

Characteristics of the Rewarder and Intrinsic Motivation of the Rewardee

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This field study considered the relationship between teacher characteristics and the intrinsic motivation and self-esteem of children in Grades 4 through 6. The research evolved out of Deci's cognitive evaluation theory, which distinguishes between the controlling and informational aspects of rewards. We hypothesized that children whose teachers were oriented toward controlling them would be less intrinsically motivated and have lower self-esteem than children whose teachers were oriented toward supporting autonomy. We reasoned that control-oriented teachers would tend to use rewards controllingly, whereas autonomy-oriented teachers would tend to use rewards informationally. The data supported our hypothesis and also indicated that children perceived autonomy-oriented teachers as facilitating personal responsibility and internal control more than control-oriented teachers.

Human beings are continually acting on and adapting to their surroundings. The motivation for these ongoing interactions with the environment is referred to as *intrinsic motivation*. Based on work of White (1959) and deCharms (1968), Deci (1975) suggested that intrinsically motivated behaviors are involved with the basic human need for being competent and self-determining. People need to feel like causal agents, they need to feel competent and effective,

and they engage in a variety of activities toward that end.

Many recent studies have explored the effects of extrinsic rewards, constraints, and verbal statements on intrinsic motivation (Deci & Ryan, 1980). This is a particularly important question, since it has been argued that learning, performance, and behavior change are most effective when intrinsically motivated (Ryan & Deci, Note 1); yet all of these activities occur within the contexts of rewards, constraints, and communications.

The most commonly used laboratory paradigm for studying the effects of external factors on intrinsic motivation involves providing subjects with an intrinsically interesting activity, then rewarding them or giving them feedback for doing the activity, and, finally, assessing their level of intrinsic motivation relative to that of a control group by observing them in a free-choice situation or by having them rate the extent to which they enjoyed the activity.

Using this general paradigm, various investigators have found that monetary rewards (Deci, 1971, 1972), the avoidance of punishment (Deci & Cascio, Note 2), de-

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sired awards (Kruglanski, Freedman, & Zeevi, 1971; Lepper, Greene, & Nisbett, 1973), close supervision (Lepper & Greene, 1975), and time deadlines (Amabile, DeJong, & Lepper, 1976) will under certain circumstances decrease people's intrinsic motivation for the target activity. On the other hand, results indicate that giving subjects a choice about the activity increases their intrinsic motivation (Zuckerman, Porac, Lathin, Smith, & Deci, 1978). Further, positive feedback about performance has been shown to increase intrinsic motivation for children (Anderson, Manogian, & Reznick, 1976; Swann & Pittman, 1977), college-age males (Deci, Cascio, & Krusell, 1975), and college students of both sexes (Blanck, Jackson, & Reis, Note 3). Finally, negative feedback about performance decreases subjects' intrinsic motivation (Deci, Cascio, & Krusell, Note 4).

Cognitive evaluation theory (Deci, 1975; Deci & Ryan, 1980) has been proposed to account for these and other results. The theory asserts that there are two psychological processes through which rewards or other situational factors can affect a person's intrinsic motivation. The first process is referred to as a change in perceived locus of causality (deCharms, 1968; Heider, 1958). When people are intrinsically motivated for an activity, the perceived locus of causality is internal, and they feel self-determining. When they are extrinsically motivated, the perceived locus of causality is external, and they feel less self-determining. When people are rewarded for or constrained in doing an activity, the perceived locus of causality tends to become more external; when they do an activity in the absence of rewards and constraints, the perceived locus of causality tends to become more internal. This suggests that the decreases in intrinsic motivation that were observed following subjects' experiences with monetary reward, avoidance of punishment, desired awards, surveillance, and deadlines were caused by shifts in perceived locus of causality from internal to external and that the increase that was observed following choice was caused by a shift in perceived locus of causality from external to internal.

The second process through which intrinsic

motivation can be affected is a change in perceived competence. If people's perceptions and feelings of competence are enhanced, their intrinsic motivation will be increased; if their perceptions and feelings of competence are diminished, their intrinsic motivation will be decreased. Typically, success experiences leave people feeling and perceiving themselves to be more competent, whereas failure experiences leave them feeling less so. This change-in-perceived-competence process explains the increases in intrinsic motivation following positive feedback and the decreases following negative feedback.

