no tendency to systematically over- or underestimate the performance of girls as compared to boys.

In contrast, however, teachers seemed to be relying on an inaccurate stereotype in evaluating boys' and girls' effort. Teachers' more favorable impressions of girls' effort probably occurred because, on the average, girls are more cooperative and pleasant than boys, and because teachers prefer more cooperative and pleasant students (e.g., Brophy & Good, 1974; Bye, 1994; Wentzel, 1989). This is consistent with a growing body of literature showing that school is often a hostile place for low-achieving boys. For example, at least some teachers believe that boys suffer from inferior verbal skills, and this belief may become self-fulfilling (Palardy, 1969). Similarly, boys are referred for psychological evaluations far more often than girls, even when the teachers themselves do not rate boys as any more aggressive or in need of psychological services than girls (Bye, 1994). Similarly, one usually finds far more boys than girls in "special education" classes (Bye, 1994). Moreover, boys often receive lower grades than girls, even when their performance on standardized achievement tests are similar (Kimball, 1989).

In fact, this discussion highlights the possibility that affect, rather than or in addition to stereotypes, was driving the effort bias in favor of girls. Recent research on stereotypes and expectancies has suggested a more important role for affect (liking or disliking groups or individuals) in the occurrence of biased judgments and self-fulfilling prophecies (Esses, Haddock, & Zanna, 1993; Jussim et al., 1995; Rosenthal, 1989). Thus, if, on average, girls are more pleasant and cooperative than boys, teachers may come to like girls more than boys (on the average), and this may at least partially contribute to teachers' favorable views of girls' effort.

Teachers' reliance on an inaccurate sex stereotype regarding effort may also reflect attributional biases. Adults often are more likely to attribute females' math achievement to their effort than to their high ability (Yee & Eccles, 1988). Because teachers rated girls' performance slightly higher than that of the boys, but rated their talent the same, teachers may have needed to see girls as trying harder than boys to explain girls' higher performance level.

VIII. If the Cause Was Not Stereotype Bias, Then Why Were Expectancy Effects More Powerful Among Lower-SES and African-American Students, and Girls?

The previous section had two purposes. Our broader purpose was to provide some empirical evidence on the extent to which stereotypes bias person perception. A narrower purpose, which we hope did not get lost in the broader one, was to examine teacher stereotypes as a possible source of the greater expectancy effects among girls, lower SES students, and African-American students. However, we found so little evidence of stereotype-based biases that inaccurate stereotypes did not seem to be a particularly viable explanation for the pattern of differential expectancy effects. Thus, the question remained: Why are expectancy effects more powerful among some stigmatized demographic groups?

The next sections address this issue. First, we examine (and rule out) the possibility that teachers develop less accurate perceptions of students from stigmatized social groups. Second, we discuss another study showing that students with low self-concepts of ability or histories of low achievement in math, much the same as students from stigmatized groups, are considerably more vulnerable to self-fulfilling prophecies—a finding broadly consistent with Steele's (1992) perspective on African-Americans' disidentification with school and with research on students' vulnerability to school transition effects (Midgley et al., 1989).

A. WERE TEACHERS' PERCEPTIONS OF STUDENTS FROM STIGMATIZED GROUPS LESS ACCURATE?

One possibility is that, even if teachers were not particularly biased against these groups, they could still be less accurate in perceiving them. Thus, they may not systematically over- or underestimate the ability and performance of students from differing backgrounds. However, their errors, both positive and negative, might be larger for girls, low SES students, and African-American students. This may explain the pattern of differential expectancy effects because more inaccurate expectations have the potential to create larger self-fulfilling prophecies than more accurate expectations.

We performed another series of analyses to test this possibility. Specifically, we used the variables in the Base Model (except the teacher perceptions), plus one of the demographic characteristics, to predict the three teacher perception variables. We then examined the absolute value of the residuals produced by such an analysis. The residuals indicate whether teachers overestimate (positive residuals) or underestimate (negative residuals) particular students' performance, talent, and effort. Of course, because the demographic variable is controlled, its correlation with the raw residuals will be zero. Nonetheless, there still may be group differences in the absolute values of the residuals. For example, residuals of +8 and −8 for two girls, and +4 and −4 for two boys, will be uncorrelated with student sex. Obviously, however, in this hypothetical example, teachers are more accurate in perceiving boys than in perceiving girls.

For student sex, however, these analyses (Base Model, plus student sex predicting teacher perceptions of performance, talent, and effort) yielded no evidence that teachers were less accurate in perceiving girls. The correlations of student sex with the absolute value of the residuals were .03, −.01, and .09 for performance, talent, and effort, respectively (p's = *ns*, *ns*, and .001), indicating that teachers were slightly less accurate in perceiving boys (girls and boys were coded as 1 and 2, respectively). This, therefore, cannot possibly account for the larger teacher exepctancy effect on grades among girls.

A similar pattern emerged for social class. The multiple correlations of income and education with the absolute value of the residuals from the models predicting teacher perceptions (Base Model plus income and education) were .05, .02, .07, for teacher perceptions of performance, talent, and effort, respectively, (all p's = > .05). Thus, there was no evidence that teachers held more erroneous perceptions regarding lower SES students.

The results for ethnicity showed that teachers did hold slightly more inaccurate perceptions of African-American students than of White students. The correlations of ethnicity with the absolute values of the residuals from the models predicting teacher perceptions were .06, ($p < .05$), .07 ($p < .05$), and −.02 (*ns*) for performance, talent, and effort, respectively. Although greater error may have contributed to the stronger expectancy effects among African-American students, these differences are so small that they probably represent only a small or minor contribution.

B. MORE ON WHY: SELF AND PREVIOUS ACHIEVEMENT AS MODERATORS

The aforementioned findings indicate that teachers are about as accurate in perceiving girls as boys, lower SES as upper SES students, and African-American as White students. Therefore, greater inaccuracy cannot explain much, if any, of the greater expectancy effects among these students.

Then what does explain these greater expectancy effects? Perhaps something about these students (rather than something about their teachers) renders them more susceptible to expectancy effects. Perhaps students from stigmatized groups have fewer social and psychological resources for resisting teacher expectations. Their families may be less involved in their education (see, e.g., Lareau, 1987, regarding social class), rendering them more susceptible to the influence of other adult figures (such as teachers). The stresses associated with poverty and low income (single parent households, neighborhood crime and drug abuse, etc.) may reduce psychological resistance to teachers' influence. Students who face a relentless barrage of negative teacher expectations may "disidentify" with school (Steele, 1992) and may even take a certain pleasure in confirming teachers' negative expectations (Jussim, 1986). Perhaps a supportive teacher who holds students to higher standards may be seen as such a breadth of fresh air that many students are inspired to achieve more highly.

Although direct measures of students' social and psychological resources were not available, we did test these ideas indirectly. If lower SES and

African-American students (and to a lesser extent, girls) were more susceptible to expectancy effects because they had fewer resources to resist such expectations, then other students with fewer resources should also be more susceptible to expectancy effects. Who might such students be? Those who lack confidence and have histories of low achievement.

