

SHORT NOTES

Vicarious Punishment in a Work Setting

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This research experimentally investigated the effects of punishment on the attitudes and behavior of co-workers who observed a peer receiving the punishment. Students were hired through a university placement office for temporary clerical employment. Subjects were exposed to observing either a co-worker receiving a reduction in pay, a co-worker receiving a threat of a reduction in pay, or no punishment. Results provide support for the hypothesis that punishment may be used effectively in work settings. Subjects who observed a co-worker receiving a reduction in pay produced significantly more output than subjects who observed a threat of a reduction in pay or subjects in the control group. These effects did not diminish after 1 week. Further, subjects across groups did not differ in levels of job satisfaction.

The literature is replete with essays and empirical studies concerning the use of positive reinforcement as a means to motivate or increase productivity. However, the use of punishment is a common occurrence in organizations, although organizational researchers have avoided this area. This is no doubt due to the widely held view that not only is punishment less effective than positive reinforcement but that it also results in undesirable side effects (Skinner, 1938, 1948). Arvey and Ivancevich (1980) point out, however, that there is little empirical evidence for either of these criticisms. Further, punishment has been used effectively in clinical and laboratory settings (Balke, 1965; Feldman & MacCulloch, 1965; Hamilton, Stephens, & Allen, 1967; Harris & Ersner-Hershfield, 1978).

One additional area of concern has to do with the effects of punishment on others. Hamner (1974) advises that punishment should not be administered in front of others. The idea here is that the individual gets punished twice: once from the direct administration of the punishment and once from the embarrassment of being punished in front of one's co-workers. In addition, there are possible retaliatory behaviors from the group of co-workers, who may feel embarrassed or threatened by observing one of their peers being punished. Further, unless great care is taken, the work group may interpret the administration of the punishment incorrectly. Because they are not likely to be privy to the reasons for the punishment, they must draw their own conclusions concerning the actions that led up to the administration of the punishment. This may result in the group's modifying its behavior in ways not intended by the punishing agent.

However, if the advice offered by Arvey and Ivancevich (1980) concerning the administration of punishment is followed, the

arguments regarding public punishment become weaker. Specifically, if the punishment is administered in such a way that it is clearly impersonal and corrective, focuses on a specific act, and is relatively intense and quick, then it should have informational value for not only the person who receives the punishment but also those who observe it (Bandura, 1969, 1977). As O'Reilly and Weitz (1980) suggested, the punishment may serve to make others in the work group aware of expected performance levels, which could result in an increase in group performance levels. This study experimentally investigates the effects of punishment on the attitudes and behaviors of co-workers who observe one of their peers receiving punishment. It is hypothesized that observing a co-worker receiving punishment will have a positive effect on observers' productivity without damaging job satisfaction.

Method

Subjects

Students were recruited through the placement office of a medium-sized southern university for temporary employment. Placement office employees were not told that students were actually being hired as part of an experiment to insure that this employment notice would be treated in the same manner as other job openings. The first 60 applicants who were available on two successive Saturday afternoons were hired at \$5 per hour and randomly assigned to one of five conditions. Two groups were exposed to observing a co-worker receiving an actual cut in pay. Two other groups were exposed to observing a co-worker receiving the threat of a cut in pay. One group served as the control group. The control group, one threat group, and one punishment group were administered the questionnaire at the end of both 2-hour work periods. The other threat group and punishment group were administered the questionnaire only once, at the end of the second 2-hour work period. This was done to insure that an assessment of the effects of the treatment over time could be made in the event that the second administration of the questionnaire in the first groups caused subjects to be suspicious about the true purposes of the experiment. The proportion of males and females

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was approximately the same for all groups (with 2 or 3 males in each group). Four subjects did not report for work the first day and 8 others were lost the second day owing to other work schedules, school activities, or unexplained absences.

Procedure

The task used was a slightly modified version of the unenriched condition's task developed by White and Mitchell (1979). Subjects were given sheets of New York Stock Exchange quotations and told to record the stock name, volume, and closing price for all stocks that reached a volume of 200,000 shares for that day. This information was recorded on specially prepared coding sheets.