Fisher (1978) reported that the hypothesized covariation between perceived competence and intrinsic motivation occurred in conditions of self-determination but did not occur in the absence of self-determination. Thus, one's perceived competence appears to affect one's intrinsic motivation only if it occurs within the context of self-determination.

According to cognitive evaluation theory, all rewards and constraints have two functional aspects, a controlling aspect, which brings people's behavior under the control of the reward or constraint, and an informational aspect, which provides people with information about their competence. The relative salience of the two aspects determines which process will be initiated. If the controlling aspect is very salient, it will initiate a change in perceived locus of causality from internal to external, resulting in decreased intrinsic motivation. If, however, the controlling aspect is not very salient but the informational aspect is, then the information will initiate the change-in-perceived-competence process, thereby either increasing or decreasing intrinsic motivation, depending on whether the information implies competence or incompetence.

Since most of the studies on the effects of rewards and constraints have indicated that rewards decrease intrinsic motivation, and since many activities for which intrinsic motivation seems desirable occur within the context of external rewards and constraints, we are faced with the critical question of how rewards and constraints can be used in a way that will maintain or enhance intrinsic

motivation. The present study investigated that question by utilizing cognitive evaluation theory as a basis for the analysis. Recall that, according to the theory, rewards and constraints have both a controlling and an informational aspect. When the controlling aspect is salient, external influences are predicted to decrease intrinsic motivation; however, when the controlling aspect is less salient, there is the possibility for the informational aspect of rewards to affect intrinsic motivation. Thus, if rewards are administered in a way that does not emphasize control but rather signifies competence, the theory predicts a maintenance or enhancement of intrinsic motivation. The suggestion, therefore, is that rewards will not undermine intrinsic motivation if they are administered in a way that emphasizes positive competence feedback rather than control. Laboratory studies by Enzle and Ross (1978) and by Rosenfield, Folger, and Adelman (1980) have provided initial support for this assertion.

This leads to the question of which factors determine whether rewards will be primarily controlling or primarily informational. Presumably, there are factors in the rewarder, the rewardee, and the situation. In the present study, we focused on characteristics of the rewarder. We reasoned that a rewarder's orientation toward control or autonomy would affect which aspect of the reward would be more salient. If the rewarder's attitude favors controlling the rewardee, rewards are likely to be used controllingly and will decrease intrinsic motivation. However, if the rewarder's attitude favors the rewardee's autonomy, rewards are likely to be used informationally and will maintain or increase intrinsic motivation. Since competence information affects intrinsic motivation only in the absence of salient control, it is reasonable to predict that the informational aspect of rewards will be perceived as salient only if the rewarder is not attempting to control the rewardee's behavior. We designed the present study to test that reasoning. We predicted that there would be a correlation between the rewarder's attitudes toward control/autonomy and the intrinsic motivation of the rewardee. When the rewarder's attitude favors control, the con-

trolling aspect of rewards is likely to be salient, so the intrinsic motivation of the rewardee will be low; when the rewarder's attitude favors autonomy, the informational aspect of rewards is likely to be salient, so the intrinsic motivation of the rewardee will be high.

Cognitive evaluation theory treats intrinsic motivation as a general motivation toward competence and self-determination. Harter (in press-a) has argued that intrinsic motivation should be considered in terms of component dimensions. She suggested that intrinsic motivation is composed of three primary dimensions: desire for challenge, curiosity/interest, and desire for independent mastery. Further, she suggested that an intrinsic orientation involves not only the three motivational dimensions but also two evaluative dimensions: independent judgment and internal criteria for success. In this study we have utilized her measure of intrinsic orientation. Our primary prediction is that a relationship exists between the rewarder's attitude toward control/autonomy and the intrinsic motivation (as reflected in the three motivational dimensions) of the rewardee. A supplemental prediction relates the rewarder's attitudes to the rewardee's independent evaluation (as reflected in the two evaluative dimensions), although Harter (in press-b) has reported that the motivational and evaluative dimensions tend not to covary.