1. Self-Concept

Working with the same MSALT data and using essentially the same Base Model and procedures much like those described earlier for assessing moderation, we examined whether students' self-concepts moderated expectancy effects (Madon, Jussim, & Eccles, 1995). Using procedures much the same as those reported here, we found that the self-fulfilling effects of teacher perceptions were considerably stronger among students with lower self-concepts of math ability than among student with higher self-concepts of math ability. For example, for students whose self-concept was one standard deviation below the sample mean, the standardized coefficient relating teacher perceptions of performance to MEAP scores was .24, whereas it was only .10 for students whose self-concept was one standard deviation above the sample mean.

2. Previous Achievement

In much the same way, students with a history of low achievement might also be more susceptible to expectancy effects. For example, Midgley et al. (1989) examined the self-concepts and self-expectations for both low- and high-achieving adolescents as they made the transition from elementary school-based sixth grades to junior high school-based seventh grades. About 40% of the students moved from sixth-grade teachers with a high sense of efficacy for their own teaching ability to seventh-grade teachers who had doubts about their ability to teach low-skill students. Another 20% moved in the opposite direction—from sixth-grade teachers who doubted their ability to teach low-skill students to seventh-grade teachers who were confident in their ability to teach students of all ability levels. The pattern of change in self-perceptions of the high-achieving students was not affected by which type of teacher transition they experienced. In contrast, the pattern of change in the low-achieving students' self-perceptions were significantly linked to the type of change they experienced in their teachers' expectations. If they moved to a high-expectancy teacher, their own self-perceptions increased in the seventh grade. In contrast, if they moved to a low-expectancy teacher, their own self-perceptions decreased.

Why might low-achieving students be more susceptible to teacher expectancy effects? One possibility is that because low-achieving students feel less positive about their academic competence and are less certain of their future success than high-achieving students, these students may be more extrinsically motivated (Harter & Connell, 1984). Students who are more extrinsically motivated are likely to rely more on the teacher for motivation and for interpreting evaluative feedback, which makes these students more susceptible to teacher expectancy effects.

The work by Steele (1992) provides another possible explanation. When students "disidentify" with school, a history of low academic achievement may not be strongly reflected in their global self-esteem (Steele, 1992). Students seem most likely to disidentify with school when school becomes a painful place (either because of failure or cultural devaluation; see Steele, 1992). Disidentification means, in part, investing less energy in school work, which consequently leads to lower academic performance. It also means devaluing the importance of school achievement to one's self-worth. Thus, such students can maintain high self-esteem in the face of difficulties in school. This, in part, may help to explain why African-American students, despite lower levels of academic achievement, do not score lower on self-esteem measures than do White students (Crocker & Major, 1989).

Students with a history of low achievement may respond much the same as students with low self-esteem. Their motivation may be readily undermined by failure (or low teacher expectations), but be dramatically enhanced by a supportive and demanding teacher. We (Madon et al., 1995) have confirmed the hypothesis that self-fulfilling prophecies are stronger among low achievers than among high achievers. In this study, low achievement was operationalized as scores one standard deviation below the sample mean on standardized tests or previous grades and high achievement was operationalized as scores one standard deviation above the sample mean on standardized tests or previous grades. The standardized regression coefficient relating teacher perceptions of performance to MEAP scores was .28 for low achievers and .04 for high achievers. Similarly, the standardized regression coefficient relating teacher perceptions of performance to sixth-grade final marks was .24 for low achievers and .16 for high achievers.

3. Multiple Vulnerabilities

We also performed a series of follow-up analyses to determine whether the self-concept and achievement moderation effects we observed were independent of one another, and independent of the demographic moderation we described previously in this chapter. Because these analyses were quite complex, we only summarize our main findings here.

First, we assessed the independence of moderation by self-concept and by previous achievement. A set of analyses including both sets of moderators (self-concept by teacher perceptions, and previous achievement by teacher perceptions) showed that only the achievement moderators significantly predicted MEAP scores and sixth-grade final grades. The self-concept by teacher perception product terms did not significantly predict either students' future grades or MEAP scores in models that also included the previous achievement by teacher perception product terms.

Overall, therefore, these results indicate that achievement rather than self-concept is an active moderator of expectancy effects. Nonetheless, these results do not undermine the conclusion that students with lower self-concepts are more vulnerable to expectancy effects. They do help to explain why. Self-concept of ability is substantially correlated with actual performance (.41 with previous standardized test scores and .45 with previous grades). Students with records of lower previous achievement, who are the most vulnerable, are more likely also to have lower self-concepts of ability.

We also considered whether the moderating effects of achievement were similar for some of the differing demographic groups of students. However, because of the small number of African-American students, models with three-way product terms for ethnicity by previous achievement by teacher perceptions would not have yielded meaningful results. We did, however, examine whether the overall patterns of achievement moderation were similar for girls and boys, and for students from different SES backgrounds.

First, we created three-way product terms combining achievement, sex, and teacher perceptions and added these to the Base Model plus all lower-order two-way product terms. Neither the block of three-way terms nor any of the individual three-way terms significantly predicted either final grades or MEAP scores. These results indicated that the pattern of achievement moderation was similar for boys and girls.

Next, we examined whether the pattern of achievement moderation was similar for groups of students from different socioeconomic backgrounds. Again, we created three-way product terms combining achievement, SES, and teacher perceptions and added them to the Base Model plus all lower-order two-way product terms. None of the three-way terms (individually or as a block) significantly predicted grades, indicating that the pattern of achievement moderation was similar for groups of students from differing SES backgrounds.

However, the three-way product term combining parental education, students' previous standardized test scores, and teacher perceptions of performance did significantly ($p < .01$) predict MEAP scores. Examination of the regression coefficients showed that the relation of teacher perceptions of performance to MEAP scores was much higher (2.46 unstandardized, .62 standardized) for students with a history of lower achievement and with parents who did not complete high school than for any other combination of SES and previous achievement (coefficients ranging from .50 to 1.08, unstandardized, and .13 to .27 standardized).[10] The .62 standardized coefficient for low-achieving students from lower SES backgrounds, like the coefficients we observed relating teacher perceptions to achievement among African-American students, is one of the most powerful expectancy effects yet observed.

Overall, therefore, these results showed that low math achievers (who also tend to have lower self-concepts of math ability), much the same as low SES and African-American students, were more susceptible to self-fulfilling prophecies. Moreover, our results also showed that students with multiple vulnerabilities are more susceptible to self-fulfilling prophecies than are students with only one vulnerability.

IX. Other Moderators

Our quest for identifying conditions under which expectancy effects are large has only just begun. Undoubtedly, researchers will discover many conditions other than student demographics, self-concept, and previous achievement. Next, therefore, we discuss three classes of factors that may influence expectancy effect sizes: 1) characteristic of the perceiver; 2) characteristics of the target; and 3) situational factors.

