An Analysis of the Behavioral Consequences of an Attendance Bonus Program

David William Smith
Western Michigan University

Follow this and additional works at: https://scholarworks.wmich.edu/masters_theses
Part of the Industrial and Organizational Psychology Commons

Recommended Citation
https://scholarworks.wmich.edu/masters_theses/1799

This Masters Thesis-Open Access is brought to you for free and open access by the Graduate College at ScholarWorks at WMU. It has been accepted for inclusion in Master's Theses by an authorized administrator of ScholarWorks at WMU. For more information, please contact maira.bundza@wmich.edu.
AN ANALYSIS OF THE BEHAVIORAL CONSEQUENCES OF AN ATTENDANCE BONUS PROGRAM

by

David William Smith

A Thesis
Submitted to the Faculty of The Graduate College in partial fulfillment of the requirements for the Degree of Master of Arts Department of Psychology

Western Michigan University Kalamazoo, Michigan August 1981
AN ANALYSIS OF THE BEHAVIORAL CONSEQUENCES OF AN ATTENDANCE BONUS PROGRAM

David William Smith, M.A.
Western Michigan University, 1981

Absenteeism is one of the most expensive and complex problems faced by management. Previous efforts to ameliorate attendance problems have focused on demographical analysis of absent workers, providing information of little value in designing remedial programs. The current project is an analysis of an Attendance Bonus Program in terms of contingencies of reinforcement. Six hundred union employees of a manufacturing plant served as subjects, with two comparison plants of 100 and 600 employees as comparative populations. Analysis of the prevailing contingencies identified a number of deficiencies. Attendance reinforcement aspects were appropriate, but a response criterion needs to be established. The current disciplinary program was both inappropriate in removing workers from production work, and ineffective due to infrequent application. Analysis also identified a strong correlation between weekend premium pay and weekday absences. A thorough behavior analysis of attendance policies allows for the prediction of certain attendance patterns and the design of appropriate remedial programs.
ACKNOWLEDGEMENTS

The author is greatly indebted to Drs. Jack Michael, Dale Brethower, and especially Norman Peterson for their assistance and critical comments in the preparation of this manuscript. The continuous supervision and direction of Gene Talsma has added immeasurably to this accomplishment. Finally, to my parents, without whom this accomplishment would not have been possible, I extend my deepest gratitude.

David William Smith
INFORMATION TO USERS

This was produced from a copy of a document sent to us for microfilming. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help you understand markings or notations which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure you of complete continuity.

2. When an image on the film is obliterated with a round black mark it is an indication that the film inspector noticed either blurred copy because of movement during exposure, or duplicate copy. Unless we meant to delete copyrighted materials that should not have been filmed, you will find a good image of the page in the adjacent frame. If copyrighted materials were deleted you will find a target note listing the pages in the adjacent frame.

3. When a map, drawing or chart, etc., is part of the material being photographed the photographer has followed a definite method in "sectioning" the material. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.

4. For any illustrations that cannot be reproduced satisfactorily by xerography, photographic prints can be purchased at additional cost and tipped into your xerographic copy. Requests can be made to our Dissertations Customer Services Department.

5. Some pages in any document may have indistinct print. In all cases we have filmed the best available copy.
SMITH, DAVID WILLIAM
AN ANALYSIS OF THE BEHAVIORAL CONSEQUENCES OF
AN ATTENDANCE BONUS PROGRAM.
WESTERN MICHIGAN UNIVERSITY, M.A., 1981
PLEASE NOTE:

In all cases this material has been filmed in the best possible way from the available copy. Problems encountered with this document have been identified here with a check mark.

1. Glossy photographs or pages
2. Colored illustrations, paper or print
3. Photographs with dark background
4. Illustrations are poor copy
5. Pages with black marks, not original copy
6. Print shows through as there is text on both sides of page
7. Indistinct, broken or small print on several pages
8. Print exceeds margin requirements
9. Tightly bound copy with print lost in spine
10. Computer printout pages with indistinct print
11. Page(s) lacking when material received, and not available from school or author.
12. Page(s) seem to be missing in numbering only as text follows.
13. Two pages numbered. Text follows.
14. Curling and wrinkled pages
15. Other

University Microfilms International

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
# TABLE OF CONTENTS

ACKNOWLEDGEMENTS ........................................ ii

LIST OF FIGURES ........................................ iv

Chapter

I. INTRODUCTION ........................................ 1

II. METHOD ................................................ 5

Subjects and setting .................................. 5

Data collection ....................................... 5

Dependent variable .................................. 6

Current behavioral consequences .............. 7

III. RESULTS .............................................. 9

Plant A ................................................... 9

North American operations ....................... 12

Cost analysis ......................................... 12

Frequency of absences .............................. 18

Distribution of absences .......................... 18

Duration of absences ................................ 23

Problems related to premium pay rates ........ 26

IV. DISCUSSION ........................................... 30

REFERENCE NOTES ..................................... 33

APPENDICES ............................................... 34

BIBLIOGRAPHY ........................................... 48
LIST OF FIGURES

Figure 1. Whirlybird Widget Works: Plant A .................. 11
Figure 2. Whirlybird Widget Works: North American Operations .................. 14
Figure 3. Cost Analysis .................. 16
Figure 4. Frequency of Absences (By Percentage Rates) .................. 20
Figure 5. Distribution of Absences .................. 22
Figure 6. Duration of Absences .................. 25
Figure 7. Weekday Absence as a Function of Weekends Worked .................. 28
CHAPTER I

Introduction

Absenteeism has long been one of the industrial manger's and supervisor's most perplexing problems. The deleterious effects of absenteeism on direct operations vary from lost production hours caused by shutdowns due to insufficient personnel needed to operate production lines to slowed production and higher scrap costs caused by the necessity of replacing experienced truant workers with less skilled replacements.

