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How Teachers Explain Students' Academic Performance: A Categorization of Free Response Academic Attributions

HARRIS M. COOPER and JERRY M. BURGER
University of Missouri, Columbia

A 12-category scheme is presented, which synthesizes systems developed by Frieze, Bar-Tal and Darom, and the present authors. The attribution categories vary along three dimensions relevant to teacher behavior: internality, stability, and teacher efficacy (or the degrees of teacher influence over the performance outcome). A study is then reported which found (1) students training to be teachers were aware of the teacher efficacy implications of attributions and (2) teacher efficacy was related to behavior intentions. Finally, examination of the convergent validity of academic attribution findings indicates that conclusions regarding (1) teacher expectations and performance attributions, and (2) unexpected events are methodologically robust.

Weiner and his associates (Weiner, Frieze, Kukla, Reed, Rest, & Rosenbaum, 1971) suggested that four attribution categories (ability, task difficulty, effort, and luck) are "the most common and general of the perceived causes of success and failure" (Weiner, 1977, p. 506). Two dimensions were said to underlie these categories: internal (ability, effort) versus external (task, luck) and stable (ability, task) versus unstable (effort, luck). Empirical studies supporting this conceptualization have frequently been reported (see Weiner 1976; Bar-Tal, 1978). Other research (e.g., Bandura, 1977; Cooper, 1979; deCharms, 1968; Langer & Rodin, 1976) indicates that beliefs about personal efficacy may be important in determining behavior. This paper reports three

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studies examining different aspects of theory and measurement related to causal judgments and behavior.

STUDY I

While the initial delineation of causal attributions into four categories and two dimensions provided a substantial beginning, Weiner (1974) states that he and his associates recognized "a number of deficiencies in the classification scheme" (p. 6). Taking these into account, Frieze (1976) presented an inductively based coding scheme for open-ended responses. The causal explanations were generated by 51 college students asked to explain success and failure at academic and nonacademic tasks, for both self and other. Bar-Tal and Darom (in press) also categorized free response attributions provided by 63 fifth-grade students referring to performance on an actual examination. These authors describe eight categories, arrived at with the restriction that each contained at least 5 percent of the total attributions. There are interesting similarities and dissimilarities between the two coding schemes shown in Table I. Of most importance here is that neither categorization was developed using teachers' explanations for the performance of their own students. Study I describes such a categorization and presents a synthesis of the three schemes.

Method

Participants

Participants were obtained from graduate education courses at the University of Missouri, Columbia. Thirty-nine of the 43 teachers asked to participate agreed to do so. All participants had taught elementary or secondary school for at least 1 year, with a mean of 5.9 years of experience. Eighteen teachers reported teaching at the primary school level (K-6), 14 at the secondary level (7–12), and 7 reported teaching special education classes.

Procedure

Each teacher received a booklet containing written instructions and the questionnaire items. Instructions were:

> Students vary in many ways. However, on the following pages we are concerned only with academic performance. Academic performance can be defined as the quality of performance in terms of tests and class exercises with academic content. In your class(es) you undoubtedly had students who were consistently either high or low in academic performances.

Teachers were asked to list the initials of three students from their most recent class(es) whom they expected to do well academically and three whom they expected to do poorly. The teachers were then given four pages, each referring to a success or failure by one student group, and each page had eight numbered lines on which to list why the outcomes occurred. The order

of presentation of the four situations was randomized across participants. At the bottom of each page teachers were told:

> Now that you have listed the reason(s), go back to the percentage column and indicate what percentage of the (high/low) expectancy students' (successes/failures) were caused by each explanation. Remember that the total of your percentage estimates should not exceed 100 percent.

Finally, participants filled out a page of items asking about their teaching background and experience.

Scoring. In a manner similar to Orvis, Kelley, and Butler (1976), the responses from the first 23 teachers were examined by coders for similarities and dissimilarities. The coders were blind to which experimental situation was associated with each response. In addition, the coders were unaware of the earlier categorization schemes. The 17 categories shown in Table I emerged from this examination.

Some responses included words and phrases applicable to more than one category. The rule used was that responses would be placed in the category described first unless the following words or phrases clarified its meaning.

