



The Journal of Sociology & Social Welfare

Volume 14
Issue 3 *September*

Article 8

September 1987

Burn-Out Among Social Work Professionals: A Behavioral Approach to Causal and Interventive Knowledge

Karen M. Sowers-Hoag
Florida International University

Bruce A. Thyer
Florida State University

Follow this and additional works at: <https://scholarworks.wmich.edu/jssw>

 Part of the [Social Work Commons](#)

Recommended Citation

Sowers-Hoag, Karen M. and Thyer, Bruce A. (1987) "Burn-Out Among Social Work Professionals: A Behavioral Approach to Causal and Interventive Knowledge," *The Journal of Sociology & Social Welfare*: Vol. 14 : Iss. 3 , Article 8.
Available at: <https://scholarworks.wmich.edu/jssw/vol14/iss3/8>

This Article is brought to you for free and open access by the Social Work at ScholarWorks at WMU. For more information, please contact maira.bundza@wmich.edu.



BURN-OUT AMONG SOCIAL WORK PROFESSIONALS: A BEHAVIORAL APPROACH TO CAUSAL AND INTERVENTIVE KNOWLEDGE

KAREN M. SOWERS-HOAG

Florida International University
Department of Social Work

BRUCE A. THYER

Florida State University
School of Social of Social Work

Although the phenomenon of staff burn-out represents a significant problem for the effective administration and functioning of social service settings, there has been a general paucity of empirically based research on this issue. The staggering financial, personal and social costs associated with staff burn-out emphasize the fact that we can no longer accept the sole use of descriptive and correlational studies of the problem. This paper suggests refocusing our theoretical perspective of the problem of staff burn-out from an emphasis on the dispositional qualities of burned-out staff members, to examining the social and situational contingencies of reinforcement responsible for the acquisition and maintenance of burn-out. In addition, this paper discusses the application of experimental methodologies designed to identify causative factors and evaluate interventive procedures. It is believed that this approach will facilitate our understanding of the causes of burn-out and assist in developing effective interventive procedures.

Although the phenomenon of professional staff burn-out has been recognized for several decades (Schwartz and Will, 1953), only recently has there been a significant amount of attention devoted to the issue (Cherniss, 1978a; Fruedenberger, 1974; Maslach and Pines, 1978; Siederman, 1978). Maslach has provided the following description of the problem:

Burn-out involves the loss of concern for the people with whom one is working. In addition to physical exhaustion (and sometimes even illness) burn-out is characterized by an emotional exhaustion in which the professional no longer has any positive feelings, sympathy, or respect for clients or patients. A very cynical and dehumanized perception of these people often develops, in which they are labeled in derogatory ways and treated accordingly. As a result of this dehumanizing process, these people are viewed as somehow deserving of their problems and are blamed for their own victimization. Consequently there appears to be a deterioration in the quality of care or service that they receive. The professional who burns out is unable to successfully deal with the over-whelmingly emotional stresses of the job, and this failure to cope can be manifested in a number of ways. For example, burn-out appears to be a factor in low worker morale, impaired performance, absenteeism, and high job turnover. A common response to burn-out is to quit and get out, either by changing jobs, moving into administrative work (and away from direct contact with patients or clients) or even leaving the profession entirely (Maslach, 1977, pp. 3-4).

While substantive data on the prevalence and incidence of burn-out are currently unavailable, one study of professional mental health care workers found that measures of job satisfaction among this population ranked at the 23rd percentile, compared to the measures of job satisfaction from comparably educated workers in other service settings (Cherniss, 1978a). While job satisfaction and burn-out are not synonymous, the correlation between these two factors is probably quite high, and the above study illustrates the pervasiveness of the problem.

The general paucity of empirically based research into the issue of staff burn-out has not prevented considerable attention from being devoted towards prescribing its cure (Meier, 1983; Paine, 1984; Rigger, Garner and Hafer, 1984). The recommendations to prevent or alleviate burn-out range from the highly speculative to the extremely plausible. For example, Fruedenberger, who introduced the term "burn-out" to the professional literature, advocates vigorous physical exercise as a pre-

ventive measure, but recommends that staff avoid the practices of yoga and meditation, as these "cause a mental dropping" (1974, p. 164). Regardless of the validity of Freudenberger's concern over cognitive excesses, he presented absolutely no data to support either his recommendations to prevent and treat the problem, or his proposed causative agents, such as the loss of an ideal. Freudenberger is not alone, however, in his neglect of "hard" data to substantiate his views. Almost every reference currently available in the literature seems to follow his example of describing the problem of burn-out, its attitudinal and behavioral consequences, suggested preventive measures and prescriptive practices designed to treat it once it manifests, but to fail to present any evidence beyond that of an anecdotal nature in support of the author's contentions (Golembiewski, Munzenrider and Carter, 1983; Jayaratne and Chess, 1984).