Nationwide, Hedges (1977) stated that 80 million man hours lost weekly in 1976 were directly attributable to absenteeism. Furthermore, the dollar value placed on benefits paid by U.S. firms to absent workers is estimated at between 26.4 billion (Hedges, 1977) and 35 billion (Robbins, 1979), annually. Staw and Oldham (1977) and Steers and Rhodes (1977) have suggested that part of the extreme costs may be justified in improved production schedules made possible through more efficient work efforts caused by the improved "mental state" of employees after these recuperative leaves. There is a noted lack of empirical data, however, to support this opinion. Also, the overwhelming majority of the studies in the area support the assumption that it is indeed a disconcerting problem (Denette, 1970; Hedges, 1973, 1977; Fitzgibbons and Moch, 1980; Shore, 1975; Kempen and Hall, 1977; Kuzmits, 1977; Yolles, Carone and Krinsky,
1975; Pedalino and Gamboa, 1974).

A number of studies have attributed a large part of the failure of management to effectively deal with this problem to the poor organization and analysis of corporate data (Shores, 1975; Fitzgibbons and Moch, 1980; Lutchans and Martinko, 1976; Kuzmits, 1977; Steers and Rhodes, 1980). It is not surprising that many companies fail to examine relevant data when consideration is given to the vast amount of journal space provided for detailed analyses of attitudinal and demographic data.

Most of the work on absenteeism has been theoretical in nature. A great deal of the literature provides a post hoc classification of "absence prone" workers or job settings (see Notes 1 and 4; Fitzgibbons and Moch, 1980; Hedges, 1973). From these analyses it can be determined that women are absent more frequently than men, blacks more frequently than whites, young workers more frequently than old workers, and single workers more frequently than married workers (see Note 4). It has also been determined that late night shifts are less frequently attended than day work shifts (see Note 4). Although these data present an interesting demographic analysis of the "marginal worker" (Porter, 1973), they provide little with which the manager can combat the problem of absenteeism for several reasons. First, it would be virtually impossible to hire a sufficient number of "perfect" attenders (i.e., white, middle-aged, married males) in addition to hiring a sufficient number to man an entire production department. Second, those managers or personnel supervisors who discriminate against any one demographic group are subject to appropriate legal sanctions.
Finally, even if discrimination in hiring practices did occur, the demographic or situational analysis makes no provisions for dealing with attendance problems within these populations if they were to arise. Steers and Rhodes (1978) suggested that attendance and other work behaviors are influenced by market and economic conditions, personal work ethics and health factors, but unfortunately, these variables are beyond the control of our supervisors and managers; therefore these distinctions have little utility. To provide for more useful policy decisions, the manager needs more empirically deduced principles and effective methods of data analysis.

A number of empirical studies have been published utilizing various attendance schemes. Baum (1978) used an entirely punitive absence program to cut truancy. Absence was cut by punishing all occurrences. Kempen and Hall (1977) used a bonus program combined with a punishment component to successfully increase the attendance behavior of 7,500 factory workers in the largest of the empirical studies. Pedalino and Gamboa (1974), Lawler and Hackman (1969), and Grady (see Note 2) demonstrated positive effects using bonus schemes alone to deter absence. These studies utilize the basic principles of the experimental analysis of behavior based on the empirical laws of behavior. It should be possible, then, to take these findings derived from scientifically rigorous procedures and extrapolate them to raw data. The principles should allow the manager to make certain predictions, whereas correlational data does not (i.e., being male or married, black or white, does not explain why a person will work on Saturday or Sunday and not on the following Monday or Wednesday).
Sound management policy should be able to predict and account for certain attendance patterns. Using these principles, this is possible.

The following thesis is an application of experimentally obtained principles of behavior to the analysis and amelioration of a working attendance bonus scheme.
CHAPTER II

Method

Subjects and setting

The setting involved in this thesis, Plant A, is a heavy industrial manufacturing plant located in a large, midwestern, metropolitan area. The subjects were approximately 600 direct production union employees. As comparative sites, two supporting manufacturing locations, Plants B and C in the same city, are included in the group data. There are 100 and 600 employees in the two sites, respectively. All three plants are supervised by North American Operations Management, and workers at all three sites are employed under the same union contract.

Data collection

The data and information presented in this analysis are derived from two main sources: Weekly Manpower Reports and Individual Worker Attendance Sheets. Weekly Manpower Reports for all three North American Operation sites (Plants A, B, and C) were used as comparisons. Attendance figures were obtained from the reports for June, 1977 to June, 1980 for Plants B and C, and June, 1974 to June, 1980 for Plant A. The figures presented prior to 1977 for Plant A were derived from Hourly Manpower and Absenteeism Statistics, but reflect the same measures as presented in post-1977 figures.
**Dependent variable**

Absenteeism rates were calculated and used for non-contractual absences only. These percentages represent the average daily non-contractual absences. This percentage is found by taking the total number of absent workers absent in a week for non-contractual reasons (i.e., unexcused, call-in, doctor's excuse, etc.), and dividing by the total number of workers scheduled in that week.