The responses of the remaining 16 teachers were then scored by one of the original coders and by another scorer. The second scorer was unfamiliar with the research objective. Both coders used the criteria keywords provided in Table I. These scorers agreed on 73 percent of the responses, a figure that compares favorably with earlier studies (cf. Frieze, 1976; Orvis et al., 1976). When disagreements occurred a third coder was used to determine category placement.

Results

Table II presents the three categorizations and a suggested synthesis. It is suggested that three categories replace the six used to describe internal stable causes: a general ability category, which includes academic, physical, and emotional abilities; a previous experience category; and a category called acquired characteristics, including habits, attitudes, and self perceptions. This solution takes into consideration both parsimony and the need for a category that implies that ability improvements are possible (Weiner, 1974).

With regard to effort attributions, typical effort, immediate effort, interest in the subject matter, and attention categories have been retained. The interest category can be generated by making the key words, "interest," "enthusiasm," and "good listening" a separate unit. The interest distinction divides the largest of the original categories in half and acknowledges the possibility that younger students' interest in the subject matter may be viewed as unstable, while for older students it is seen as stable. Finally, the effort-related category of attention was retained from the present study because of its relatively large percentage of teacher citation.

TABLE I

Keyword Coding for Attribution Categories

Academic Ability (11%)	ability, intelligence, reading, creativity, comprehension, skill.
Previous Experience (6%)	previous/past experience, success at a task before, subject knowledge, previous practice/success, readiness, repeated practice/success, success in related areas.
Habits (3%)	study habits, listening habits/skills.
Attitudes (6%)	attitudes, feelings/liking of/toward school/subject.
Self-perception (2%)	maturity, relates well to others.
Physical or Emotional Ability (3%)	physical ability, emotional stability, hyperactivity.
Typical Effort (20%)	interest, motivation, concern, gives up, effort, willingness, good listening, enthusiasm, participation, applying self/knowledge, desire, eager, laziness, want to succeed, bored, did not try, work on own, competition.
Immediate Effort (8%)	carelessness, completeness of assignment, being prepared, did each assignment, took time to have questions answered, overcame distractions, rushed without thinking, hurried.
Attention (8%)	attention, concentration, preoccupation, daydreaming, out of touch with reality, concern with other things, distractability.
Directions (3%)	did/could follow directions, understood directions, understood what was expected.
Mood (3%)	mood, having a good day.
Task (7%)	task, work, material, steps too large, new/different material/task, amount, no reading involved, long time period.
Instruction (7%)	individual attention, teacher, adequate explanation, good directions, extra help, good instruction.
Family (3%)	parents, family, home, background, outside school support.
Other Students (3%)	outside interference, helped by others, group interaction, student/peer assistance.
Miscellaneous External (4%)	health, repetition, use of other materials, class too large, wrong grade, luck, other.

Note. Examples of positive instances only are presented. Approximate percentages of total citations for each category appear in parentheses. About 5% of the total attributions were too ambiguous and were termed unclassifiable.

With regard to external unstable causes, other people figure in all three schemes. For the synthesis, three distinctions are retained: the teacher (a collapsing of "quality and kind of instruction" and "directions"), other students, and family. These distinctions seem intuitively important, considering the differing roles each group plays in the academic process. A 12th and final category, physiological processes, was also retained. This encompassed the mood and maturity categories and health attributions from the miscellaneous external category.

TABLE II

A Summary of Previous Coding Systems and a Suggested Synthesis

A Frieze	B Bar-Tal & Darom	C 17 Categories	D A Synthesis
Ability	Ability	Academic Ability	Ability (academic, physical, or emotional)
Stable Effort	Effort During Test	Physical and Emotional Ability	
Immediate Effort	Preparation at Home	Previous Experience	Previous Experience
Task	Interest in the Subject Matter	Habits	Acquired Characteristics (habits, attitudes, self-perceptions)
Other Person	Difficulty of Test	Attitudes	
Mood	Difficulty of Material	Self Perceptions	Typical Effort
Luck	Conditions in the Home	Maturity	Interest in the Subject Matter
Other		Typical Effort	Immediate Effort
		Effort in Preparation	Attention
		Attention	Teacher (quality and kind of instruction, directions)
		Directions	
		Instruction	Task
		Task	Other Students
		Mood	Family
		Family	Physiological Processes (mood, maturity, health)
		Other Students	
		Miscellaneous	

External unstable causes pose a problem. There is no evidence that the typical indicator of this category, luck, is used substantially as an explanation for academic outcomes. Bar-Tal and Darom (in press) do not present a luck category, Frieze (1976) reports luck attributions only in nonacademic settings, and luck was cited only 0.4 percent of the time in the present study. These findings suggest that academic outcomes are rarely viewed as being determined by random processes.

