

## Assessing the Effects of Employee Assistance Programs: A Review of Employee Assistance Program Evaluations

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Employee assistance programs have grown at a dramatic rate, yet the effectiveness of these programs has been called into question. The purpose of this paper was to assess the effectiveness of employee assistance programs (EAPs) by reviewing recently published EAP evaluations. All studies evaluating EAPs published since 1975 from peer-reviewed journals in the English language were included in this analysis. Each of the articles was assessed in the following areas: (a) program description (subjects, setting, type of intervention, format), (b) evaluation design (research design, variables measured, operational methods), and (c) program outcomes. Results indicate numerous methodological and conceptual weaknesses and issues. These weaknesses included lack of controlled research designs and short time lags between pre- and post-test measures. Other problems identified are missing information regarding subjects, type of intervention, how variables are measured (operational methods), and reliability and validity of evaluation instruments. Due to the aforementioned weaknesses, positive outcomes could not be supported. Recommendations are made for future EAP evaluations.

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It has been estimated that up to 19 percent of the United States adult population suffers from alcohol abuse, other drug abuse, or mental disorders [1]. Projections made from the National Institute of Mental Health Epidemiological Catchment Area Program indicate that almost 30 million Americans suffer from substance abuse and mental disorders, causing much morbidity and mortality [2]. In terms of economic impact, this nation spends more than \$1.6 billion annually for alcohol and other drug abuse treatment and prevention services alone [3].

In recent years, the “war on drugs” has drawn much attention to substance abuse in the workplace [4]. Although the exact magnitude of the substance abuse problem in the workplace is difficult to assess accurately, it is clear that substance abuse is widespread and impairs performance, decreases productivity, and jeopardizes safety. Alcohol is by far the most abused substance, with the best estimates, based on surveys of the population, suggesting that approximately 10 percent of the working-age population abuse or are dependent on alcohol [5].

Employee assistance programs (EAPs) provided by government and industry are designed to help employees deal with problems that seriously affect job performance. They typically use the occupational setting as milieu to both screen and/or treat patients manifesting personal difficulty, which often includes alcohol abuse.

In the past few decades, EAPs have proliferated in North American workplaces. EAPs have expanded from four to six programs between 1940–1945 to over 4,400 by 1980 [6]; however, most EAPs are less than five years old [7]. Despite the popularity of and financial commitment to these occupationally based health programs, there is a need to examine their relative effectiveness. A review of occupationally based

treatment programs is timely, especially in light of recent emphasis on “drug-free workplaces” [4]. The purpose of this analysis is to assess the effectiveness of EAPs by reviewing some recently published EAP evaluations. This paper presents a summary of the main observations.

## METHOD

By consulting *Index Medicus*, *Psychological Abstracts*, and the *Work Related Index*, from 1975 to early 1987, all articles from peer-reviewed journals in the English language concerning EAP evaluation were selected. Published studies from 1975 on were chosen because the notion of employee assistance programs is a newer phenomenon [7] than the traditional occupational alcoholism programs. Furthermore, the literature prior to this date has been well summarized by Kurtz et al. [8].

Key words used to search the data base were “employee assistance program,” “occupational health services,” “alcoholism,” and “substance abuse.” Bibliographies of papers were used to search further for articles. Published abstracts were not included. A definition of EAP by Sonnenstuhl and Trice was used for this process, which is as follows: job-based programs operating within a work organization for purposes of identifying “troubled employees,” motivating them to resolve their troubles, and providing access to counseling or treatment for those employees who need these services [7]. Unpublished manuscripts, company reports, and articles in journals which were not peer-reviewed were not included in this analysis for various reasons. First, such manuscripts are difficult to enumerate. Second, they pose difficulties in terms of evaluating their quality. Furthermore, it was assumed that the best evidence for EAP effectiveness would appear in the published literature. The author, however, does acknowledge publication bias by this method of selection.

A methodological meta-analysis was performed for the following areas: (a) program description (choice of subjects, setting, type of intervention, format of intervention), (b) EAP evaluation design (research design, variables measured, operational methods), and (c) program outcomes. These areas were considered to provide a comprehensive overview of the nature of the program as well as a means to identify essential aspects of the evaluations. Furthermore, these headings have been used successfully by other authors to assess the effectiveness of worksite health programs [9]. Research designs were classified according to Campbell and Stanley [10].