A. PERCEIVER CHARACTERISTICS

1. Goals

Perceivers' goals may moderate the influence of their expectations on targets (Hilton & Darley, 1991). Self-fulfilling prophecies are more likely to occur when perceivers desire to arrive at a stable and predictable impression of a target (Snyder, 1992), when perceivers are more confident in the

[10] These coefficients were derived in the same way that the coefficients were derived in the earlier section on demographic moderation (see footnote 4). To obtain the coefficients reported here, we operationalized low parental education as "some high school," and high education as having completed a college BA. Low achievement was operationalized as performing at the 10th percentile of our sample, and high achievement was operationalized as performing at the 90th percentile of our sample. The coefficients for each of the four combinations of SES and previous achievement reported in the text were based on the results of the full model, which included the Base Model, the significant three-way product term, and all lower-order two-way product terms.

validity of their expectations (Jussim, 1986; Swann & Ely, 1984), and when they have an incentive for confirming their beliefs (Cooper & Hazelrigg, 1988). Self-fulfilling prophecies and perceptual biases are less likely when perceivers are motivated to develop an accurate impression of a target (Neuberg, 1989), when perceivers' outcomes depend on the target (Neuberg, 1994), and when perceivers' main goal is to get along in a friendly manner with targets (Snyder, 1992). Perceptual biases are more likely when perceivers strive to rapidly reach a particular conclusion (Kunda, 1990; Neuberg, 1994; Pyszczynski & Greenberg, 1987). These findings raise the following question: When are perceivers likely to be motivated by accuracy or a desire to get along in a friendly manner, and when are they likely to be overconfident in their beliefs or motivated by desires to reach a particular conclusion?

2. Prejudice, Cognitive Rigidity, and Belief Certainty

Prejudiced individuals seem especially unlikely to be motivated by either accuracy concerns or the desire to get along with members of the group they dislike. Instead, they seem likely to desire to reach the particular conclusion that members of the stigmatized group have negative, enduring attributes (Pettigrew, 1979). People high in cognitive rigidity or belief certainty also may not be motivated to consider different viewpoints. Cognitive rigidity, which is usually construed as an individual difference factor (e.g., Adorno, Frenkel-Brunswick, Levinson, & Sanford, 1950; Allport, 1954; Harris, 1989), and belief certainty, which is usually construed as a situational factor (Jussim, 1986; Swann & Ely, 1984), are both similar in that they describe people who may be unlikely to alter their beliefs when confronted with discomfirming evidence. Whether the source is prejudice, cognitive rigidity, or belief certainty (which may tend to co-occur with individuals; see Adorno et al., 1950), people overly confident in their expectations may be most likely to maintain biased perceptions of individuals and to create self-fulfilling prophecies (Babad, Inbar, & Rosenthal, 1982; Harris, 1989; Swann & Ely, 1984).

3. Other Individual Differences

Experienced perceivers may be less likely to create self-fulfilling prophecies. We use the term "experienced" here in two different but related senses. One aspect of experience refers to time on the job or in one's role. Thus, for example, more experienced teachers, therapists, doctors, and so forth have probably developed considerably more competence and expertise at appraising people such as students, clients, and patients. If so, then

their impressions may be more accurate. The second sense in which we use "experience" involves perceivers' experience with targets. When perceivers have greater information and more opportunities to interact with targets, they have greater opportunity to develop accurate beliefs. Thus, perceivers who have had more information about or experience with particular targets are also likely to be more accurate. Of course, accuracy reduces the potential for self-fulfilling prophecies.

Another such moderator may be professional efficacy. In general, efficacy refers to beliefs concerning one's ability to engage in the behaviors necessary for accomplishing a particular goal (Bandura, 1977). Professional efficacy, therefore, refers to beliefs regarding one's ability to engage in the behaviors necessary for accomplishing the essential work of one's profession. For example, teaching efficacy would refer to beliefs regarding one's ability to teach. When teachers are less confident in their teaching ability (low teaching efficacy), they may be more likely to create expectancy effects. Teachers low in teaching efficacy may feel less able to improve the skills of low-expectancy students; consequently, they may spend less time and effort with such students than do teachers high in teaching efficacy (Midgley et al., 1989). By virtue of spending less time with low-expectancy students (and perhaps more time with high-expectancy students), teachers low in teaching efficacy may exacerbate differences between high- and low-expectancy students to a greater extent than do teachers high in teaching efficacy (Midgley et al., 1989). A similar analysis could be readily applied to other professions (e.g., clinicians, managers, etc.).

A need to control others may also moderate expectancy effects. For example, the more that teachers strive to control students, the more likely it may be that their expectancies will be self-fulfilling and biasing. A high emphasis on control may include a particularly strong preference for having one's expectations confirmed. Control implies predictability, so unpredictable situations (or students) may be perceived as implying a lack of control. When students disconfirm expectations, therefore, teachers who emphasize control may feel threatened. These teachers may be most motivated to "ensure" that students confirm their expectations. This analysis is consistent with a less well-known finding of the original Rosenthal and Jacobson (1968) study: Some teachers responded especially negatively to the successes of students not specifically designated as late-bloomers.

B. TARGET CHARACTERISTICS

1. Goals

Targets may become more or less susceptible to self-fulfilling prophecies, depending on their goals. When perceivers' have something targets want

(such as a job), and when targets are aware of the perceiver's beliefs, they often confirm those beliefs in order to create a favorable impression (von Baeyer et al., 1981; Zanna & Pack, 1975). Similarly, when targets desire to facilitate smooth social interactions, they are also more likely to confirm perceivers' expectations (Snyder, 1992). In contrast, when targets believe that perceivers hold a negative belief about them, they often act to disconfirm that belief (Hilton & Darley, 1985). Similarly, when their main goal is to defend a threatened identity, or to express their personal attributes, targets are also likely to disconfirm perceivers' inaccurate expectations (Snyder, 1992).

2. Age

Self-fulfilling prophecies were strongest among the youngest students in the original Rosenthal and Jacobson (1968) study, suggesting that younger children may be more malleable than older children and adults. However, a meta-analysis has shown that the strongest teacher expectation effects occurred in the first, second, and *seventh* grades (Raudenbush, 1984). Further, the largest self-fulfilling prophecy effects yet reported were obtained in a study of adult Israeli military trainees (Eden & Shani, 1982). Although these findings do not deny a moderating role for age, they do suggest that situational factors may also influence targets' susceptibility to self-fulfilling prophecies.

C. SITUATIONAL FACTORS

1. New Situations

People may be more susceptible to confirming others' expectations when they enter new situations. Whenever people engage in major life transitions, such as entering a new school or starting a new job, they may be less clear and confident in their self-perceptions. Unclear self-perceptions render targets more susceptible to confirming perceivers' expectations.