Included in these calculations are excused and unexcused absences, accident and sickness, leaves of absence, and disciplinary time off. No other figures were included. During certain yearly periods, all North American Operations were shutdown for re-tooling and/or vacations and holidays. To adjust the absenteeism rates presented, in order to present as accurate and indicative rates as possible, these lay-off periods were not included in tabulations. Monthly absenteeism rates are still presented for these periods, provided at least two weeks of regular working time occurred during that month.

In order to present as complete an analysis as possible of current management programs on attendance, an in-depth analysis of individual worker records was conducted. Sixty-one cases were drawn randomly from the Plant A worker files. Along with the 61 randomly drawn cases, the "best" and "worst" cases were also utilized. (These cases were chosen by the manager in charge of maintenance of worker records, and were chosen based solely on subjective criteria.) Individual cases were examined for the number of days missed, type (i.e., unexcused or sick days), frequency (i.e., number of instances regardless of duration), timing of absences (i.e., day of week), and
duration (i.e., the length of each occurrence of absence).

**Current behavioral consequences**

The following is a summary of the critical features of the Attendance Bonus Program at Whirlybird Widget, as stated in the Master Agreement between Union and Management (for the complete Agreement, see Appendix B).

1. For each week of "perfect" attendance, an employee will receive an Attendance Bonus Hour (perfect is defined as a week in which an employee works all 40 of the regularly scheduled hours).

2. During the fifth week of perfect attendance, an additional three bonus hours will be given, totaling eight hours. An employee who earns the three bonus hours shall not earn another three hour credit until another five consecutive weeks of perfect attendance occurs. An employee can earn up to 10 bonus days per year.

3. An employee with eight bonus hours accumulated can either 1) receive a day off with pay, 2) elect to "hold" onto accumulated days to use at a later date, or 3) receive pay in lieu of bonus hours earned (pay rate = daily pay rate x the number of bonus hours earned), without taking a day off.

The Attendance Bonus Program is the primary means by which management regulates employee absence. West Chicago management indicated that an "informal" disciplinary ladder was used in cases of unsatisfactory attendance records. The following steps are used:

1. three days in lieu (probationary period)
2. three-day layoff
3. five-day layoff
4. ten-day layoff
5. fifteen-day layoff
6. thirty-day layoff
7. termination of employment

No set number of absences is provided or used as a criterion of progress "down" the ladder. Each individual case is based "on its
Individual employees with an attendance "problem" are labeled by placing an orange tab on their file for easy identification. This labeling is the only formal attention given to high frequency absence cases. According to the Director of Hourly Employees, the criterion for labeling is "each on its own merit".
CHAPTER III

Results

Plant A

An analysis of data presented in the Manpower Reports is presented in Figure 1. Prior to June, 1974, no formal company attendance records were kept; hence, it is not possible to accurately evaluate the effects of the Attendance Bonus Program on employee behavior since its institution in January, 1974. It is conceivable that the pre-Attendance Bonus Program data may have been either better or worse than after its application. Using this data though, it is possible to evaluate changes in responding over time.

Employee attendance has, for the most part, been relatively stable over the past four years. Prior to 1976, major fluctuations in attendance rates make any specific analysis purely speculative. Since 1978, absenteeism has not varied more than ±3 percent daily from a 15 percent average.

The only seasonal variances noticeable are slight decreases (approximately 2-3%) that occur in the fall. These declines are evident in all years, excepting 1975 and 1976. The variances are only temporary and rates increase to higher levels at the beginning of each following year. These variances are the only noticeable fluctuations, and appear rather insignificant when examining the problem as a whole.
Figure 1. Whirlybird Widget Works: Plant A.
North American operations

Figure 2 shows the comparative performances of all operations from June, 1977 to June, 1980. All three manufacturing operations show relatively poor attendance rates for all years studied. No major increases are evident. In comparison, Plant A showed a 1-3 percent higher non-attendance rate than either Plant B or Plant C operations. All three plants show relatively stable absence rates. The missing data points for Plant C were plant closures for the entire months.

Whirlybird Widget management had initially expressed the view that Plant A had the poorest attendance record of any of the North American operations. The differences between the manufacturing centers are small and therefore, distinctions between sites appear unimportant, and may divert attention from, and may hinder remedial actions at those other two sites.