STUDY II

With the free-response coding system in hand, the next task became the identification of a smaller number of underlying causal dimensions. Of most importance was the identification of dimensions with potential relevance to variation in teacher behavior. Specifically, we attempted to uncover a possible "teacher efficacy" dimension. This dimension involves the teacher's perceived influence over the performance outcome. Table III presents the hypothesized relations between the personal efficacy connotations of attributions within the internality and stability dimensions.

Three types of behavior intentions were also measured in Study II. We asked prospective teachers: (1) how the attributions would influence their intended feedback to the student (i.e., praise and criticism); (2) whether the attribution would lead to a change in their style of teaching; and (3) whether they would work more or less with the student based on the supposed cause of performance.

We expected that internal unstable causes, which implied the greatest teacher role, would lead to the greatest intention to praise and criticize. External attributions implying great teacher influence were expected to elicit the most intent to change the way teachers taught. Finally, the internal stable causes with greatest personal efficacy implications were hypothesized to lead to the greatest intent to increase contact.

Method

Participants. Sixty-two, predominantly female, education students served as volunteers. All participants were enrolled in a class required for teacher certification, and rarely taken by people not seeking the same. Therefore, it was assumed that participants either had teaching experience or were planning to become teachers.

Independent Variables. Each participant was asked to complete a questionnaire. Participants were randomly assigned to two conditions: half read about a *successful* student and half read about a student described as having performed *poorly*. Questionnaire instructions were as follows:

> Assume you are a teacher of a fifth-grade class. You have just given an examination and you find that one of your students has performed ex-

TABLE III

Predicted and Obtained Relations Between Attributions and Three Underlying Dimensions

	Predicted Relations	
	More Personal Efficacy←——→	Less Personal Efficacy
Internal Stable	Acquired Characteristics Typical Effort	Ability Previous Experience
Internal Unstable	Interest in the Subject Immediate Effort Attention	Physiological Processes
External	Task Teacher	Other Students Family
	Success Findings	
Internal Stable	Acquired Characteristics Typical Effort Ability Previous Experience	
Internal Unstable	Interest in the Subject Immediate Effort Attention	Physiological Processes
External	Teacher	Other Students Task Family
	Failure Findings	
	More Personal Efficacy←——→	Less Personal Efficacy
Internal Stable	Typical Effort Ability Previous Experience Acquired Characteristics	
Internal Unstable	Interest in the Subject	Attention* Physiological Processes Immediate Effort
External	Task Teacher	Other Students** Family

Notes. Attributions at differing ends of the personal efficacy dimensions were predicted to differ or were found to do so ($p < .01$).

* $p < .01$. Attention and Immediate Effort differed.

** $p < .01$. Other Students and Family differed.

tremely (well/poorly). On the next pages, twelve possible reasons for this (success/failure) are given. You are asked to tell how you would respond to the student in light of the (success/failure) and the cause for it.

The participants were then presented in a random order with the 12 causal explanations uncovered in Study I.

Dependent Variables. After each explanation, the participants were presented with the following four questions:

(1) How much of a role did you play in the (success/failure)?

(2) How strongly would you (praise/criticize) the student?

(3) Would you work more or less with the student?

(4) Would you change the way you taught the student or the kinds of tests you give the student?

Participants were asked to respond to each question on an 11-point scale. Higher numbers indicated a large role (for question 1) or a more active behavior intention (for questions 2 and 4).

Results

Evidence Concerning Awareness of the Efficacy Dimension. To determine whether the 12 attribution categories were distinguished in terms of teacher efficacy, a two-way, mixed model analysis of variance was conducted on responses to the question: "How much of a role did you play in the outcome?" Performance outcome (success/failure) served as the between subjects variable, and attributions (12 categories) served as the within subjects variable. The means associated with this analysis are presented in Table IV.