This analysis may help to explain the seemingly inconsistent findings regarding age. Students in the first, second, and seventh grades, and new military inductees, are all in relatively unfamiliar situations. Therefore, all may be more susceptible to self-fulfilling prophecies.

2. Class Size and Resources

Expectancy effects may be more likely in classrooms with large numbers of students than they are in smaller classrooms. People are more susceptible to biases when more of their "cognitive capacity" is being used—when they are trying to do several things at once (Gilbert & Osborne, 1989). The more students in a class, the more "cognitively busy" the teacher is likely to be, and, therefore, the more susceptible to biases and expectancy effects.

A related moderator may be class and school resources. Not only do resources (access to books, computers, laboratories, indoor and outdoor athletic facilities, fine arts, etc.) create a more generally pleasant learning environment; they probably make it easier for teachers to manage the students in their classes. Consequently, they, too, may be less likely to be cognitively overloaded, and, therefore, less suceptible to self-fulfilling prophecies.

At least one study (Finn, 1972) found results consistent with this perspective on class size and resources. Finn (1972) found that teacher expectations influenced the grades they assigned, but only in urban schools (not in suburban schools). Although urban and suburban schools differ in many dimensions, two differences often are class size (suburban schools often have smaller class sizes) and resources (suburban schools are often wealthier).

3. Tracking

School tracking refers to the policy of segregating students into different classes according to their ability. For example, smart students may be assigned to one class, average students to another, and slow students to a third. Tracking may be intended as a prosocial intervention. By putting students with similar capacities together, teachers have the opportunity to tailor their lessons in a way that maximizes those students' learning and achievement.

However, tracking may also moderate expectancy effects. Tracking represents institutional justification for believing that some students are smart and others are not. Due to our cultural beliefs regarding the meaning of low ability, particularly in math and science, tracking essentially provides students and teachers with an explanation for the students' low skill level that absolves both the student and the teacher of responsibility for continued learning. Thus, it may lead to the type of rigid teacher expectations that are most likely to evoke self-fulfilling prophecies and perceptual biases (Eccles & Wigfield, 1985; Jussim, 1986, 1990).

In addition, poor quality instruction may occur in at least some low-tracked courses. In part, this is a consequence of student characteristics. These classes are harder to manage, and traditional teaching techniques are not likely to be successful. However, teachers' expectations can also

exacerbate the poor environment. If teachers think that low-skill children cannot learn, or do not want to learn, they may reduce their teaching efforts (Allington, 1980; Evertson, 1982)—exactly the behavior that often leads to self-fulfilling prophecies (Harris & Rosenthal, 1985).

This situation is indeed unfortunate, considering the somewhat arbitrary nature of student placement in tracks, particularly for students of color and students from lower social class backgrounds (Dornbusch, 1994). In addition, when low-skill students were moved up in their track placement, both teacher expectations and students' actual performance on standardized tests improved (Tuckman & Bierman, 1971). In addition, the teachers in this study recommended that most of the students remain in the higher track the following year. These results suggest that long-term differences in the performance level of students in different tracks may reflect expectancy effects as well as ability differences. More field-based studies are needed to test this hypothesis.

X. Accumulation

Even if expectancy effects are small within a single school year, if such effects accumulate over several years, they may produce dramatic differences among students. Consider two students starting the sixth grade with identical IQs of 100. Nevertheless, the sixth-grade teacher believes that one student is bright and the other is dull. Assume that teacher expectations have an effect (in terms of standardized regression coefficients) of only .2 on student achievement. Further assume that the student believed to be bright by her sixth-grade teacher is believed to be bright by teachers in subsequent years, and that the student believed to be dull by her sixth-grade teacher is believed to be dull by her subsequent teachers.

An effect of .2 is equivalent to 1/5 of a standard deviation, and the standard deviation of IQ tests is 15. If a self-fulfilling prophecy increases the IQ of the high-expectancy student by only three points per year, and decreases the IQ of the low-expectancy student by only three points per year, by the end of high school, the "bright" student will have an IQ of 115, the "dull" student an IQ of 85. This is the power of "small" effects that accumulate!

The assumption that small effects accumulate lies at the heart of many strong claims regarding the power of expectations to create social reality. Such claims are usually based on experimental laboratory studies (see reviews by Jones, 1986; Snyder, 1984), even though they involve a single, brief interaction among strangers (e.g., Snyder et al., 1977; see Jussim, 1991, for a review of these claims). The accumulation issue is particularly relevant to social stereotypes. Widely shared social stereotypes may lead many different perceivers to hold similar expectations for targets who are "marked" by some sort of stigma (race, handicap, institutional labels). Consequently, even if the self-fulfilling effects of perceivers' expectations are small within a single interaction, such effects may accumulate over many years and become a major source of individual differences.

However, do expectancy effects actually accumulate? Instead, perhaps they dissipate over time. Even if a teacher does create a 6-point IQ difference between two students, perhaps the next year that difference will tend to lessen or disappear completely. We know of only four studies that have empirically assessed the accumulation of expectancy effects. These are discussed next.

A. ROSENTHAL AND JACOBSON (1968)

Rosenthal and Jacobson (1968) manipulated teachers' expectations in the first year by randomly selecting students and designating them as "late bloomers." However, in the second year, teachers developed expectations without direct intervention by the experimenters. The accumulation hypothesis predicts that there would be greater differences between "late bloomers" and controls in the second year than in the first year. In fact, the opposite was found: The differences between these students significantly declined after two years. On the average, "late bloomers" had a 3.80 IQ point advantage over controls at the end of the first year, but only a 2.67 IQ point advantage at the end of the second year.

B. RIST (1970)

Rist (1970, described previously) followed a class of kindergarten students through second grade. Unfortunately, he provided no quantitative information regarding students' learning, IQ scores, or achievement in first or second grade. Thus, it is impossible to determine whether expectancy effects accumulated. Although Rist (1970) concluded that he had observed a rigid cast-like system based on social class, which suggests large and powerful accumulation effects, his own observations actually suggest dissipation instead. As did the kindergarten teacher, the first-grade teacher assigned students to three tables (apparently according to her beliefs about the smart, average, and dumb students). All of the Table 1 ("smart") students in kindergarten were assigned to Table 1 in first grade. However, students

at Tables 2 and 3 in kindergarten were all assigned to Table 2. Thus, if table assignment is the criterion, kindergarten differences between Tables 2 and 3 disappeared by first grade, although differences between those children and Table 1 students were maintained.

Rist (1970) reported further reduction of apparent differences in second grade. In the second-grade class, the students who had been assigned to Table 1 in first grade were all assigned to their own table (they were referred to as "tigers"). Students who had been assigned to Tables 2 and 3 in first grade, in the second-grade class were assigned to a second table (referred to as "cardinals"). None of the students from the first-grade glass Rist observed were assigned to the "slow" table (called "clowns"). In addition, Rist (1970) observed that in January, two of the tigers were moved to the cardinals' table, and two of the cardinals were moved to the tigers' table. Thus, although some of the differences among students in kindergarten were maintained through second grade, overall differences between the groups seem to have declined.