A quantitative pooled meta-analysis was considered for analyses as described by Rosenthal [11] and Morgenstern, Kleinbaum, and Kupper [12]. These methods, however, were not possible because necessary data were missing from the articles evaluated (i.e., means, standard deviations).

## RESULTS

Table 1 presents EAP summary descriptions of 13 EAPs on which evaluation is available.

### *EAP Descriptions*

*Subjects:* In general, limited descriptive data on subjects were available. The most frequently reported variables were age [13–20], sex [13–17,20,21], and marital status [14–18,20]. Other less frequently documented variables included level of education [18], job status [13,15,17], and psychosocial characteristics [16]. The number of

TABLE 1  
Employee Assistance Program Descriptions

Author	Subjects	Setting	Intervention	Format
Alander and Campbell, 1975 [13]	117 hourly self-referred Oldsmobile employees and 24 refusers (controls)	Outside facility	Not indicated	5 days to 10 weeks
Asma, Hilker, Shevlin, and Golden, 1980 [14]	638 staff-referred and 116 self-referred Illinois Bell Telephone Co. employees	On-site facility	Medical exam, referral to outside agencies, hospitalization, AA, counseling	Not specified
Bensinger and Pilkington, 1983 [15]	72 staff-referred and 136 self-referred United Technologies Corp. employees	Counseling center	Seminars, AA, day treatment	2 weeks, 5½ days/week
Burton, Eggum, and Keller, 1981 [20]	342 International Harvester employees	On-site	Health counseling	Not indicated
Chopra, Preston, and Gerson, 1979 [16]	207 staff and self-referred workers	Residential treatment program	Counseling, psychotherapy, recreation therapy, relaxation training, medication	3 weeks and up to 14-month follow-up
Eggum, Keller, and Burton, 1980 [17]	215 staff/other referred and 127 self-referred International Harvester employees	On-site and residential treatment	Health counseling, inpatient treatment	Not indicated
Freeburg and Johnston, 1980 [18]	370 coerced and 58 self-referred employees	Residential treatment	Life skills and counseling groups	80-90 hours of group sessions' follow-up
Heyman, 1976 [19]	180 supervisor and self-referred employees from industrial alcoholism programs	On-site	Not indicated	Not indicated
McLatchie, Orey, Johns, and Lomp, 1981 [23]	262 hourly rate employees, stewards, supervisors	On-site manufacturing plant	Audiovisual program	30-90 minute seminar
Nadolski and Sandonato, 1987 [25]	31 supervisor and 16 self-referred Detroit Edison employees	Not indicated	Not indicated	Over 6 months
Rountree and Brand, 1975 [22]	Kentucky employees referred by supervisor	Workplaces in Kentucky	Counseling and referral	Not indicated
Staples, Kelsey, and Thomas, 1980 [21]	144 self-referred Northwestern Telephone Co. employees	District counseling center	Counseling	No limit to number of sessions
Schramm, 1977 [24]	206 referred alcoholic workers	Outpatient clinic	Medical and counseling services	90-day program

subjects ranged from 141 to 752. In one study, the number of participants was not given [22].

Program participants were recruited by a variety of means. Fifteen percent of studies indicated volunteer or self-referral only [13,21], and, similarly, another 15 percent reported employer referral or coercion [22,24]. Recruitment by both self and employer referral characterized 54 percent of studies [14–19,25]. Evaluations were conducted with employees from various types of occupations in government, service, or manufacturing sectors.

*Setting:* Thirty-nine percent of programs were conducted in outside facilities such as residential treatment centers, outpatient centers, and hospitals [14,17,19,20,22]. The remaining studies were either conducted in the workplace, with or without outside referral, or the setting was not specified [24]. Studies were conducted in different states in the U.S. and in Ontario, Canada.

*Type of intervention and format:* The most frequently used intervention was counseling [14–18,20,22,23,24] with 70 percent of programs indicating this form of intervention. In addition to counseling, 23 percent of other programs reported medical services [14,16,24], such as hospitalization where necessary. Psychotherapy [18], relaxation training, and other life skills groups [16] were unique to two separate studies, and 15 percent provided referral to outside agencies [14,22]. One program evaluated only a health education component [23], and three studies did not specify interventions [13,19,25].