Cost analysis

Figure 3 presents Whirlybird Widget absenteeism costs for absenteeism at the Plant A facility, as prepared by the North American Operations Accounting Department. Figures are presented for years 1977-1981, with 1980 and 1981 presented as projected cost figures. The annual cost figures represent that capital loss directly attributable to employee non-attendance. Included in these figures are the:

- fixed fringes (i.e., dental and medical coverage, insurance)
- average hourly rate with COLA, FICA, and Sub-Fund
- Christmas and holiday pay at 85% of number absent
Figure 2. Whirlybird Widget Works: North American Operations.
FIGURE 2
WHIRLYBIRD WIDGET WORKS: NORTH AMERICAN OPERATIONS

MONTHS
1978
1979
1980

PERCENTAGE OF NON-CONTRACTUAL ABSENTEEISM

O O PLANT A
△ PLANT B
❑ PLANT C
Figure 3. Cost Analysis.
FIGURE 3

COST ANALYSIS

<table>
<thead>
<tr>
<th>Year</th>
<th>Fixed Fringes per Man*</th>
<th># Absent</th>
<th>Annual Cost</th>
<th>Aver Hour Rate w/Cola FICA, SUB</th>
<th>Aver Hour Vac Elig</th>
<th>Annual Cost+ Xmas/Hol Pay @ 85% Abs.°</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977</td>
<td>$2,818</td>
<td>89</td>
<td>$250,802</td>
<td>$8.23</td>
<td>120</td>
<td>$87,896</td>
</tr>
<tr>
<td>1978</td>
<td>2,772</td>
<td>83</td>
<td>230,802</td>
<td>8.95</td>
<td>120</td>
<td>89,142</td>
</tr>
<tr>
<td>1979</td>
<td>3,362</td>
<td>113</td>
<td>379,906</td>
<td>9.74</td>
<td>120</td>
<td>132,074</td>
</tr>
<tr>
<td>1980</td>
<td>3,849</td>
<td>125</td>
<td>481,125</td>
<td>10.95</td>
<td>120</td>
<td>164,250</td>
</tr>
<tr>
<td>1981</td>
<td>4,426</td>
<td>100</td>
<td>442,600</td>
<td>12.35</td>
<td>120</td>
<td>148,200</td>
</tr>
</tbody>
</table>

$1,784,509 $621,562 $493,106

Losses Per Year

1977 = $408,429
1978 = 389,937
1979 = 666,759
1980 = 775,680
1981 = 708,372

Total $2,899,177

* Insurance Premiums
+ Vacation eligibility X Hourly rate - average employee 1980 has 3 weeks vacation eligibility; it is assumed true for previous years.
° (Number of holidays + Xmas holidays X eight hours) X (number absent X 85%) Assuming that 85% of number were paid holiday and Xmas pay.
As an example of yearly losses for 1980, the fixed fringes per man were $3,849. Fixed fringes include medical, dental, and life insurance premiums paid by the company. Multiply this by the average number of eligible workers absent daily, 125, and the yearly loss is $481,125. To calculate the losses vacation time paid to absent workers, multiply the hourly wage, (including cost of living increases, SUB-fund and FICA), $10.95, by the average number of eligible absent workers, 120, and the cost is $164,250. annually. Lost holiday pay is equal to the number of holidays, times eight hours, times the number of eligible absent workers, is equal to $130,305. By adding fixed fringes losses, paid holiday losses, and paid vacation losses, the total dollar value lost directly to absenteeism is $775,680.

These figures of the estimated cost of absenteeism in real dollars of $775,680. for 1980 are even more staggering after adding overtime incurred through lost production and to replacement of absent workers with unskilled workers. There are many other figures that could be added to this analysis, but dollar values are difficult to assess (e.g., added insurance costs to Whirlybird Widget due to increased, unjustified medical leaves and claims, increased scrap production caused by less skilled workers, etc.).

The loss of $775,680. in direct absenteeism costs reflects approximately $1,300. per man at Plant A. An analysis of the attendance data for Plant B and Plant C indicates that this figure would be a relatively accurate indicator of losses incurred for the other North American facilities, as well.
Frequency of absences

The percentages of individual sample cases are presented in Figure 4 for the period June, 1979 through May, 1980. In the period from June, 1979 through May, 1980 the bulk of all sample cases, 48.3 percent, had less than 13 absences, or five percent. Sixty-seven percent had less than 10 percent of the working days absent, or 26 days. About 16 percent of the 63 cases had 65 or more non-contractual absences in the 260 day working period sampled. Five percent had over 130 absences, spending over 50 percent of the one-year period absent.

Of the 63 cases, ten had long-term absences due to illness (long-term defined as any continuous absence, labeled as sick days and at least 20 working days in duration). These sickness cases account for all excessive absence rates of over 20 percent for the 260 working days.

Twenty-nine, or 48.3 percent, of the 63 cases sampled had less than six percent non-attendance. Sixteen of these cases had less than two percent, or five absences, over the same 260 day period. Perfect attendance was evident in four cases.

The 63 sample cases had an average of 11.5 percent non-attendance over 260 working days. This group is considerably below the Plant A performance of 13.9 percent average, over the same 12-month (260 day) period. It is assumed that this random sample, though "better than average," is representative of the population from which it was drawn.