In this study we also considered the perceived competence (or self-esteem) of the rewardee as it relates to the rewarder's attitudes toward control/autonomy. We predicted that when rewarders are very controlling, the recipients of those rewards are likely to feel less good about themselves than when the rewarders promote autonomy. This prediction results in part from Harter's (in press-b) findings that the three motivational dimensions are strongly related to perceived competence.

The prediction of a relationship between teachers' attitudes and the intrinsic motivation and self-esteem of children is based on the assumption that when teachers have different attitudes, they will behave differently and their different behaviors will lead to children's perceiving their classrooms and

teachers to be different. To verify these assumptions we assessed the children's perceptions of their classrooms and teachers using a classroom climate questionnaire reported by deCharms (1976). According to deCharms, children will be more intrinsically motivated in autonomy-oriented classrooms—those that facilitate internal control, goal setting, goal-directed behavior, accurate perception of reality, personal responsibility, and self-confidence. We reasoned that teachers who were more autonomy oriented would create the type of classroom climate that facilitates intrinsic motivation. Thus, we predicted a correlation between teachers' attitudes toward control/autonomy and children's perceptions of the classroom climate. Further, we predicted a relationship between children's perceptions of their classroom climate and their intrinsic motivation and self-esteem: When children perceive the classroom to be more supportive of autonomy, they will be more intrinsically motivated and have a higher self-esteem.

Using public school classrooms, we studied the relationship between teachers' attitudes toward control/autonomy and the intrinsic motivation and self-esteem of the children as mediated by the children's perceptions of their classrooms and teachers. We administered the intrinsic orientation scale (Harter, in press-b) and the perceived competence scale (Harter, in press-c) twice, once in the fall and once in the spring. We expected that intrinsic motivation and self-esteem would increase in children with autonomy (informational) teachers, whereas it would decrease with controlling teachers. This would be reflected in correlations between teachers' attitudes and change scores for the children on the various scales. Children's perceptions of the classrooms and teachers were expected to mediate between teachers' attitudes and children's intrinsic motivation and self-esteem by correlating with both. The teacher measure and the children's perceptions were taken just once, since these were expected to be relatively stable.

Method

Data were collected from 36 classrooms (fourth, fifth, and sixth grades) in four elementary schools. In late

October 1977, the intrinsic motivation and self-esteem of 889 children from the 36 classrooms were assessed. In May 1978, the two measures were administered for the second time. We then calculated children's scores on each subscale for the two measures. From those, difference and average scores from fall and spring data were determined.

The teacher measure was developed to assess teachers' orientations toward control/autonomy. This measure was administered in the winter of 1978, as was the classroom climate questionnaire.

Measuring Instruments

As noted, the children completed three measures (the intrinsic-extrinsic orientation in the classroom and perceived competence measures, each of which was given twice, and the classroom climate questionnaire, which was given once), and the teachers completed one.

Perceived Competence Scale for Children (Harter, in press-c). Perceived competence is closely linked to self-esteem and is viewed as a correlate and mediator of intrinsic motivation in children. Those children who perceive themselves to be competent will feel better about themselves and will be more autonomous and intrinsically motivated. This scale assesses perceived competence in three content domains as well as general feelings of self-worth. The three competence areas are cognitive competence, social competence, and physical competence; the general scale focuses on children's feelings of self-worth and general effectiveness independent of particular skills.

There are 28 items to the scale, 7 for each of the four subscales. They utilize a "structured alternative format" in which an item presents two statements describing two kinds of children. For example, "Some kids feel good about the way they act," but "Other kids wish they acted differently." Children are asked to decide which type of child is most like themselves. Then they make a second determination. They are asked to decide whether that type of child (whichever they chose) is "kind of like them" or "really like them." Thus, there is a 4-point scale ranging from low to high perceived competence on each item. It is believed that this procedure reduces social desirability responding and legitimizes children's describing themselves as they actually see themselves, since it emphasizes that children are different. A description of the scale construction appears in Harter (in press-c), along with data that support the instrument's reliability and validity.