The diagnosis treated was overwhelmingly alcoholism. In 31 percent of cases, drug abuse was mentioned [13,14,22,23], and 15 percent of articles also dealt with emotional and family/work-related problems [21,22].

There was a paucity of information regarding the qualifications of program staff. Only 23 percent of studies mentioned the quality of the staff. One had individuals with masters' degrees in psychology, social work, or other related fields with at least two years of experience [21]. Fifteen percent of the interventions reported were done by trained nurses [17,20].

These predominately counseling services varied in duration. They ranged from one sole half-hour session to 90 days with up to 14 months of follow-up. In 22 percent of studies, duration was not specified [14,19,20]. Program structure varied from formalized groups to more unstructured counseling sessions.

#### *EAP Evaluation Designs* (Refer to Table 2.)

*Research design:* Most of the designs (77 percent) were non-experimental (no use of control group) and had only post-test measures, ranging from immediately after the program to five years post-program. Approximately half used both pre- and post-test measures [14,17,18,20,23,24], but not control groups. One study used a cross-sectional design [19], while another did not indicate any design [22]. None of the studies used an experimental design whereby subjects were randomized into treatment and control groups. One study, however, did use a quasi-experimental design with a non-equivalent control group [13].

*Variables measured:* Items from three categories of variables were measured to establish program effectiveness: (a) descriptive variables concerning program attendance, such as number of counseling sessions [21], utilization [21], and penetration rates [22]; (b) variables concerning client attributes such as knowledge about alcohol [22], attitudes toward the program, satisfaction with the program [20], and drinking

TABLE 2  
Employee Assistance Program Evaluation Designs

Author(s)	Research Design	Variables Measured	Operational Methods
Alander and Campbell, 1975	Quasi-experimental one-year pre- and post-test	Company expenses, % change in: lost man-hours, absence, grievances, disciplinary actions, accidents	Company records
Asma, Hilker, Shevlin, and Golden, 1980	Pre-experimental five-year pre- and five-year post-test	Number of sickness and disability days, accidents, drinking behavior, job efficiency	Company records
Bensinger, and Pilkington, 1983	Pre-experimental 3- and 18-month post-test	Participation rates, abstinence, job improvement	Company records
Burton, Eggum, and Keller, 1981	Pre-experimental pre- and six-month post-test	Job performance, physical and mental health, alcohol use, absenteeism, disability days and income, medical benefits, hospitalization	Company records
Chopra, Preston, and Gerson, 1979	Pre-experimental 1-week and 14-month post-test	Abstinence	Therapist assessment
Eggum, Keller, and Burton, 1980	Pre-experimental 12-month pre- and 12-month post-test	Job performance, physical and mental health, alcohol use, absenteeism, disability days and income, hospitalization	Nurse assessment
Freeburg and Johnston, 1980	Pre-experimental 3-, 6-, and 12-month post-test	Functional evaluation, drinking behavior	Standardized test, supervisors rating form
Heyman, 1976	Cross-sectional	Work performance	Patient records, interview
McLatchie, Orey, Johns, and Lomp, 1981	Pre-experimental pre- and post-test	Knowledge re alcohol, attitudes toward program	Questionnaire
Nadolski and Sandonato, 1987	Pre-experimental six-month pre- and post-test	Lost time, claims, discipline, work productivity	Supervisor rating, company records
Rountree and Brand, 1975	Not indicated	Penetration rates	Not indicated
Staples, Kelsey, and Thomas, 1980	Pre-experimental and post-test	Utilization rates, evaluation of counseling sessions	Questionnaire, company records
Schramm, 1977	Pre-experimental one-year pre- and post-test	Program cost, absenteeism cost/benefit ratio	Employee records

behavior [14–17,19]; and (c) variables concerning behavioral outcomes such as job performance [14–20,25], on-site and off-site accident rates [14,16,21,25,26], number of sickness and disability days [13,17,20,24], and economic gain [13,17,19,23,24]. According to Green et al., these three levels of variables measured correspond to process, impact, and outcome types of evaluations, respectively [26]. The most common outcomes were job performance (46 percent), economic gain (39 percent),

drinking behavior (31 percent), sickness and disability days (31 percent), and absenteeism (31 percent).