When the subjects were called to report to work, they were told to report to one of five separate rooms prepared for the experiment. These rooms were designed to resemble a typical office, with the workers sitting at tables facing a "supervisor" who sat at a desk in the front of the room. The tables were carefully arranged so that the supervisor could be clearly heard when speaking in a normal voice.

When the subjects reported for work, materials were passed out, the task was explained, and they began to work. After a 1½-hour trial work period (which included approximately 35 min for explanation of the task), the supervisors took a quick measure of productivity. This consisted simply of checking with each subject to see how many coding sheets had been completed. This was done to get an accurate measure of output during the 2-hour work period to follow and to add realism to the administration of the punishment.

One confederate was assigned to each work group so that no naive subjects would be punished. Because the subjects were predominantly female, female confederates were used. The confederates were instructed to be aware of how the people around them were performing and to perform at a lower level. This was done to insure that subjects believed that there was a legitimate basis for the punishment. The average output during the trial period was 4.8 coding sheets for subjects and 2.5 sheets for confederates. Naive subjects outperformed the confederates in all groups.

After the supervisors completed the output check, they walked back to the confederate's table and administered the punishment. In two groups, the confederate was told that her output was significantly lower than her co-workers and that if she did not increase it, the supervisor would have to cut her pay from \$5 per hour to \$3.50 per hour. In two other groups, the treatment consisted of actually cutting the confederate's pay to \$3.50 per hour. The confederates had been instructed to simply acknowledge the supervisor's statement and continue working to avoid any confounding of the treatment due to cues from the confederate's reaction. The subjects then worked at the task for 2 hours.

At the end of the 2-hour work period, subjects in one threat group, one punishment group, and the control group completed a short questionnaire before leaving. When subjects returned the following week, all groups completed the questionnaire after a 2-hour work period. The subjects were then debriefed and the experiment was terminated.

Table 1
Analysis of Variance Summarizing the Effects of Punishment on Output and Questionnaire Measures

Dependent variable	<i>MS</i>	<i>F</i>	eta-square
Output	44.08	9.11*	.48
Intrinsic satisfaction	2.79	1.69	—
Extrinsic satisfaction	0.46	0.58	—
Social satisfaction	0.21	0.30	—

* $p < .01$.

Table 2
Mean Scores of Output

Group	<i>n</i>	Output
Control, Time 1	12	10.82 _a
Threat, Time 1	10	12.31 _b
Punishment, Time 1	10	15.03 _{a,b}
Control, Time 2	11	13.10 _{c,e}
Threat, Time 2	7	13.21 _d
Punishment, Time 2	8	16.01 _{c,d}
Threat, Time 2 only	11	13.64 _f
Punishment, Time 2 only	9	17.48 _{e,f}

Note. Values with the same subscript differ from each other (Scheffé multiple comparisons) at $p < .01$.

Dependent Measures

The major dependent variable was the subject's output measured by the number of coding sheets completed by each subject during the 2-hour work periods. In addition, three dimensions of job satisfaction (intrinsic, extrinsic, and social) were measured by means of a nine-item version of a scale developed by Warr, Cook, and Wall (1979). Internal consistency reliabilities were .86, .45, and .84, respectively.

Results

Table 1 presents the results of the one-way analysis of variance across the eight groups using output and job satisfaction as dependent variables. The results provide clear support for Arvey and Ivancevich's (1980) suggestions that punishment may be used effectively in work settings. Table 2 presents the mean scores for output for the eight groups. The groups that observed a co-worker receiving a cut in pay for low productivity produced significantly more than either the control group or the groups that observed a co-worker receiving a threat of a pay cut. The effects of the punishment did not disappear after 1 week. In addition, Table 1 shows that members of the treatment groups did not report lower levels of job satisfaction.

Discussion

The results of this study provide support for the view that punishment may be used effectively in organizations. Whereas most of the current interest regarding the use of punishment in organizational settings has focused on direct punishment (Arvey & Ivancevich, 1980; Arvey, Davis, & Nelson, 1984; Sims, 1980), the present research has provided evidence that punishment may have informational value for observers.