In the present study, we acquired complete data on 610 children from 35 classrooms who answered the questionnaire twice, 7 months apart. These children were in fourth through sixth grade. For each child a subscale score was computed by adding the values on each of the seven items on the subscale (1 = lowest perceived competence, 4 = highest perceived competence). We then correlated subscale scores from the first and second administrations for the 610 children. Further, we aggregated within classrooms and correlated the classroom data on the fall and spring administrations. Thus, these two sets of correlations represent a test/retest reliability for the subscales over a 7-month interval for fourth-through sixth-grade children. These correlations on the

four subscales ranged from .516 to .621 for individuals and from .574 to .815 for classrooms. They represent very good reliability, given the 7-month time lag and the age of the children. A significant correlation at the .005 level for individual children is approximately .254, and for classrooms, approximately .418. Thus, each correlation exceeds this level of significance.

One might question the appropriateness of using the correlations of fall-to-spring data as an indication of reliability, since predictable changes are expected. This is appropriate, because there was no experimental manipulation. Time and naturally occurring events intercede between the two administrations of any measure that are used for the calculation of test/retest reliability. One can usefully look for stability in the measures while attempting to explain the instability that occurs by measuring aspects of the naturally occurring situations.

Scale of intrinsic versus extrinsic orientation in the classroom (Harter, in press-b). This scale was designed to measure the extent to which children are intrinsically versus extrinsically oriented for learning. The scale has five subscales, three of which reflect dimensions of intrinsic motivation and two of which reflect dimensions of internal evaluation. The motivation subscales are preference for challenge versus preference for easy work, working from desire to satisfy one's curiosity versus working to please the teacher, and independent attempts at mastery versus dependence on the teacher's help for doing work. The evaluative dimensions are independent judgment versus reliance on teacher's judgment and internal versus external criteria for success/failure. The items in each subscale were constructed utilizing the same structured alternative format that was used for the perceived competence scale. Each item was rated on a 4-point scale (1 = most extrinsic, 4 = most intrinsic).

In this research we used 18 items (although the revised scale has 30; Harter, in press-b), with 3-5 items on each of the five subscales. This was due to the fact that different versions of the scale were used for fall and spring administrations. After collection of the fall data, it was found that only 18 of the original 30 items worked effectively in terms of factor validity, so the other 12 items were rewritten. The 18 items that were common to the two versions of the measure constituted our measure of intrinsic orientation.

We did the same correlational analyses on the subscales from the first to second administration as we did for the perceived competence scale. Subscale scores were correlated for the two administrations separated by 7 months for both the 610 children individually and the 35 usable classrooms. The individual test/retest correlations ranged from .278 to .573 for individuals and from .506 to .760 for classrooms, which are significant beyond the .005 level though somewhat lower than those for the perceived competence scale. This is undoubtedly due to the reduced number of items in each subscale. Presumably, such an analysis done on test/retest data with the full revised measure would be much stronger. Still, they are reasonably good, given the time lag and ages of the respondents.

Classroom climate questionnaire. This measure assesses children's perceptions of the extent to which their teachers and classroom procedures support intrinsically

oriented behavior (deCharms, 1976). It explicates the six dimensions of personal causation (a concept closely akin to intrinsic motivation) that were outlined by deCharms. They are (a) internal goal setting; (b) instrumental activity aimed at goal attainment; (c) realistic perceptions of the constraints of the situation and of one's capacities; (d) personal responsibility for one's behavior and its consequences; (e) self-confidence, the belief that one can be effective in dealing with one's surroundings; and (f) internal control, one's feelings of being in control of what is happening inside and outside of oneself. There were four items for each subscale that were scored, with higher numbers meaning more intrinsic. The total intrinsic score is composed of the combination of the six subscale scores. The measure, which has been shown to be both reliable and valid, is described in detail in deCharms (1976).

Measure of teachers' control versus autonomy orientation. We developed this questionnaire to assess teachers' attitudes or orientations toward control versus autonomy. Cognitive evaluation theory emphasizes that rewards may be controlling or informational—that is, their primary function may be to control people's behavior, in which case they will have a negative impact on intrinsic motivation, or their primary function may be to convey positive information about people's competence in the context of self-determination, in which case they will have a positive impact on people's intrinsic motivation.