C. WEST AND ANDERSON (1976)

West and Anderson (1976) examined relationships between teacher expectations and student achievement in a period running from the freshman through the senior year of high school. The accumulation hypothesis predicts that the coefficients relating freshman-year teacher expectations to senior-year achievement will be larger than those relating freshman-year teacher expectations to sophomore-year achievement. However, their results showed dissipation: The coefficient relating freshman-year teacher expectations to senior-year achievement (.06) was smaller than the coefficient relating to sophomore-year achievement (.12).

D. FRIEZE ET AL. (1991)

Frieze et al. (1991) addressed the accumulation issue by comparing the extent to which the attractiveness of MBAs predicted starting salary versus salary in 1983 (several years later). The unstandardized coefficients relating attractiveness to 1983 salary (2.60 for men and 2.13 for women) were higher than those relating to starting salary (1.13 and 0.28, respectively). Whether these results indicate accumulation of self-fulfilling prophecy effects or accumulation of greater rewards to more socially skilled managers (as discussed previously, the more attractive tend to be more socially skilled), however, is unclear.

These are the only four studies (Frieze et al., 1991; Rist, 1970; Rosenthal & Jacobson, 1968; West & Anderson, 1976) to our knowledge that have directly assessed whether expectancy effects accumulate. These paint a decidedly mixed picture, and all have major conceptual or methodological limitations (see also Elashoff & Snow, 1971; Jussim & Eccles, 1995). Although expectancy effects may accumulate over time, there is currently no evidence clearly demonstrating that they actually do. Strong, empirical evidence on this issue is sorely needed.

E. CONCURRENT ACCUMULATION EFFECTS

The sparce empirical research on accumulation effects has all focused on accumulation over time. However, it is also possible that, within a single time frame (e.g., 1 school year), the effects on targets of multiple perceivers' expectations may accumulate. To distinguish such effects from the accumulation of expectancy effects over time, we refer to these as "concurrent accumulation effects."

The notion of concurrent accumulation effects is implicit in most perspectives that emphasize the potentially self-fulfilling nature of social stereotypes (e.g., Deaux & Major, 1987; Hamilton et al., 1990; Jones, 1990; Snyder, 1984). Because stereotypes are often shared, multiple perceivers will often develop similar expectations for individual members of the stereotyped group. Perceiver after perceiver will presumably heap self-fulfilling prophecy after self-fulfilling prophecy upon stereotyped targets.

Such a perspective appears to imply that the self-fulfilling prophecy effects observed in most individual studies probably underestimate the true extent to which individual targets' are influenced by others' expectancies, because all previous research has focused on the potentially self-fulfilling effects of only one perceiver on each target. If multiple perceivers influence targets, then one might expect that, in the course of daily life, people would be more influenced by self-fulfilling prophecies than is implied by existing research.

Figure 10 presents a simplified general model of concurrent accumulation effects. The model includes two self-fulfilling prophecy paths: Path A (linking one perceiver's expectations to targets) and Path B (linking other perceivers' expectations to targets). r_1 is the correlation between perceivers' expectations. The displayed models are simplified in three ways. First, if there are many "other perceivers," there really could be many more paths and correlations. Second, none of the control variables necessary to actually assess expectancy effects are displayed. Third, we assume all paths are standardized.

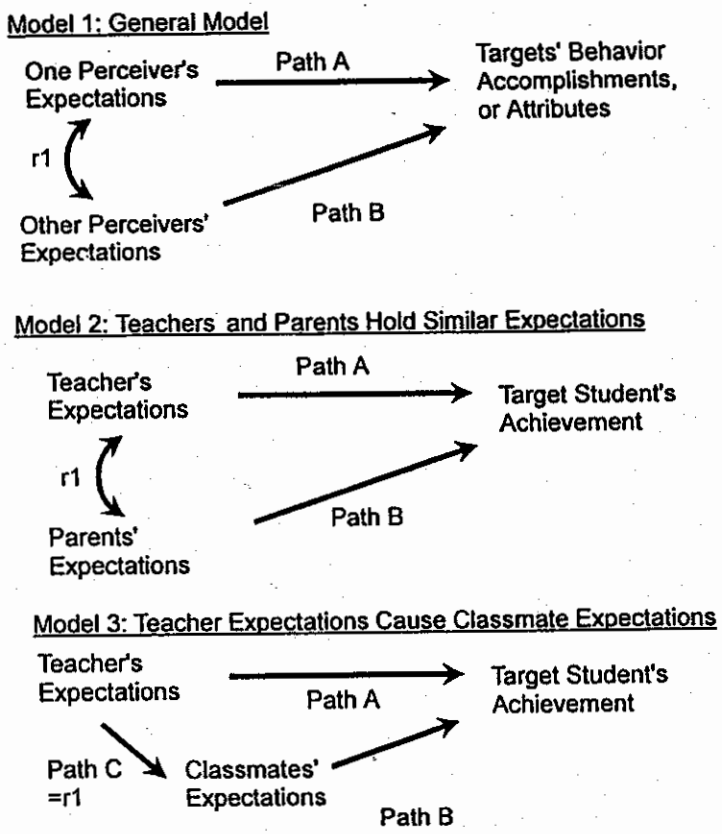

Fig. 10. Models of concurrent accumulation of expectancy effects. For simplicity of presentation, none of the models displayed here include the control variables that would be necessary to actually assess expectancy effects.

Nonetheless, simply making this model explicit leads to some surprising insights. Model 2 presents a concrete hypothetical example. The model assumes that both teachers' expectations and parents' expectations have self-fulfilling effects on students (Paths A and B, respectively). The similarity between parents' and teachers' expectations is represented by r_1. One might be tempted to conclude that studies focusing only on effects of teacher expectations, for example, would underestimate total expectancy effects because they do not assess effects of parents' expectations.

Figure 10 shows that such a conclusion is not warranted. This analysis is a variant on the omitted variable problem (see our earlier discussion of limitations to naturalistic research on expectancies). In the hypothetical teacher expectation study shown in Model 2, parental expectations correlate with teacher expectations and also cause student outcomes. If effects of parental expectations are not explicitly included in the model, the effects of teacher expectations will be overestimated. In fact, the estimated path coefficient linking teacher expectations to student achievement will equal

$$\text{Path A} + (r_1 * \text{Path B}).$$

Conceptually, the teacher expectation–student achievement coefficient will be biased upward precisely to the extent that parent expectations overlap with teacher expectations and parent expectations themselves cause student outcomes. In other words, the coefficient linking teacher expectations to student achievement will also include the self-fulfilling effect of parental expectations, to the extent that parent and teacher expectations overlap. If they do not overlap, there is no potential for concurrent accumulation, even if parent and teacher expectations are both self-fulfilling.