These results are in contrast with suggestions that the effects of punishment are only temporary or have negative side effects (Luthans, 1981). Output did not decline to earlier levels in the groups observing punishment being administered to a co-worker and, in fact, increased slightly during the second work period. Satisfaction levels did not decline after observing a co-worker receive punishment or a threat of punishment.

Sims (1980) has argued that in those studies that have included a comparative test of punishment and positive reinforcement, positive reinforcement has been shown to have a much stronger effect on performance. Although the current study did not include a comparative test, it did show that punishment may have positive

effects on performance without damaging job-related perceptions and attitudes.

One factor may limit these results. Of the naive subjects who observed a co-worker being punished, none of them knew the co-worker. The short duration of the study did not allow subjects to get to know one another well. The absence of negative side effects found in this study may not hold if co-workers observed someone they knew receiving punishment. Even though the punishment is administered impersonally, employee reactions might be different after observing a well-known co-worker being punished as opposed to an unknown co-worker.

Recent research is relatively consistent in providing support for the idea that punishment can be used effectively in organizations (Arvey et al., 1984; Podsakoff & Todor, 1985). Previously accepted criticisms of punishment have been questioned and found to be lacking in empirical support (Arvey & Ivancevich, 1980). Coupled with the realism that punishment is a frequent occurrence in organizations, it is now timely for organizational researchers to begin to carefully examine the use of punishment in work settings.

References

- Arvey, R. D., Davis, G. A., & Nelson, S. M. (1984). Use of discipline in an organization: A field study. *Journal of Applied Psychology, 69*, 448-460.
- Arvey, R. D., & Ivancevich, J. M. (1980). Punishment in organizations: A review, propositions, and research suggestions. *Academy of Management Review, 5*, 123-132.
- Balke, B. G. (1965). The application of behavior therapy to the treatment of alcoholism. *Behavior Research and Therapy, 3*, 75-85.
- Bandura, A. (1969). *Principles of behavior modification*. New York: Holt, Rinehart & Winston.
- Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Feldman, M. P., & MacCulloch, M. J. (1965). The application of anticipatory avoidance learning to the treatment of homosexuality: I. Theory, technique, and preliminary results. *Behavior and Research Therapy, 2*, 165-183.
- Hamilton, J., Stephens, L., & Allen, P. (1967). Controlling aggressive and destructive behavior in severely retarded institutionalized residents. *American Journal of Mental Deficiency, 71*, 852-856.
- Hamner, W. C. (1974). Reinforcement theory and contingency management in organizational settings. In H. L. Tosi & W. C. Hamner (Eds.), *Organizational behavior and management: A contingency approach* (pp. 00). Chicago: St. Clair Press.
- Harris, S., & Ernsner-Hershfield, R. (1978). Behavioral suppression of seriously disruptive behavior in psychotic and retarded patients: A review of punishment and altercations. *Psychological Bulletin, 85*, 1352-1375.
- Luthans, F. (1981). *Organizational behavior* (3rd ed.). New York: McGraw-Hill.
- O'Reilly, C. A., & Weitz, B. A. (1980). Managing marginal employees: The use of warnings and dismissals. *Administrative Science Quarterly, 25*, 467-484.
- Podsakoff, P. M., & Todor, W. D. (1985). Relationships between leader reward and punishment behavior and group process and productivity. *Journal of Management, 11*, 55-73.
- Sims, H. P. (1980). Further thoughts on punishment in organizations. *Academy of Management Review, 5*, 133-138.
- Skinner, B. F. (1938). *The behavior of organisms*. New York: Appleton-Century-Crofts.
- Skinner, B. F. (1948). *Walden two*. New York: Macmillan.
- Warr, P. B., Cook, J., & Wall, T. D. (1979). Scales for the measurement of work attitudes and aspects of psychological well being. *Journal of Occupational Psychology, 52*, 129-148.
- White, S. E., & Mitchell, T. R. (1979). Job enrichment versus social cues: A comparison and competitive test. *Journal of Applied Psychology, 64*, 1-9.

Received March 7, 1985

Revision received July 3, 1985 ■