Participants reported playing a larger role in success than in failure, $F(1,60) = 4.81$, $p < .04$, and also registered different magnitudes of personal efficacy dependent on the suggested cause of performances, $F(11,660) = 30.09$, $p < .0001$. An outcome by attribution interaction, $F(11,660) = 11.42$, $p < .0001$, indicated that for some causes perceived efficacy was more dependent on performance outcome than it was for other causes.

Having found that attributions varied with regard to personal efficacy implications, it was next necessary to find whether this dimension is distinct from internality and stability. Specific comparisons could have been used to test the hypothesized relations concerning within-cell differences portrayed in Table III. Instead, Tukey Honestly Significant Different critical values were generated (Myers, 1972). These values were then used to test all pairwise comparisons of attributions within the internality by stability cells. Because the outcome by attribution interaction was significant, the critical values were generated for 24 mean comparisons. Comparisons were then carried out within outcome conditions. The critical values were 1.85 ($p < .05$) and 2.15 ($p < .01$).

In the *success condition*, as Table IV shows, no differences were found between internal stable attributions. However, the internal unstable causes of attention, immediate effort and interest in the subject matter were seen by teachers as implying more of a personal role than were physiological processes (all $ps < .01$). The three more personally effective causes did not differ from one another. Also, the external cause of teacher was seen as

TABLE IV

Individual Attribution Means for Personal Efficacy Measure

	Outcome		
Attribution	*Success*	*Failure*	*Mean*
Ability	5.43	4.84	5.13
Previous Experience	4.03	5.75	4.88
Acquired Characteristics	5.83	4.59	5.21
Typical Effort	5.70	5.28	5.49
Physiological Processes	4.50	2.94	3.72
Interest in the Subject	6.63	6.59	6.61
Attention	6.83	4.47	5.65
Immediate Effort	6.73	1.94	4.33
Task	5.23	7.50	6.36
Teacher	8.67	9.12	8.89
Other Students	5.33	4.66	4.99
Family	3.87	2.37	3.12
Mean	5.73	5.00	5.37

Note. $n = 32$ for failure, 30 for success.

implying more of a personal role than the external causes of other students, task and family (all $ps < .01$). The three more personally effective causes did not differ from one another. Also, the external cause of teacher was seen as implying more of a personal role than the external causes of other students, task, and family (all $ps < .01$). The latter three causes did not differ.

As with success, the *failure condition* revealed no differences between internal stable causes. For internal unstable causes, interest in the subject matter implied a greater personal role than attention, physiological processes, and immediate effort (all $ps < .01$). Externally, the categories teacher and task surpassed both family and other students in teacher influence ($ps < .01$). Finally, the reported teacher role was smaller when the family was the cause than when other students ($p < .01$) were cited.

Three attribution categories (attention, immediate effort, and task) show noticeable changes in relative teacher efficacy implications dependent on performance outcome. To explore this relative shift, each attribution was compared with itself across outcome conditions. The success/failure main effect was removed (by subtracting .73 from the success mean) before comparisons were performed. This analysis revealed a statistically significant difference for immediate effort ($p < .01$) and task ($p < .01$).

In sum, five attribution distinctions seem to emerge: internal stable; internal unstable-teacher effective; internal unstable-teacher ineffective; external-teacher effective; external-teacher ineffective. However, it might also be expected that external causes would elicit a greater teacher role assessment than internal stable causes. To test these predictions, a separate score for the five cells shown in Table V was generated for each participant.

TABLE V

Five Attribution Cell Results on Four Dependent Variables

Condition	Personal Role	Feedback	Change Teaching	Work More
Success				
Internal, Stable	5.25_c	7.69_a	3.95_a	5.61
Internal, Unstable Effective	6.73_b	8.18_a	3.43_{ab}	6.06
Internal, Unstable Ineffective	4.50_c	6.97_b	3.70_a	5.73
External, Effective	8.67_a	7.67_a	2.76_b	5.96
External, Ineffective	4.81_c	6.54_b	4.20_a	5.85
Failure				
Internal, Stable	5.12_c	3.08_b	6.72_b	8.18_a
Internal, Unstable Effective	6.95_b	3.12_b	6.87_b	7.18_b
Internal, Unstable Ineffective	3.12_b	4.78_a	5.43_c	6.83_b
External, Effective	8.31_a	1.66_c	8.23_a	8.26_a
External, Ineffective	3.51_d	1.99_c	5.39_c	7.44_b
F-value ($df = 4,116$)	34.13	8.99	4.61	1.13
p-level	.0001	.0001	.002	ns

Note. Differing subscripts within each dependent variable denote significant mean differences by the Newman-Keuls test. $n = 32$ for failure, 30 for success.