Model 3 presents another variation on this idea. In this example, teacher expectations cause both classmates' expectations and target students' achievement. However, if classmates' expectations are not assessed, the estimated path coefficient linking teacher expectations to student achievement will equal

$$\text{Path A} + (\text{Path C} * \text{Path B}).$$

In this case, failure to assess the classmates' mediating paths does not "overestimate" teacher expectation effects at all. Model 3 is a classic example of a direct and indirect effects model (e.g., Alwin & Hauser, 1975; see Jussim, 1991, for several examples applied to social perception and expectancies). The total effect of teacher expectations on student achievement equals the sum of its direct effect (Path A) and its indirect effect (Path C * Path B). In other words, if there are important mediators, even if they are not assessed, the total effect of teacher expectations on student achievement simply equals the path coefficient linking them. In this situation, there is no underestimation of concurrent accumulation.

This analysis leads to several surprising conclusions. Studies that assess effects of only a single perceiver's expectations on each target are not likely to be underestimating concurrent expectancy effects. If there is any bias, it is likely to be in overestimating the effects of the expectations of the perceivers who are included in the study. However, as indicated in the

models displayed in Figure 10, the estimated effects on targets of individual perceivers who are included in the study should approximate the total self-fulfilling effect of all perceivers (even those excluded from the study) whose expectations overlap with those of the included perceivers. Thus, studies of individual perceiver–target relationships probably do not underestimate the accumulation of concurrent self-fulfilling prophecies.

One caveat is in order. Concurrent accumulation requires different perceivers to hold similar expectations for the target. This is captured by r_1 in the models in Figure 10. Concurrent accumulation generally will underestimate the total extent to which targets are influenced by self-fulfilling prophecies, because perceivers will rarely hold identical expectations for those targets. To the extent that perceivers hold different expectations for the target, even if their expectations are self-fulfilling, there will be little net accumulation. For example, consider Fred, who is neither introverted nor extraverted. Let us assume, furthermore, that two of Fred's friends believe him to be extraverted and two other friends believe him to be introverted. If all of their expectations are approximately equally self-fulfilling, overall, there will be no accumulation—he will remain neither particularly introverted nor very extraverted.

XI. Conclusion

A. ARE SELF-FULFILLING PROPHECIES OFTEN POWERFUL AND PERVASIVE?

This article has described our own and others' research documenting three main phenomena. First, claims about the power of expectancy effects notwithstanding, current evidence from both naturalistic and experimental studies indicates that, in general, self-fulfilling prophecies are not very powerful (see reviews by Brophy, 1983; Eccles & Wigfield, 1985; Jussim, 1991; Jussim & Eccles, 1995; Wineburg, 1987; see also meta-analyses by Raudenbush, 1984; Rosenthal & Rubin, 1978). To date, only naturalistic studies have attempted to compare the extent to which perceivers' expectations predict targets' behavior because those expectations are accurate versus self-fulfilling. These studies consistently show that teacher perceptions predict student achievement more because those perceptions are accurate than because they lead to self-fulfilling prophecies. The little research that has addressed naturally occurring expectancy effects outside of the classroom generally yields similar findings (see Jussim & Eccles, 1995, for a review).

Despite this repeatedly documented pattern of high accuracy and low self-fulfilling prophecy (see reviews by Brophy, 1983; Brophy & Good, 1974; Jussim, 1990, 1991, 1993; Jussim & Eccles, 1995; Jussim et al., 1994), many social psychological perspectives focusing primarily on experimental research often assume or conclude that self-fulfilling prophecies are common and even powerful (e.g., Fiske & Taylor, 1991; Hamilton et al., 1990; Jones, 1986, 1990; von Hippel et al., 1995). To the extent that the criterion for arriving at such conclusions is the evidence regarding what happens under naturalistic conditions, we would argue that it is time for social psychology to discard its belief that expectancy effects are generally powerful and pervasive.

B. WHEN ARE TEACHER EXPECTATION EFFECTS MORE POWERFUL?

This, of course, does not mean that expectancy effects are never powerful. Since we first discovered this pattern of high-accuracy and low-expectancy effects in our own initial studies (Jussim, 1989; Jussim & Eccles, 1992), we have been on a quest to identify conditions under which expectancy effects are more powerful. We have actually uncovered quite a few (these are the second major phenomena we have documented in this article). Expectancy effects are considerably stronger among students from stigmatized groups (African-Americans, lower SES, and, to a smaller extent, girls), and among students with low self-concepts and records of poor previous achievement. It is likely that different processes partially account for each of these groups' greater susceptibility to expectancy effects. However, we have speculated that reduced social and psychological resources for combating erroneous teacher expectations may at least partially underlie the greater susceptibility to expectancy effects that characterizes each of these groups.

C. THE ROLE OF STEREOTYPES IN TEACHERS' PERCEPTIONS OF STUDENTS

The third major contribution of this chapter has been to provide some of the first evidence regarding the role of stereotypes in naturally occurring person perception. Although the role of stereotypes in person perception has been a hot topic (e.g., Beckett & Park, 1995; Bodenhausen, 1988; Darley & Gross, 1983; Krueger & Rothbart, 1988; Locksley et al., 1980, 1982; Nelson, Biernat, & Manis, 1990), there has been little naturalistic research addressing the question (see Jacobs & Eccles, 1992, for an excep-

tion). Thus, another contribution of the research described in this article is to provide some of the first empirical evidence regarding the extent to which stereotypes bias person perception among real people making real decisions in real situations. We think the time is ripe for a flood of naturalistic social psychological studies addressing this issue.

Our results show that, in general, teacher perceptions of sex, social class, and ethnic differences and similarities were highly accurate. Such results would seem to contrast with much emphasis on stereotypes biasing social perception (e.g., Fiske & Neuberg, 1990; Fiske & Taylor, 1991; Hamilton et al., 1990; Jones, 1986, 1990; Stangor, 1995). Although we did find some evidence of bias, for the most part, teachers' perceptions of the groups closely corresponded to the group members' grades, achievement, and motivation. Such findings are actually consistent with a number of perspectives all arguing that stereotypes may be either accurate or inaccurate, and that, in general, issues of stereotype accuracy and inaccuracy are considerably more complex than once thought (see, e.g., Ashmore & Longo, 1995; Brigham, 1971; Eagly, 1995; Fox, 1991; Judd & Park, 1993; Jussim, 1990; Jussim et al., 1995; Mackie, 1973; McCauley et al., 1980; Oakes, Haslam, & Turner, 1994; Ottati & Lee, 1995; Ryan, 1995).

We also presented a simple theoretical model for addressing issues of both content and process in stereotyping. The model shown in Figures 8 and 9 may be used to identify whether perceivers' judgments of the differences between individual members of different groups actually corresponds to the existing group differences, if there are any (see also Beckett & Park, 1995; Jussim, 1991). This model is also useful for determining the extent to which judgments were based on individuating information versus social category membership, and shows that people's use of categorical information does not necessarily lead people to unfairly favor one group over another. When individuating information is less than perfectly diagnostic, and when there are real differences between groups, perceivers who base their judgments of individual targets on those targets' social category will arrive at more valid perceptions of group differences than perceivers who do not base their judgments on those targets' social category (see also Funder, in press; Jussim, 1991; Kahneman & Tversky, 1973).