Teachers, we reasoned, may favor controlling children, in which case they would tend to use rewards controllingly. Or they may favor promoting autonomy, in which case they would tend to be less controlling and use rewards more informationally. Although the orientations toward control versus autonomy have been discussed as a binary concept, it is actually a continuum, so rewards may be used in ways that reflect an orientation from highly controlling to highly informational.

In developing the scale to assess control versus autonomy and thereby reflect the use-of-rewards dimension, we began by characterizing four teacher orientations, ranging from favoring control to supporting autonomy. The highly controlling orientation has a clearly external locus of causality and implies incompetence. The highly autonomous orientation involves an internal locus of causality and implies competence. The other two orientations are intermediate.

In Orientation 1 (highly controlling), teachers make decisions about what is right and utilize highly controlling sanctions to produce the desired behavior. In Orientation 2 (moderately controlling), teachers make the decisions and emphasize that the children should for their own good perform the desired behaviors; the control is more covert. In Orientation 3 (moderately autonomous), teachers encourage children to compare themselves with others to see how to handle the problem, and in Orientation 4 (highly autonomous), teachers encourage children to consider the relevant elements of the situation and to take responsibility for working out a solution to the problem.

Teachers were asked to consider eight typical problem vignettes that arise in schools on a regular basis—children not preparing their lessons, bullying other children, or stealing. Then there were descriptions of four re-

sponses, one for each of the four styles described above. We asked teachers to consider each response in turn and to rate on a 7-point-scale the degree to which they felt that the response was appropriate, given their own approach to dealing with children. Thus, even if two teachers prefer the same approach, they may rate it differently, and, further, their second choices may be different or at least differentially strong. Thus, this provides a sensitive instrument for assessing teachers' styles regarding the matters of control, autonomy, and the use of rewards. Since there were eight vignettes, there were eight ratings for each of the four orientations. The average ratings on the eight responses for any given orientation reflected teachers' attitudes toward that orientation.

To create an overall orientation toward control/autonomy, the averages on the four orientations were combined algebraically by weighting the highly controlling score with -2 , moderately controlling with -1 , moderately informational with $+1$, and highly informational with $+2$. A higher composite score indicated an orientation toward autonomy and a lower score indicated an orientation toward control. This measure was constructed to be ipsitive, since control and autonomy are considered to be perfectly negatively correlated.

The ipsitive nature of the measure does not mean that the controlling and informational aspects of rewards are perfectly negatively correlated. It was constructed this way because research has shown that competence information is related to intrinsic motivation only in situations of self-determination (Fisher, 1978); thus, the informational aspect of rewards is theorized to be operative and to have an impact on intrinsic motivation only to the degree that teachers promote autonomy. Psychometric properties of this scale appear in Deci, Schwartz, and Sheinman (Note 5).

The children measures were administered to each class as a whole. The administrator went over the questionnaires, reading each item aloud and waiting for the children to finish that item before moving to the next. The teacher measure was also administered to groups of teachers, though they completed the questionnaire at their own pace.

Results

There were 889 children who responded to the first administration of questionnaires. Some of them were absent for later administrations, and others made mistakes in completing one or more of the measures. We used only subjects for whom we had complete data, so our final analyses were done with 610 children. We started with 36 classrooms. The teacher in 1 classroom was injured fairly early in the year and was absent for more than half of the study period, so we excluded that classroom from the analyses, since those children were exposed to many teachers.

From the data base described above, we performed correlations relating (a) teachers'

orientation to children's intrinsic motivation and perceived competence, (b) teachers' orientation to children's perceptions of the climate of the classroom, and (c) children's perceptions of the classroom to children's intrinsic motivation and perceived competence. For these analyses we aggregated the children within each classroom on their intrinsic motivation, perceived competence, and perceptions of the classroom climate. Thus, for example, the first analysis related a teacher's orientation toward control/autonomy to the average intrinsic motivation and perceived competence scores of the children in his or her classroom.

In the first analysis, we correlated the teacher measure with (a) the changes on intrinsic motivation from fall to spring for the classroom data, (b) the average of fall-to-spring data, (c) the fall data, and (d) the spring data.