Distribution of absences

Figure 5 represents the daily distribution of 282 aggregate days
Figure 4. Frequency of Absences (By Percentage Rate).
<table>
<thead>
<tr>
<th>Percentage</th>
<th>Frequency</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 5%</td>
<td>29</td>
<td>48.3%</td>
</tr>
<tr>
<td>6 - 10</td>
<td>11</td>
<td>18.3%</td>
</tr>
<tr>
<td>11 - 15</td>
<td>6</td>
<td>10.0%</td>
</tr>
<tr>
<td>16 - 20</td>
<td>5</td>
<td>8.3%</td>
</tr>
<tr>
<td>21 - 25</td>
<td>3</td>
<td>5.0%</td>
</tr>
<tr>
<td>26 - 30</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>31 - 35</td>
<td>2</td>
<td>3.3%</td>
</tr>
<tr>
<td>36 - 40</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>41 - 45</td>
<td>2</td>
<td>3.3%</td>
</tr>
<tr>
<td>46 - 50</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>51 - 55</td>
<td>1</td>
<td>1.7%</td>
</tr>
<tr>
<td>56 - 60</td>
<td>1</td>
<td>1.7%</td>
</tr>
<tr>
<td>61 - 65</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>66 - 70</td>
<td>1</td>
<td>1.7%</td>
</tr>
</tbody>
</table>

N = 61
Figure 5. Distribution of Absences.
FIGURE 5
DISTRIBUTION OF ABSENces

NUMBER OF NON-CONTRACTUAL ABSENCES

M     T     W     TH    F
73     57    55    45    52
missed for 10 sample cases, during the 260 working day year, from June, 1979 to May, 1980. Of the 282 days absent, (2600 total possible days), 73 were on Mondays, with an average of 14 percent absence. Tuesdays accounted for 57 days, with a daily absence rate of 11 percent. Wednesdays listed 55 days missed, or 10.6 percent daily average. Nine percent, or 45 days, were missed on Thursdays. Fridays accounted for 52 absences, or a daily absence rate of 10 percent.

Duration of absences

Figure 6 represents a frequency count of duration of absences for all occurrences in the 63 sample cases. From an analysis of duration data it is shown that 87.5 percent of all occurrences had a duration of two days or less. Only 4.5 percent of the number of occurrences had a duration of more than seven days. All absences with duration of 20 or more days were classified as medical leaves.

A frequency of duration count shows that the absence problems at Plant A are those of frequency of occurrence, rather than one of duration. Nearly 90 percent of the 687 occurrences of absence, in the 63 sample cases, had a duration of two days or less. Although short, frequent absences account for only about 50 percent of the days missed, these sporadic, short-term absences cannot be effectively planned for in advance, and therefore, effect Plant A in two ways. First, as noted in the cost analysis, benefits must be paid to absent workers. Secondly, and most importantly, those absences cannot be planned for in advance. They can occasionally cause the closing of production lines due to inadequate personnel to staff work stations. Long
Figure 6. Duration of Absences.
## FIGURE 6

### DURATION OF ABSENCES

<table>
<thead>
<tr>
<th>Duration in Days</th>
<th>Frequency</th>
<th>Percentages of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>507</td>
<td>73.8%</td>
</tr>
<tr>
<td>2</td>
<td>94</td>
<td>13.7</td>
</tr>
<tr>
<td>3</td>
<td>31</td>
<td>4.5</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>1.8</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>1.2</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>.7</td>
</tr>
<tr>
<td>7</td>
<td>3</td>
<td>.4</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>17</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>18</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>19</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>20-30</td>
<td>7</td>
<td>1.0</td>
</tr>
<tr>
<td>31-40</td>
<td>3</td>
<td>.5</td>
</tr>
<tr>
<td>41-50</td>
<td>2</td>
<td>.3</td>
</tr>
<tr>
<td>50+</td>
<td>5</td>
<td>.7</td>
</tr>
</tbody>
</table>

*N = 687*
duration absences, here all extended medical leaves, which account for the remainder of all absences, still require paid benefits for the worker but allow for policy decisions to be made in advance to provide adequate plant staffing. Frequent absences should be the main focus of attention for remedial or ameliorative programs.

Problems related to premium pay rates

Figure 7 is a calculated analysis of the percentage of weekday absences as a function of the previous weekends worked.

The most notable trend found in employee attendance records is the prevalence of weekday "weekends". These absences occur after the employee works one or both days of the previous weekend at premium hourly rates.

A sample case is presented in Appendix A as an example of the weekend working trend. This case was chosen from approximately one dozen others which exhibited similar responding patterns. It can be noted from examining this attendance record that in a large percentage of the weeks, either directly preceding or following a weekend worked, that the employee took a day off.

This relationship, between weekend days worked and mid-week absence, is clearly demonstrated in Figure 7. Forty-four weekends were worked in 1979 by this particular employee. In the weeks directly following each weekend, 43.2 percent had at least one unexcused absence, a total of 19 occurrences. The point is easily shown by the fact that no absences occurred in the eight weeks directly following weekends not worked.
Figure 7. Weekday Absence as a Function of Weekends Worked.
### WEEKDAY ABSENCE AS A FUNCTION OF WEEKENDS WORKED

<table>
<thead>
<tr>
<th></th>
<th>Number of Weekends</th>
<th>Number of Unexcused Weekday Absences</th>
<th>Percentage of Unexcused Absences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worked</td>
<td>44</td>
<td>19</td>
<td>43.2%</td>
</tr>
<tr>
<td>Not Worked</td>
<td>8</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>
A further analysis of group data (10 cases used from distribution section) shows 33 percent of all weekends in which at least one day was worked, was followed by a weekday absence. In the weeks directly following a weekend day which was not worked, only 22 percent were followed by absences. Premium pay, also, shows its detrimental effects on Monday attendance, where 64 percent of all absences followed worked weekends. These points reiterate the strong relationship between premium paid hours and weekday absences.
CHAPTER IV

Discussion

It has been experimentally proven that behaviors, appropriate or inappropriate, are determined and controlled by their immediate consequences. Those behaviors which are followed by reinforcing consequences will occur more frequently in the future in similar situations. Those behaviors which are followed by punitive consequences will be less likely to be exhibited under similar circumstances in the future.