Of course, we are not claiming that either our model or our empirical results show that bias, prejudice, and discrimination do not exist or are unimportant. Obviously, they do exist, and they are terribly important. However, it is also possible that person perception biases produced by stereotypes exist to a smaller extent than one might assume on the basis of the experimental laboratory research. To challenge the tentative hypothesis that biases produced by stereotypes outside of the laboratory may not be that powerful, social psychologists will have to move their research programs out of their laboratories and investigate stereotype-induced biases in naturally occurring situations.

D. BIAS AND DISCRIMINATION WITHOUT EXPECTANCY EFFECTS

It is also possible that bias and discrimination may be manifest in ways very different from those assessed in the current studies, or that they must be assessed in a manner different from that of the typical social psychology laboratory experiment. Barriers may exist to equal employment opportunities, even in the complete absence of employer bias. For example, different social networks may constitute one such barrier (e.g., Braddock & McPartland, 1987). We live in a (still) highly segregated society—Whites are more likely to associate with Whites; African-Americans are more likely to associate with African-Americans. Whites hold more managerial jobs, and job openings are often filled through informal networks. Because Whites are more likely to be "plugged in" to such networks, they will have greater job opportunities. This may occur even if White employers judge the applicants who come to their attention solely on their merits.

E. SELF-FULFILLING PROPHECIES WITHOUT BIASED OR INACCURATE PERCEIVERS

Similarly, stereotypes may create self-fulfilling prophecies that are in no way the fault of the individual perceiver. A series of studies by Zanna (von Baeyer, Sherk, & Zanna, 1981; Zanna & Pack, 1975) showed that when women believed they were to be interviewed by a traditional or sexist man, they often acted in such a way as to confirm sex stereotypes. One reason these studies are interesting is that many of the dependent variables (how much make-up and accessories the women wore, their performance on a test, etc.) were all assessed prior to the interview (which, in the case of Zanna & Pack, 1975, never took place). Similarly, when targets believed that perceivers viewed them as mentally ill, even if perceivers were blind to targets' mental health status, targets actually evoked more rejection from those perceivers (e.g., Farina, Allen, & Saul, 1968; Farina, Gliha, Boudreau, Allen, & Sherman, 1971). These are still self-fulfilling prophecies in the sense that stereotypes create their own reality. However, the self-fulfilling prophecy trigger in these studies is not the beliefs held by bigoted or error-prone perceivers—it is targets' beliefs about how perceivers view them.

Steele's (1992) analysis of disidentification as a source of African-American underachievement is also consistent with this perspective. Steele argued that, because the cultural milieu devalues African-Americans, they are wounded more deeply by scholastic difficulties than are other students. Note, however, that Steele's analysis predicts African-American underachievement, even if African-American students never take a class with a biased teacher (see also Fordham & Ogbu, 1986). Cultural stereotypes may have a life of their own, and may create self-fulfilling prophecies even when individual perceivers do not.

F. BEYOND THE DYAD: SELF-FULFILLING PROPHECIES AT ORGANIZATIONAL, INSTITUTIONAL, AND SOCIETAL LEVELS OF ANALYSIS

In addition to culturally based self-fulfilling prophecies, institutional policies may also create self-fulfilling prophecies. For example, Merton (1948) documented how, in the early part of this century, most labor unions barred African-Americans from membership. Union members often claimed that African-Americans were strikebreakers and could not be trusted. This severely limited the job opportunities of African-Americans. When faced with a strike, companies often offered jobs to all takers, and African-Americans often jumped at the chance for work. Thus, the union's beliefs about African-Americans were confirmed. It is important to note, however, that if an individual union member, acting alone, held this stereotype of African-Americans, it would have had no effect at all on reducing the job opportunities of African-Americans.

In fact, Merton's (1948) original analysis of self-fulfilling prophecies focused primarily on broad-based sociological patterns and institutional practices. However, self-fulfilling prophecies are probably considerably more easily studied as a dyadic interaction level phenomenon (and, of course, it is important at the dyadic level, too). Elsewhere, however, we (Jussim & Fleming, in press) have attempted to update Merton's (1948) analysis by identifying ways in which modern institutional practices create self-fulfilling prophecies. We have suggested that school tracking may contribute to ethnic self-fulfilling prophecies, that funding schools through local property taxes may contribute to social-class self-fulfilling prophecies, and that the allocation of academic rewards (jobs, article acceptances, etc.) are characterized by self-fulfilling prophecies based on institutional prestige.

In the spirit of Merton's (1948) original essay, we (Jussim & Fleming, in press) have speculated that a sociological level analysis of self-fulfilling prophecies might contribute to understanding the 1992 Los Angeles riots. These riots, among the most destructive civil disturbances of this century, are often considered to be a response to the perceived injustice of the "not guilty" verdicts returned in the case against the police officers who beat Rodney King, an African-American motorist. The riot surely resulted from the interplay of many social forces, and a three-step self-fulfilling prophecy analysis may contribute to understanding some sources of the riots.

The first step is expectations: Many Whites have historically held, and continue to hold, negative stereotypes about many minority groups (see reviews by Allport, 1954; Marger, 1991). These beliefs probably contributed to the second step: discrimination. In the last 20 years, Whites have seemingly become less sympathetic to social programs, such as school desegregation and affirmative action, that are designed to provide greater educational and occupational opportunities for minorities (Marger, 1991). Through blatant and subtle forms of discrimination, many Whites continue to limit and undermine the quality of life for many minority groups.

Discrimination may lead to the final step in this self-fulfilling prophecy—riots—in several ways. First, discrimination may create a deep resentment among many minority group members, a resentment that may be triggered by certain conditions into riotous behavior. Second, discrimination probably reduces support for the general social structure. For example, many African-American teenagers may not vigorously pursue high educational achievement because 1) high achievement may be seen as "acting White" and as rejecting one's own ethnic group (e.g., Fordham & Ogbu, 1986; Steele, 1992); or 2) as a result of later job discrimination, education is seen as producing little or no economic payoff. People who have not greatly invested in the social system are probably more likely to take whatever they can get away with when a golden opportunity, such as a riot, appears. Thus, even when the rioters were inspired more by self-interest than by abstract political agendas, discrimination probably played an important role. This type of violent, antisocial behavior, of course, confirms for many Whites the validity of their negative beliefs about minorities.

Of course, we are not claiming that this type of self-fulfilling prophecy analysis completely accounts for such a large-scale and complex social phenomenon as the Los Angeles riots. Furthermore, empirical research that actually documents such sociological self-fulfilling prophecies is considerably more difficult to perform than research on dyadic self-fulfilling prophecies. However, we suspect that at least sometimes, such effects may be quite powerful.