*Operational measures:* Most of the data collection (69 percent) was done from company records both with or without assessments from the therapist/supervisor [13,14,15,17,19,21,23]. Fifteen percent used a self-report questionnaire [21,23], and eight percent utilized personal interview [19]. In one case, operational measures were not indicated [22].

*Program outcomes:* Basically all programs are unanimous in reporting positive results. (Refer to Table 3.) Nonetheless, only 23 percent of studies used statistical tests to verify differences [16,19,23].

## DISCUSSION

Although several papers have attempted to analyze EAPs for their relative contribution to the "troubled employee" [8,27,28], none has performed the same depth of analysis which is included in the more recent literature. Two reviews [27,28] discuss the literature in a more general manner without a specific critique of each program cited. The review by Kurtz et al. [8] provides a more thorough analysis; however, it is limited to occupational alcoholism program evaluations up to 1980.

It is difficult to make very general statements about the EAP evaluation characteristics because of the significant variability between studies. This problem is especially marked when considering the heterogeneity of subjects, range of variables measured, and program outcomes. Such variability renders comparisons across studies difficult.

The results of this analysis, however, raise some important conceptual and methodological issues. First, program descriptions do not appear to be substantiated by theoretical or scientific rationales for the programs. Articles did not include why specific interventions were employed, based on scientific data. Often, important information regarding descriptions of subjects (e.g., job status) is missing, hindering assessment of findings. It is also not clear what type of behavior constituted reasons for referrals, particularly employer referrals. In sum, many of the EAP evaluations should include more detailed information of the aforementioned criteria to permit greater assessment and subsequent generalizability of findings. With respect to evaluation designs, more information is needed regarding the measurement of variables. For instance, formulas (which have been shown to vary from study to study) for the calculation of penetration rates are not always given [29]. The measure of absenteeism also is unclear. Do absentee rates, for example, take into account the number of sick days allowed per employee? Are clients rewarded for not taking these allotted sick days? Also, what are the effects of confidentiality on record keeping?

Furthermore, no validity or reliability information is provided on the evaluation instruments and data used (operational methods). This lack is a major problem, because most questionnaires were based on self-reported data, which is of particular concern with alcohol- and drug-using subjects. The quality of the recorded data (i.e., extent of missing data) is not indicated either, and information regarding qualifications of individuals carrying out measures is usually lacking. In addition, without statistical testing, we can seriously question the relative effect of findings.

The timing of evaluations is also an important issue. Although Asma et al. [14] conducted a design with measurements over a period of five years, many evaluations were not conducted beyond one and one-half years. This fact is particularly relevant for

TABLE 3  
Employee Assistance Program Evaluation Outcomes

Author(s)	Outcome
Alander and Campbell, 1975	Treatment groups costing \$37,464 less than controls, change one year post-treatment from pre-test: -47% man-hours lost, -5% accident benefits, -46% wages lost, -24% leave of absence, -100% grievances, -70% disciplinary actions, -85% accidents
Asma, Hilker, Shevlin, and Golden, 1980	Change from pre-test: -48% sickness/disability days, -61% accidents, +58% improvement in drinking behavior, +56% job efficiency
Bensinger and Pilkington, 1983	81% regular participation in aftercare, 75% improvement in drinking behavior and job improvement
Burton, Eggum, and Keller, 1981	12-month change from pre-test: +42% job improvement, +36% physical health, +40% mental health, -50% alcohol use, -41% absenteeism, -44% disability days, -31% disability income, -29% medical benefits, -55% hospitalization
Chopra, Preston, and Gerson, 1979	Up to 48% of clients reported abstinence
Eggum, Keller, and Burton, 1980	12-month change from pre-test: +52% job performance, +45% physical health, +48% mental health, +38% abstinence, -47% absenteeism, -53% disability days, -41% disability income, -34% medical benefits, -56% hospitalization
Freeburg and Johnston, 1980	At 12 months post-test, 34% reported abstinence, significant functional improvement from admission scores
Heyman, 1976	Up to 67% of clients improved work performance
McLatchie, Orey, Johns, and Lomp, 1981	Significant improvement in alcohol knowledge and positive attitude toward program
Nadolski and Sandonato, 1987	Up to 100% decrease in claims and work performance, up to 44% increase in work productivity
Rountree and Brand, 1975	1% per month of employed population used service
Staples, Kelsey, and Thomas, 1980	5% employees used service, 73-86% positive evaluation of program
Schramm, 1977	\$586.42 reduction in absenteeism per referred worker