Table 1 reports the correlations ($n = 35$) between teachers' and children's characteristics. One can see from Table 1 that the teacher measure did not correlate with changes in the classroom from fall to spring. Instead, there were significant correlations with the fall data on all three intrinsic motivation subscales and on the general self-worth and cognitive perceived-competence subscales. These relationships remained relatively constant over the course of the year as indicated by significant correlations on the same five subscales in the spring (though curiosity was only marginally significant in the spring) and by significant correlations with the averages of fall and spring data on the same five subscales. In other words, the relationship between teachers' orientation toward control/autonomy had had a significant impact on the intrinsic motivation and self-esteem of the children within the first 6 weeks of school. This relationship did not, however, become stronger through the year; if anything, it may have become just a little weaker. There was no relationship at all between the teacher measure and the two internal-versus-external evaluation subscales, nor was there any relation of the teacher measure to physical perceived competence. The teacher measure was, however, marginally related to social perceived competence. We see, then, that teachers' orientation to-

Table 1
Correlations Between Teachers' Orientations and Children's Intrinsic Motivation and Perceived Competence

Subscale	Teacher measure correlation			
	Children's change scores	Children's average scores	Children's fall scores	Children's spring scores
Intrinsic orientation				
Motivation				
Prefer challenge	.01	.44***	.41***	.39**
Curiosity	-.20	.44***	.56***	.27*
Mastery attempts	.06	.39**	.35**	.37**
Evaluation				
Independent judgment	.07	-.12	-.13	-.09
Criteria for success	.00	.19	.16	.17
Perceived competence				
Cognitive	.13	.37**	.29**	.43***
Social	-.06	.26*	.27*	.21
Physical	-.01	-.06	-.06	.05
General	.10	.43***	.36**	.40***

Note. The classroom is the unit of analysis for all correlations, $n = 35$.
 * $p = .10$. ** $p = .05$. *** $p = .01$.

ward control/autonomy does affect the children quite markedly.

The second analysis investigated whether children perceive a difference in the classrooms of control- versus autonomy-oriented teachers. To do this we correlated the teacher measure with the total classroom climate scores (averaged across all children within each class) and with the six subscales of the classroom climate measure. The total correlation was .354, which is significant at the .05 level. Thus, when teachers are more autonomy oriented, children perceive their classroom climate to be more supportive of autonomy. Of the subscales, the teacher measure correlated most strongly with "facilitates personal responsibility" ($r = .511$) and "facilitates internal control" ($r = .370$). Thus, it appears that autonomy-oriented teachers facilitate personal responsibility and internal control, which have an impact on children's intrinsic motivation and self-esteem.

The third analysis correlated the total climate score (i.e., children's perceptions of their classroom) with the nine intrinsic motivation, internal evaluation, and perceived-competence (self-esteem) subscales. These results appear in Table 2. As can be seen, these correlations form a pattern quite sim-

ilar to that of the correlations between the actual teacher measure and the children's intrinsic orientation and perceived competence. There is strong correlation with the intrinsic motivation subscales (though the mastery attempts subscale was not significant here), there is no correlation with the

Table 2
Correlations Between Total "Intrinsic" Scores on the Classroom Climate Measure and the Intrinsic Motivation, Internal Evaluation, and Perceived Competence of Children

Subscale	Total classroom climate score
Intrinsic orientation	
Motivation	
Prefer challenge	.43**
Curiosity	.37*
Mastery attempts	.18
Evaluation	
Independent judgment	-.21
Criteria for success	.18
Perceived competence	
Cognitive	.41**
Social	.48**
Physical	.32*
General	.54**

Note. Subscale fall-to-spring averages were used in correlations.
 * $p = .05$. ** $p = .01$.

internal evaluation subscales, and there is a strong relationship with all four of the perceived-competence subscales.

Discussion

What stands out most clearly in these data is that the teacher measure related consistently and quite strongly to the children's fall, spring, and average of the fall and spring scores on the intrinsic motivation subscales and the general and cognitive perceived-competence subscales. On the other hand, there was little relationship between teacher characteristics and changes in the children over the 7-month period. The general pattern of results emerged when the children's motivation and self-esteem were related to the actual teacher characteristics or to the children's perceptions of the teacher and classroom.