In the success condition, a statistically significant attribution cell effect was found, $F(4,116) = 34.13$, $p < .0001$. A Newman-Keuls means test was then conducted (Newman-Keuls replaced the Tukey HSD because of the large reduction in possible tests). As Table V indicates, results confirmed the hypothesis exactly ($p < .05$) but only for the highly effective attribution cells. For failure, the attribution-cell effect again appeared, $F(4,116) = 54.37$, $p < .001$. A Newman-Keuls comparison indicated a result identical to that in the success condition, with the exception that the internal stable cell was seen as more personally influenced than the two ineffective cells.

Evidence Concerning the Relation Between Dimensions and Behavior Intentions. The three intention questions were first subjected to multivariate analyses of variance with separate analyses for success and failure conditions. Each analysis contained a single within-subject independent variable (5 attribution cells) and three dependent variables. Both MANOVAs produced significant effects (for success, Wilks' Lambda = .655, $F[12,301] = 4.37$, $p < .001$; for failure, Wilks' Lambda = $F[12,323] = 17.20$, $p < .0001$). Six univariate ANOVAs (one for each measure in each condition) followed. Table V presents the means, associated *F*-test values, *p*-levels, and the results of Newman-Keuls comparisons.

With regard to *criticism* following failure, there was a greater intention to

use criticism expressed in the internal, unstable small teacher influence condition than in any other condition ($p < .01$). Failure caused by external events led to the least intention to criticize ($ps < .01$), regardless of teacher influence. For *praise*, participants intended greater positive feedback in both large influence cells than in the corresponding little influence cells ($ps < .01$). The internal stable cell also differed from the little influence cells (for internal unstable $p < .05$; for external, $p < .01$).

With regard to the second intention measure, participants reported the largest intent to *change* the way they taught in the external, large influence cell, when the outcome was a failure ($p < .01$). For success, when the cause was external and teacher influenced (in this case when the cause was the teacher) there was least intention to change ($p < .05$, for all comparisons except internal, unstable, large influence, which did not reach significance).

Teachers' intent to *work more* with the student proved influenced by causes only in the failure condition. In failure, internal stable and external, large influence causes led to a greater intention to work with the student than did other attributions ($ps < .01$).

Discussion

The results of Study II indicate that differing attributions have differing personal efficacy implications. These implications vary both across and within the internality and stability dimensions.

Turning to behaviors, intended use of praise can be described as determined by perceived personal efficacy. If the cause implied little teacher efficacy, less intention to positively reinforce the student was expressed. For criticism, effectiveness and internality proved crucial. Internal, unstable, teacher ineffective causes elicited the greatest intention to criticize. The intention to change teaching style was also predominantly a matter of perceived personal efficacy: if a successful performance was caused by something implying a relatively large teacher role, little change was intended; for failure a large teacher role led to most intended change. Finally, internal stable causes led to a relatively large intent to spend more time with the student. External teacher-effective causes led to an equally large intention. Thus, if the teacher saw a failure as potentially avoidable through personal intervention, both altered and more intensive behavior intentions resulted.

STUDY III

As part of the initial data collection technique, teachers were asked to supply four causal profiles interpreting the successes and failure of both high- and low-expectancy students. After supplying those attributions, teachers assigned percentages indicating the proportion of causes in which the cause was applicable. Two questions were asked:

(1) Do attribution patterns differ for high- and low-expectancy students?

(2) Do unexpected events, that is, high-expectancy failure and low-expectancy success, lead to less stable attributions than expected events?

Each of these questions has been answered in the affirmative by previous research (Cooper & Lowe, 1977; Feather, 1969; Weiner, 1976). Our intent in reexamining them was to determine the robustness of the earlier findings when an alteration in methods is employed (Campbell & Fiske, 1959).

Method

Each student to which the teacher in Study I had responded was given a percentage score for each of the 12 attribution categories. Thus, if a category was not cited, a response of zero was recorded. If the causal category was cited, the percentage given by the teacher was used. In this manner, 48 percentage scores were generated for each participant, one for each of 12 attributions in each of four conditions.