Note: + indicates increase  
- indicates decrease

alcoholic populations, because studies indicate that abstinence rates decrease to 5-18 percent of initial abstainers over one to four years [28]. Therefore, evaluations should be done over longer periods of time that are sufficient to measure long-term effects.

One of the obvious criticisms concerns the research designs used. Because experimental designs were not used, these studies cannot control for extraneous and confounding variables. Potential threats to internal validity, such as history and maturation effects, thus may exist. The reader is not informed of workplace dynamics between such entities as unions and managerial staff. Company policies, legislation, and introduction of new and safer equipment in worksite settings could have a profound influence on employee participation and outcomes, which cannot be attributed to the program.

One cannot ignore the fact that individuals who were referred to the program faced possible threat of job action or loss if some improvement was not achieved. Under these conditions, how much improvement in employees can be attributed to the actual program itself? Without a controlled design, one cannot rule out the possibility that

employees would have demonstrated improvement regardless of the intervention. Also, without use of a control group, multiple testing effects on pre- and post-test designs become a serious consideration. Furthermore, the Hawthorne effect is not controlled for either, as was the case concerning the first industrial psychiatric counseling program put into operation in 1926 at the Hawthorne plant of the Western Electric Company. Finally, regression artifacts constitute one of the more crucial biases in these types of studies. Since subjects have been selected on the basis of their extreme condition or scores, the program results could be affected by the fact that these extreme scores would have naturally regressed toward the mean.

In summary, based on this critical analysis of selected EAP evaluations, one cannot come to definitive conclusions with respect to EAP effectiveness. Too many major weaknesses and biases were identified, congruent with observations of past published review articles [8,28]. This finding does not mean that EAPs are not effective but rather that research has not been able to determine their effect sufficiently.

One of the basic questions that has to be answered through EAP research is, "What kind and what amount of intervention works best for what kinds of employees in what kinds of environments?" [30]. Future evaluations should encompass indicators that describe subject populations more comprehensively, including employment status and level of alcohol or drug involvement. Also, more information should be included about the nature of the interventions. This information is particularly necessary in light of all the different interventions that are possible under the title of EAP. Merely stating that an EAP was implemented provides little means for comparison of studies and moreover does not help the reader to determine what components of the EAP are most useful. There is also much room for development of standardized and reliable measures to facilitate cross-study comparisons.

Because no one model of intervention can work for all populations, randomized controlled trials, or at least carefully designed quasi-experimental designs (comparative but with non-randomized control group) for specific populations (e.g., working alcoholic women) should be encouraged. It must be realized, however, that workplaces are not laboratories and, accordingly, carrying out such sophisticated designs represents a major challenge. Researchers attempting to perform randomized designs in the workplace have had difficulty in gaining acceptance from companies. Walsh documented that, of 68 companies contacted to participate in a randomized study on EAPs, only one agreed to cooperate in the study [31]. Next, due to ethical and monetary restraints, it is difficult to implement randomized designs in the workplace. Ethical concerns include withholding treatment when needed or desired and confidentiality of records. In spite of difficulties, it appears that this task is not impossible, as one research group is making progress in implementing an experimental design to examine alcohol treatment at the workplace [32].

No doubt research in working environments presents many challenges. In fact, even though it appears that the presence of EAPs is on the rise, research in this area does not seem to be growing at the same pace, as only one study was published after 1983. The importance, however, of determining if the workplace offers a unique environment to deal with the rampant problem of substance abuse and other mental health problems should not be underestimated. The reported positive results are encouraging, but need to be further substantiated to justify more of a commitment to interventions at the workplace.



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