Using the basic principles stated above, it can be said that the effectiveness of any behavior management program, such as the Attendance Bonus Program analyzed in this paper, is based upon its ability to present effective consequences contingent upon certain behaviors. When examining a program utilizing these principles, it is possible to identify faulty contingencies and prescribe remedial procedures. The current Attendance Bonus Program fails to provide adequate contingencies, and therefore, it does an unsatisfactory job of maintaining employee attendance.

In the sample cases, a number of employees had unexcused absence rates in excess of 25-45 percent and yet had earned paid Bonus Days. An employee with an extremely poor attendance record should not be eligible for an incentive program such as the Attendance Bonus Program, or in these cases, it could be used as a reward for an employee's overall improvement in attendance. The Attendance Bonus Program was

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
intended to be a fringe benefit presented by the company to reward those employees who had good attendance histories.

Another point, related to the above discussion of excessive absenteeism rates and bonus days, is one of the length of time required to earn days off. As implemented, an employee can literally take as long as he or she wants or needs to accumulate eight Attendance Bonus Hours. This point provides a loop-hole for the worker who frequently misses days to still earn days off. This accounts for the excessive number of days off for some workers and their ability to still accrue bonus days, though it may have taken up to 26 weeks.

Appendix D is the Employee Attendance Record of one of the 63 workers which clearly illustrates the potential for abuse in a program which lacks the necessary consequences to control inappropriate behaviors. This particular employee has a 44 percent absenteeism rate, but still earned two paid bonus days off. The Attendance Bonus Program does reinforce workers for attendance and in the long run, may help decrease absence from work. But, due to the lax criterion, it is doubtful whether this program would greatly effect a worker with this type of record.

When an employee is absent, two problems occur with the current program. First, the program is administered in such a subjective fashion that the likelihood of receiving some form of disciplinary action is, as noted earlier, very small. Secondly, the layoff removes the worker from job responsibilities, the opposite of its original intention. The current program is both inappropriate in removing the worker from direct production time, and is extremely poorly
administered. No other aversive consequences exist under current policies to control absence from work.

It is evident from an analysis of the distribution of days missed that an inordinate number of days occur on Mondays. This high rate of occurrence is most easily accounted for by Saturday and Sunday premium hourly pay rates. Tuesday through Friday present a relatively consistent non-attendance rate of 9-11 percent.

The only aversive consequence that is applied is the lack of pay for that day for the absent worker. This aversiveness is almost entirely alleviated when the worker receives premium pay for weekend work. If money is the sole motivator for employee attendance, an employee would only have to work Saturday, Sunday, and two weekdays to receive more than an ordinary worker would in a week. This problem should be of extreme interest in designing remedial procedures.

The failure of this current attendance program to consider these important aspects of environmental controls, to a great degree, explains its ineffectiveness. Until a program provides reinforcing consequences for attendance, in conjunction with punitive consequences, contingent upon absence, an improvement in the control of absenteeism will not be likely. Based on this analysis, a list of remedial recommendations was presented to management (see Appendix C).

Identifying and measuring traditional correlational variables does not allow for prediction or control of absences. Characteristics of employees in no way allow for the identification of relationships with specific attendance patterns. Since the present findings support empirically established principles of behavior, applying them should ameliorate the identified problems.
REFERENCE NOTES


Note 2. Where Skinner's theories work. Business Week, December 2, 1972, 64.


APPENDIX A

1979

<table>
<thead>
<tr>
<th>CODE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>NH - New Hire</td>
</tr>
<tr>
<td>A - Absent</td>
</tr>
<tr>
<td>C - Industrial injury or illness</td>
</tr>
<tr>
<td>S - Sick (On approved LOA)</td>
</tr>
<tr>
<td>A - Off the job injury</td>
</tr>
<tr>
<td>V - Vacation</td>
</tr>
<tr>
<td>T - Tardy</td>
</tr>
<tr>
<td>BD - Bonus Day</td>
</tr>
<tr>
<td>CI - Called In</td>
</tr>
<tr>
<td>E - Left early (show time worked</td>
</tr>
<tr>
<td>D - Disciplinary Layoff</td>
</tr>
<tr>
<td>P - Personal approved day</td>
</tr>
<tr>
<td>B - Bereavement</td>
</tr>
<tr>
<td>L - Leave of Absence (Personal)</td>
</tr>
<tr>
<td>U - Union business</td>
</tr>
<tr>
<td>J - Jury duty</td>
</tr>
<tr>
<td>DE - Doctor's Excuse</td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
APPENDIX B

The Attendance Bonus Hour Plan provided under the previous agreement shall, notwithstanding the expiration date of that agreement, continue in full force and effect until the effective date of the Attendance Bonus Plan provided herein and employees shall have the option of receiving pay in lieu of or carrying accumulated hours under that plan into the new Attendance Bonus Hour Plan. Any such Attendance Bonus Hours carried forward under the new plan shall be applied in the same way as hours accumulated under the new plan but the period prior to the effective date of the new plan will not be considered in calculations under the new plan.