G. WHENCE RESEARCH ON SELF-FULFILLING PROPHECIES?

Social scientists have learned much about self-fulfilling prophecies in the 50 years since Merton (1948) coined the term and in the 30 years since

Rosenthal & Jacobson (1968) triggered an explosion of interest in the area. We know that the phenomenon is indeed real (an issue that was hotly contested through the 1970s (see, e.g., Elashoff & Snow, 1971, or the commentaries on Rosenthal & Rubin's 1978 meta-analysis). We also know much about how they happen (see reviews by Brophy, 1983; Darley & Fazio, 1980; Eccles & Wigfield, 1985; Jussim, 1986; Rosenthal, 1974; see Harris & Rosenthal, 1985, for a meta-analysis) and something of the conditions under which they are more or less likely. Next, therefore, we offer some suggestions regarding potentially fruitful directions for future research on self-fulfilling prophecies.

1. Moderators

In the last 15 years, much research on self-fulfilling prophecies has focused on moderators (e.g., Brattesani, Weinstein, & Marshall, 1984; Neuberg, 1989; see reviews by Neuberg, 1994; Snyder, 1992; see meta-analyses by Cooper & Hazelrigg, 1988; Raudenbush, 1984). Social scientists are only beginning to understanding how the power of self-fulfilling prophecies depends on characteristics of perceivers, targets, and situations. Research on moderators, therefore, is likely to continue to contribute important insights into the role of expectancies in creating social reality and social problems.

2. Mediators

Research on mediators has consistently supported Rosenthal's (1974) four-factor theory (see Jussim, 1986, for a review; see Harris & Rosenthal, 1985, for a meta-analysis). The four-factor theory claims that perceivers act on their expectations in four broad classes of ways that can be described in these terms: climate, feedback, input, and output. Perceivers provide more socioemotional warmth (climate), clearer and more positive feedback (feedback), spend more time with and lavish more attention on (input), and provide more opportunities for high achievement to (output) high-expectancy targets. Perhaps because this pattern has been so well documented, there has been little research on mediators in the last 10 years.

However, other types of mediators have been underexplored. In performance situations, abundant research attests to the power of setting high goals for students, employees, and athletes, to name a few groups (Locke & Latham, 1990). However, whether high expectations often lead perceivers to explicitly set higher goals for targets is not known. However, even if perceivers do not set explicit goals for targets, perceivers may sometimes explicitly convey high expectations, which may have an effect much the same as setting high goals. However, both the extent to which perceivers do this and its effect on targets, is currently unknown.

Two recent studies suggest that the role of affect in driving "expectancy" effects has been underexplored. The first found that children were less warm, friendly, and involved when playing with other children who were stigmatized (Harris, Milich, Corbitt, Hoover, & Brady, 1992). The second found that perceivers' liking or disliking of (prejudice toward) a target's group was a more potent source of biases in judgments of that target's sanity than were perceivers' beliefs (stereotypes) about that group (Jussim et al., 1995).

In addition, the results of several classic self-fulfilling prophecy studies may be readily interpreted as the result of perceivers' affect. For example, in the classic Snyder et al. (1977) study, college men were more pleasant to the supposedly attractive college women. The interpretation of Snyder et al. (1977) was that the men's behavior was triggered by the physical attractiveness stereotype. Perhaps, however, many of the college-age men liked the supposedly attractive women because of their beauty per se and gave little thought to their personal characteristics. Similarly, in Word et al.'s (1974) classic study of race-based self-fulfilling prophecies, many of the behavioral mediators (more speech errors, greater distance, shorter interview to African-American applicants) seemed to reflect anxiety or dislike more than beliefs. Also, much of what drives teacher-expectancy effects may be that teachers like high-expectancy students more than they like low-expectancy students (Rosenthal, 1989; see also Olson, Roese, & Zanna, in press, for a review of how expectancies influence affect).

Another underexplored mediator is targets' beliefs about perceivers' beliefs. A few experiments have shown that targets sometimes confirm the beliefs that they (erroneously) think perceivers hold (Farina et al., 1968, 1971; von Bayer et al., 1981; Zanna & Pack, 1975). The general question here is: How important is targets' awareness (accurate or not) of perceivers' expectations? We speculate that although awareness is not a necessary mediator of self-fulfilling prophecies (i.e., self-fulfilling prophecies may occur without target awareness of the perceivers' expectancies), awareness will often tend to enhance the power of self-fulfilling prophecies, especially among children and people in new situations. Of course, targets may sometimes intentionally resist confirming expectations when they believe that a perceiver holds inappropriate expectations (Hilton & Darley, 1985; Swann & Ely, 1984). Understanding the role of target awareness in self-fulfilling prophecies, then, poses an important question for both mediation and moderation studies.

3. Naturalistic Research Beyond Teachers and Students

To date, naturalistic studies of expectancies have focused almost exclusively on teachers and students (see Jussim & Eccles, 1995, for a review). There have only been a very few naturalistic studies of self-fulfilling prophecies in other areas (Berman, 1979; Frieze et al., 1991; Jacobs & Eccles, 1992). Although research on teacher expectations will remain important, naturalistic research on expectancy effects among parents and children, employers and employees, clinicians and patients, and so on is greatly needed in order to understand the extent and power of self-fulfilling prophecies in daily life.

4. Accumulation and Sociological Level Self-Fulfilling Prophecies

We believe that the accumulation issue is inherently linked to sociological level self-fulfilling prophecies and to self-fulfilling prophecies resulting from targets' beliefs about the beliefs of others. At the sociological level, many negative stereotypes are widely shared, so that targets will frequently confront others' unfavorable views of them. They may also sometimes face social policies designed to exclude them from full equality with other citizens (e.g., in the United States, neither the federal government nor most states have civil rights laws providing equal protection for gays and lesbians). When group membership is physically salient (gender, race/ethnicity, attractiveness, disability, etc.) the potential for dyadic-level bias, blatant or subtle (e.g., glass ceilings), is increased. Moreover, for many such groups, the societal-cultural discourse focuses on some alleged inferiority (e.g., the ongoing festering and inflammatory "debate" over whether Blacks are intellectually inferior to Whites genetically; the presumption of many people that women and minorities in positions of power and prestige got there through unfair and preferential selection procedures). It does not seem particularly far-fetched to suggest that members of such groups may eventually either internalize some of these beliefs (e.g., Heilman, Simon, & Repper, 1987), become more deeply wounded by the failures that accrue to almost everyone (Steele, 1992), or themselves develop an (at least sometimes) inaccurate but ultimately self-fulfilling expectation that others hold negative views of them. Empirical research on the accumulation of the effects of socially, institutionally, and organizationally shared beliefs and discourses could begin to fulfill the promise of Merton's (1948) original sociological level analysis of self-fulfilling prophecies.

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