In addition to these within-subjects variables, a between-subjects classification was also employed. After completing the questionnaire, participants were asked to state the grade level at which they taught and how many years teaching experience they had. From these responses, five teacher types were generated: elementary school, inexperienced (1 to 4 years; $n = 9$); elementary school, experienced (over 4 years; $n = 9$); secondary school, inexperienced ($n = 5$); secondary school, experienced ($n = 9$); and special education ($n = 7$). Thus, the final design represented a $5 \times 2 \times 2$ complete crossing.

Results

First, the results of a multivariate analysis of variance revealed a statistically significant ability effect (Wilks' Lambda = 0.391, F [12,23] = 2.98, $p < .02$), outcome effect (Wilks' Lambda = 0.392, F [12,23] = 2.97, $p < .02$), and ability by outcome interaction (Wilks' Lambda = −.175, F [12,23] = 9.01, $p < .0001$). All multivariate effects associated with the teacher type variable proved nonsignificant and, therefore, were not followed by univariate ANOVAs.

The 12 attribution categories were then separately examined through three-way analyses of variance. The means associated with this analysis are presented in Table VI.

Three statistically significant ability main effects were found. Teachers attributed the cause of the performance to effort in preparation more often for bright than slow students, F (1,34) = 4.47, $p < .05$. On the other hand, the task (F [1,34] = 7.97, $p < .01$) and typical effort (F [1,34] = 6.40, $p < .02$) were seen as responsible for slow students' performance more often than for bright students' performance.

Three significant outcome main effects were also found. Teachers attributed successful performances more often to previous experience than they did for unsuccessful performances, F (1,34) = 4.00, $p < .05$. On the other

TABLE VI

Percent Attribution Citations for Each Student Expectancy by Performance Outcome Conditions

Ability Main Effects

Cause	High Expectancy Means	Low Expectancy Means	*p*-level
Effort in Preparation	9.67	4.76	.05
Task	3.78	9.35	.01
Typical Effort	11.40	15.44	.02

Outcome Main Effects

Cause	Successful Outcome Means	Failure Outcome Means	*p*-level
Previous Experience	9.04	4.74	.05
Effort in Preparation	2.37	12.06	.001
Attention	3.72	11.91	.005

Outcome × Ability Interactions

Cause	High Ab Success	Low Ab Success	High Ab Failure	Low Ab Failure	*p*-level
Ability	21.41_a	3.03_b	3.97_b	22.82_a	.0001
Acquired Characteristics	14.69_a	3.20_b	6.03_{ab}	9.62_{ab}	.0124
Typical Effort	12.33_{ab}	7.05_b	10.46_{ab}	23.82_a	.02
Interest in the Subject	6.28_{ab}	14.84_a	8.84_{ab}	5.56_b	.0125
Effort in Preparation	1.79_b	2.91_b	17.53_a	6.59_b	.02
Task	1.79_b	16.00_a	5.77_b	2.69_b	.005
Teacher	5.64_b	19.00_a	15.51_a	3.26_b	.0005

Note. Differing subscripts for interaction effects denote significant mean differences by the Newman-Keul test. $n = 30$.

hand, teachers attributed student failures more often to effort in preparation (F [1,34] = 21.33, $p < .0001$) and attention (F [1.34] = 10.38, $p < .003$) than they did for student successes.

Seven significant outcome by ability interactions were revealed: ability, F (1,34) = 32.28, $p < .0001$; acquired characteristics, F (1,34) = 6.97, $p < .02$; interest, F (1,34) = 6.96, $p < .02$; effort in preparation, F (1,34) = 6.63, $p < .02$; task, F (1,34) = 12.19, $p < .002$; teacher, F (1.34) = 15.10, $p < .0005$; and stable effort, F (1,34) = 6.15, $p < .02$. Newman-Keuls tests were conducted for each of these interaction effects.

Teachers saw the cause of performance as student ability more often for the bright student's success and slow student's failure than in the other two conditions ($p < .01$). The opposite pattern was found for the teacher attribution. Teachers attributed the cause of performance to themselves significantly more often in the slow student's success and bright student's failure conditions than in the other two conditions ($p < .05$). Teachers also saw the cause of bright student success as acquired characteristics more often

than they did for slow student success ($p < .05$). The slow student's success was more often attributed to interest than was the slow student's failure ($p < .05$). Teachers attributed the bright student's failure to effort in preparation significantly more often than for any other condition ($p < .01$). Teachers also believed that the task was responsible for the slow student's success more often than for students in the other three conditions ($p < .01$). Finally, teachers attributed the slow student's performance more often to stable effort when these students failed than when they succeeded ($p < .05$).