(a) Commencing with the first Monday following notice of ratification, employees with seniority shall earn one (1) hour of attendance bonus credit for each week in which they work all of their regularly scheduled forty (40) hours in such week. Employees who qualify as above in five consecutive weeks will earn an additional three attendance bonus hours. An employee having qualified for the additional three attendance bonus hours will not be eligible for another such credit of three additional attendance bonus hours until he again works five consecutive weeks for which he had not previously received an attendance bonus hour credit.

(b) Within five weeks following the ratification of the agreement, the company will conduct a draw among the employees in areas of the plant to be defined in order
to assign a day to each employee to be the day on which he will observe a day off upon the accumulation of eight (8) hours of attendance bonus hours credit. The definition of the areas of the plant and the assignment of days will be done with the intent of providing relatively equal distribution of days off over the five regularly scheduled working days in a week and ensuring that adequate numbers of employees with appropriate skills are available to operate efficiently.

(c) When an employee has accumulated eight (8) hours of attendance bonus hour credits, he will be provided with at least two weeks' notice of the week in which he is to observe his assigned day off which will be within five weeks of the date on which he became entitled to eight (8) hours of attendance bonus hour credits. The employee will then observe that day off with pay (eight times his regular day work rate). Provided, however, that on the Thursday of the week preceding the week in which the day off is scheduled, the employee may advise his foreman that he does not want to take such day off and wants:

1. to accumulate the eight (8) hours of attendance bonus hour credits, or
2. to receive pay in lieu of such eight (8) hours of attendance bonus hour credit.

(d) Once having earned eight (8) hours of attendance bonus hour credit as provided above and having been assigned a
day off, or exercised the options provided above, an employee's next eight (8) hours of attendance bonus hour credit will be assigned as provided above except that the day of observance will be the day of the week, Monday through Friday, that immediately follows the day that was assigned for the previous eight (8) hours of attendance bonus credit.

(e) Employees who opt to accumulate eight (8) hours of an attendance bonus hour credit as provided in paragraph (c) above may use such accumulated credit in increments of eight hours to a maximum of three times in any one contract year.

(f) An employee who is absent for some but not all of his regularly scheduled hours in a week, will qualify for attendance bonus hour credit provided such absence(s) were for one or more of the following reasons:

- jury duty for which such employee is excused and compensated as provided in paragraph 16.03;
- bereavement for which such employee is excused and compensated as provided in paragraphs 16.01 and 16.02;
- short work weeks for which such employee is compensated under the SUB plan;
- holidays listed in paragraph 13.01 which were not scheduled to be worked by such employee;
- attendance bonus hour absences;
- vacations of less than one week;
- prearranged eight (8) hour paid vacation days under paragraph 14.04;
- a work-incurred injury for which the employee receives Workmen's Compensation benefits;
- excused absence for union business.

Where for one of the reasons listed above, an employee is absent for all of the week, such employee shall receive
no attendance bonus hour credit, but such week shall not be used to disrupt the five consecutive week period; for example:

Week 1 - Qualifies for attendance bonus hour
Week 2 - Qualifies for attendance bonus hour
Week 3 - Qualifies for attendance bonus hour
Week 4 - Qualifies for attendance bonus hour
Week 5 - Employee takes full week(s) vacation
Week 6 - Qualifies for attendance bonus hour

At the end of Week 6, the employee will be deemed to have completed five (5) consecutive weeks and qualify as provided in the second sentence of Section (a) above.

(g) Pay for accumulated attendance bonus hours will be provided and the hours cancelled in the event of one of the following:

- discharge;
- resignation;
- retirement;
- layoff (the pay will be attributed to the employee's last week of work);
- death;
- leave of absence in excess of six (6) months.

In the case of layoff, the employee may opt to waive payment as provided above and retain accumulated attendance bonus hours.
APPENDIX C

Recommendations

A) Progressive Disciplinary Program

1. The main objective of any employee attendance scheme is ultimately to get and keep all employees on the job. Therefore, any attendance procedure which causes the removal of the employee from the job is not performing its effective or appropriate function. This also pertains to any corporate disciplinary programs used to control worker inappropriate behavior which also removes the worker from direct production responsibility.

The disciplinary program at Whirlybird Widget does just this. It removes the employee from production duties for the duration of the layoff period. In the sample cases, eight occurrences of disciplinary layoffs were examined. The company was responsible for removing workers from production assignments for 41 man days. The disciplinary layoff program should be modified to provide for short layoffs (i.e., half days, or at least one day layoffs) or, ideally, eliminated.

2. When a worker is absent from work, it is taken for granted that he or she "wanted a day off". When given a disciplinary layoff, it is nonetheless days off work; the worker receives a vacation in either case. In the latter case, the vacation is at the discretion of the company. The disciplinary program may lose any effectiveness it may have (due to lax criteria
and subjective applications, it is seriously doubted that it has any effect at all on worker behavior, even used as efficiently as is possible), due to its providing days off work.