We had predicted that the teacher measure would correlate with changes in children's intrinsic motivation and perceived competence over the course of the year. Our reasoning was that children's motivation would gradually become more intrinsic as they worked with autonomy-oriented teachers, whereas their motivation would become less intrinsic as they worked with control-oriented teachers. Instead, the relationship between teacher characteristics and children's intrinsic motivation and self-esteem became established in the first 6 weeks of the school year (by the end of October) and remained stable for the next 7 months; if anything, it may have become slightly weaker.

One might first ask whether there was some selection process that accounts for these data. For example, do children select their own teachers, or do administrators who assign children to classrooms take personality, motivation, achievement, or deportment variables into account? The answer to both questions is no. Discussions with the four school principals confirmed that assignment to classes is essentially a random process. Children are not segregated on the basis of any performance criteria, so the assignments cannot be interpreted as having a systematic basis that might have influ-

enced these data. It seems clear that the results are not spurious.

The teachers seem to have had a clear and important impact on the children that occurred and stabilized in the first 6 weeks of the school year. It is unfortunate that we do not have data from the first day of the school year to prove this change, yet every indication is that a significant change occurred in that period.

This suggests that within the first 6 weeks, the children had adapted to the teacher. Those who were with teachers that were oriented toward autonomy and the use of rewards as information rather than control tended to adapt to the situation by operating more with an intrinsic mode. Once this adaptation was made, it tended to be stable as long as the situation remained constant.

We are still left with the question of why the relationship did not become stronger as the year progressed. Our speculation relates to the nature of the schools that the children attended. The schools were very traditional, middle to lower middle class, and suburban. There were tests and grades; the room arrangements, periods, breaks, and so on were conventional and to some extent controlling. Thus, it appears that the schools' ambience set limits on the teachers' impact. Their impact was clear and immediate, but it did not become stronger, because of the general school atmosphere to which all children were subjected. One will note that the correlations with the spring data may even be a bit weaker than those with the fall's. If this were a reliable finding, it would suggest that the children respond quickly to the teacher but that over the course of the year in the traditional, somewhat controlling schools, the relationship is slightly attenuated.

The data showed a clear relationship between the teachers and five of the nine subscales; a sixth was marginally related. Considering the specific subscales, the three dealing with intrinsic motivation were all significantly related to teacher orientation. This was our primary hypothesis, which received unequivocal support. The evaluative subscales—*independent judgment versus reliance on teacher judgment and internal versus external criteria for success/failure*—were completely unrelated to teacher ori-

entation. Harter (in press-a) reported a very striking developmental trend in which children become more internal in their bases for evaluation over the period from third to ninth grade. These evaluation dimensions seem independent of the motivation dimensions and also seem not to be affected by the immediate situation. Teachers seem to affect children's desire for learning—their preference for challenge, curiosity, and attempts at mastery—but the basis for children's judging their performance seems to become more internal simply as a result of maturation, perhaps because older children have the cognitive capacity to make such reasoned judgments, whereas younger children do not.

On the perceived-competence subscales, general self-worth and cognitive competence were most affected by teacher orientation. Social competence was moderately affected, and physical competence was unaffected. This makes sense. There is little reason to expect perceived competence in the physical domain to be affected by teachers; however, teachers' attitudes would be expected to have quite a clear influence on children's perceptions of self-worth and cognitive competence. Social interactions are somewhat relevant to classroom behavior and would therefore be affected by teachers, but most socializing goes on outside of the classroom (as does physical activity), so it would not be affected so strongly as would the general and cognitive domains.

Finally, the children's perceptions of their teachers and classrooms seem to mediate the effects of teacher characteristics on children's motivation and self-esteem. This is supported by the fact that the children's perceptions correlate with both the teacher characteristics and the motivation and self-esteem of the children. Teachers with different orientations are perceived to be different by the children, and the perceptions in turn seem to affect the children's orientations.

In sum, this study showed a clear relationship between characteristics of the rewarder and intrinsic motivation and perceived competence of the rewardee. As such, it provides real-world support for the propositions of cognitive evaluation theory, and it provides validation for the new measure

of attitudes toward control and autonomy. Finally, it suggests that rewards will tend to undermine intrinsic motivation and self-esteem when administered by someone with a controlling orientation, whereas they will tend to maintain intrinsic motivation and self-esteem when administered by someone who is autonomy oriented.

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