Discussion

The data replicated Cooper and Lowe (1977) and support their speculation about what attributions underlie personal responsibility differences. Bright student failure was more often attributed to immediate effort, while slow student failure was perceived more often as ability caused. These data further suggest a reason for the Cooper and Lowe finding that slow students are seen as slightly more responsible for failure than bright students: the larger percentage of times teachers see bright students' failures as caused by the task. The success results indicate that underlying the perception that high ability students more personally influence success is a larger percentage of internal stable causes for bright students and external causes for slow students.

In addition, the relationship between stability and the expectation for the event was firmly upheld for internal causes. Expected events led to greater use of internal stable causes, while unexpected events led to greater use of internal unstable causes. External causes were also cited more frequently for unexpected events. This pattern exhibits Weiner's (1976) "low expectancy cycle." Low student success was perceived as produced by either unstable internal causes or external causes over 52 percent of the time.

SUMMARY

A fairly reliable coding scheme for free response attributions has been presented. A three dimensional abstraction from the system proved legitimate and valuable in explaining behavior intentions subsequent to causal ascriptions. Finally, the offered attribution categories were able to replicate previous finding and address some questions these results had generated.

REFERENCES

BANDURA, A. Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, 1977, *84*, 191–215.

BAR-TAL, D. Attributional analysis of achievement related behavior. *Review of Educational Research*, 1978, *48*, 259–272.

BAR-TAL, D., & DAROM, E. Causal perceptions of pupils' success and failure by teachers and pupils: A comparison. *Child Development*, in press.

CAMPBELL, D. T., & FISKE, D. W. Convergent and discrimination validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 1959, *56*, 81–105.

COOPER, H. M. Pygmalion grows up: A model for teacher expectation communication and performance influence. *Review of Educational Research*, 1979, *49*, 389–410.

COOPER, H. M., & LOWE, C. A. Task information and attributions for academic performance by professional teachers and role players. *Journal of Personality*, 1977, *45*, 469–483.

DECHARMS, R. *Personal causation*. New York: Academic Press, 1968.

FEATHER, N. T. Attribution of responsibility and valence of success and failure in relation to initial confidence and task performance. *Journal of Personality and Social Psychology*, 1969, *13*, 129–144.

FRIEZE, I. H. Causal attributions and information seeking to explain success and failure. *Journal of Research in Personality*, 1976, *10*, 293–305.

LANGER, E. J., & RODIN, J. The effects of choice and enhanced personal responsibility for the aged: A field experiment in an institutional setting. *Journal of Personality and Social Psychology* 1976, *34*, 191–198.

MYERS, J. L. *Fundamentals of experimental design* (2nd ed.). New York: McGraw-Hill, 1972.

ORVIS, B. R., KELLEY, H. H., & BUTLER, D. Attributional conflict in young couples. In J. Harvey, W. G. Ickes, & R. F. Kidd (Eds.), *New directions in attribution research* (Vol. 1). Hillsdale, N.Y.: Erlbaum, 1976.

WEINER, B. *Achievement motivation and attribution theory*. Morristown, N. J.: General Learning Press, 1974.

WEINER, B. An attributional approach for educational psychology. In L. Shulman (Ed.), *Review of Research in Education* (Vol. 4). Itasca, Ill.: Peacock, 1976.

WEINER, B. Attribution and affect: Comments on Sohn's critique. *Journal of Educational Psychology*, 1977, *69*(5), 506–511.

WEINER, B., FRIEZE, I., KUKLA, A., REED, L., REST, S., & ROSENBAUM, R. M. *Perceiving the causes of success and failure*. Morristown, N. J.: General Learning Press, 1971.

AUTHORS

HARRIS M. COOPER, Research Associate and Asst. Professor of Psychology, Center for Research in Social Behavior, University of Missouri, Columbia, Missouri 65211. *Specialization*: Social psychology of education; research methods.

JERRY M. BURGER, Center for Research in Social Behavior, University of Missouri, Columbia, Missouri 65211. *Specialization*: Social psychology.