3. It is also noted that the current disciplinary procedures are based "on the merit of each individual case". This lax criterion gives the negligent employee a way of avoiding the aversive procedures. The regular shifting or replacement of supervisors, as an example, gives the employee another chance to find an unaware or less strict foreman. Any previous application of the procedures is generally lost with each subsequent change of supervisors. Due to the inability of the Attendance Bonus Program to deliver effective immediately rewarding consequences, it is imperative that any cost-effective attendance program to be implemented have a rigid disciplinary system. Such a program or set of procedures should have set measures for all instances of circumstances that may arise. Each instance of inappropriate behavior unavoidably moves the employee "further down the ladder". A set of procedures will also eliminate the subjectiveness which catches abuses associated with the current "each on its own merit" system. This will be done by taking the procedures out of the foreman's hands and putting them in written forms, with set consequences for each occurrence.

B) Identifying Problem Cases: Labeling

This seemingly unimportant procedure has a large effect on the manner in which problem cases are identified and dealt with.
In the sample cases, which were labeled "each on their own merit," several cases with individual rates of less than seven percent (comparatively, a very good record) were labeled as problem cases, whereas, a number of cases with records above 15-20 percent, were not. A criterion needs to be set and administered without subjective consideration. This labeling is an important basis with which an overall corrective program may begin.

C) Data Base

1. No program, regardless of how effectively or ineffectively it appears to work, can be adequately evaluated subjectively. A sound data base is the most important facet of any set of ameliorative programs or procedures. It is impossible to evaluate the initial effects of the Attendance Bonus Program versus the pre-implementation attendance rates, due to lack of performance data. It is conceivable that it could have been either better or worse.

The current data base is adequate, but incomplete as a base for a total reformatory program. Attendance records are kept on an overall plant basis only. These records are represented weekly in the Manpower Reports. The reports are only available to upper management who are indirectly involved (i.e., general managers) in the day-to-day supervision of employees.

To be maximally effective, more immediate and thorough figures need to be presented to supervisors. The supervisors are the management level most directly involved and affected
by absence rates. Individual supervisors' employees or sectional data should be presented daily as performance improvement feedback. This information would give the line supervisor pertinent data concerning his performance (given as attendance rates of his employees). It would also provide for the identification and consequence of problem cases. The supervisor could directly and immediately judge the effect, if any, of any program or policy changes on attendance rates of any or all employees.

2. Immediate display of subordinate attendance records would allow (with appropriate supportive procedures) the foreman or supervisory staff to administer procedures effectively. The supervisors now rely on subjective impressions to administer policies.

The information presented daily should include not only present attendance figures but brief histories of problem employees' records and specified remedial procedures (see Recommendations, Section A, Disciplinary Programs) to be implemented.

D) Attendance Bonus Program

1. In view of those workers who exhibit poor attendance records yet still earn bonus days, a criterion needs to be established within which bonus hours can accrue. It is apparent that some workers with poor records have taken as long as 26 weeks to accumulate the necessary eight bonus hours required for a paid Attendance Bonus Hour day off. One possible way to deal
with this discrepancy would be to only allow bonus hours to accumulate for seven weeks running. Any hours which have been earned and/or accumulated for more than seven weeks will automatically result in paid hours, and not be allowed to count toward days off.

2. A major problem facing management, as stated in the sections on frequency and duration of absences, is the very frequent one-day absence. These absence cannot be planned for in advance and constitute nearly 75 percent of all occurrences. Unscheduled Bonus (UB) Days fall into this category. They give the employee the ability to call-in with little or no notice and take a day off. A UB presents the same obstacles to management as non-contractual, short duration absences, which are the focal point of the remedial programs. To avoid the associated problems which arise with the UB days, they should be modified or deleted.

E) Weekend Premium Rates

It is evident from an analysis of employee data that a major cause of high frequency absences is weekend premium pay rates. With overtime pay, employees can and do, take weekdays off and earn the equivalent of, or more than, a regular work-week's pay. A potential solution is to offer weekend premium pay only to those employees who are present for all their regularly scheduled hours in the preceding week, making weekend overtime contingent on weekday attendance.

Making weekend overtime contingent on weekday attendance
would be a major incentive for those high-frequency absence cases who rely on these premium hours to supplement regular days on which they are absent. It would no longer be possible to miss weekdays and earn premium pay. It would also act to reward those regular attenders who enjoy the benefit of premium pay hours.
APPENDIX D

1979

CODE:

NH - New Hire
A - Absent
C - Industrial injury or illness
S - Sick (On approved LOA)
A - Off the job injury
V - Vacation
T - Tardy
BD - Bonus Day
CI - Called In
E - Left early (show time worked
D - Disciplinary Layoff
P - Personal approved day
B - Bereavement
L - Leave of Absence (Personal)
U - Union business
J - Jury duty
DE - Doctor's Excuse

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
1980

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Code:**

- **NH** - New Hire
- **A** - Absent
- **C** - Industrial injury or illness
- **S** - Sick (On approved LOA)
- **A** - Off the job injury
- **V** - Vacation
- **T** - Tardy
- **BD** - Bonus Day
- **CI** - Called In
- **E** - Left early (show time worked)
- **D** - Disciplinary Layoff
- **P** - Personal approved day
- **B** - Bereavement
- **L** - Leave of Absence (Personal)
- **U** - Union business
- **J** - Jury duty
- **DE** - Doctor's Excuse
BIBLIOGRAPHY


Robbins, J. Firms try newer ways to slash absenteeism as stick and carrot fail. Wall Street Journal, 31(13/14), 1; 5.