In part this state of affairs can be attributable to the "newness" of the field, yet a more important factor may be the theoretical approaches assumed by most contributors to the burn-out literature. For example, the hypothesized causes of burn-out have tended to focus on the dispositional features of either the service provider or the client population (Maslach, 1977). These dispositional features generally assume the form of personality attributes which those who are burned-out seem to possess, and which have "caused" them to become burned-out (Freudenberger, 1974). Frequently, the dispositional quality of the client population are also viewed as contributing to staff burn-out. Clients are seen to possess a set of characteristic traits, such as being depressed, resistant, ungrateful, etc., which are quite stressful to the staff member who is constantly exposed to them.

Not only are the causes of burn-out frequently assumed to be dispositional in nature, but the effects are similarly viewed (Brill, 1984). Some frequently cited internal states inferred to stem from burn-out include negative changes in attitudes, boredom, feeling incompetent, detachment, fatalism, decline in motivation, apathy, loss of creativity, and the like (Cherniss, 1978a).

Preventive approaches and attempts to alleviate burn-out have focused, for the most part, on altering the internal state of the staff member. For example, the interventive procedures implemented by Schwartz and Will (1953) in their early study consisted of allowing the staff member to "ventilate" her feelings, to develop an "attitude of inquiry" and a "new perspective," and of redefining her goals. At the individual level of intervention, Cherniss (1978a) advocates "changing staff role definitions" while Freudenberger (1974) recommends sympathy and support.

Returning to the previous statement that the theoretical approach of most writers to the problem of burn-out is in part responsible for the lack of empirically based data, it may be seen that this focus on dispositional features as both the independent and dependent variables in burn-out does not lend itself readily to objective measurement and experimental manipulation. This presents two problems for the social scientist attempting to investigate staff burn-out: 1) the impalpable nature of the factors under investigation tends to limit research in the area to field observations, questionnaire studies, and interviews, all correlational material yielding neither causative factors nor operationally defined interventive procedures; and 2) the use of inferred mental states to account for staff behavior results in a circular, explicatory fiction. For example, an observer may contend that Mr. Blaha (a social worker) is burned out. If asked how he knows Mr. Blaha is burned out, our observer may reply that he knows Mr. Blaha is burned out because he is apathetic, negative, cynical, etc. When asked why Mr. Blaha is apathetic, negative, cynical, and so forth, our observer will contend that Mr. Blaha is that way because he is burned out. Thus it can be seen that attributing either the direct causes or effects of burn-out as some function of mentalistic states contributes little to an understanding of the phenomenon.

As in any effort which offers criticism, some positive alternatives should be offered. The most promising alternative currently found is the Social Psychological Analysis offered by Maslach (1977). The central theme of this approach focuses on

the "importance of several situational variables and suggests that the common-sense person-centered interpretation may be erroneous" (Maslach, 1977, p. 1), and that "all too often people are blamed rather than their work environment (Maslach, 1977, p. 14). Maslach contends that:

Although personality variables are not irrelevant in our overall analysis of burn-out, I am forced by the weight of my research data to conclude that the problem is best understood (and modified) in terms of the social and situational sources of job related stresses. The prevalence of the phenomenon and the range of seemingly disparate professionals who are affected by it suggest that the search for causes is better directed away from the unending cycle of identifying the "bad people" and toward uncovering the operational and structural characteristics in the "bad" situations where many good people function. We have reached the point at which the number of rotten apples in the barrel warrants examination of the barrel itself (Maslach, 1977, p. 14).

This focus on operational terms and situations does indeed lend itself readily to true experimental investigative efforts capable of producing causal, interventive, and evaluative knowledge, important elements which previous research has been unable to demonstrate. Until operational definitions have been provided for entities such as cynicism, withdrawal, negativity, and similar dispositional concepts, and of measurement procedures which reliably and validly assess the extent and degree of change in these factors, experimental analysis of burn-out is precluded. The theoretical stance proposed by Maslach (1977) however, with its focus on situational and environmental causes of burn-out, is quite amenable to rigorous experimental research, providing the variables under investigation are clearly defined and measurable.

It is the authors' contention that the application of a social learning perspective to the phenomenon of burn-out and the use of interrupted time series designs to analyze the problem of staff burn-out will suggest possible future lines of research likely to prove productive in generating the causal and inter-

vention knowledge currently lacking in contemporary research on burn-out.

THE EXPERIMENTAL ANALYSIS OF BURN-OUT: A SOCIAL LEARNING PERSPECTIVE

A social learning approach (Bandura, 1977, 1969) of the examination of the phenomenon of staff burn-out would use basic operant theory (Skinner, 1953; Schoenfeld, 1970; Thyer, in press) as its primary tool of analysis. The traditional theoretical framework from which to investigate burn-out seems to be that the staff member gradually acquires a set of attitudes, beliefs, and expectancies regarding his/her situation, which is given the label of "burn-out," and that when a worker has "burn-out," these attitudes and beliefs become reflected in his/her on the job behaviors and performance.

A social learning perspective postulates no such underlying mentalistic entity called burn-out, but rather looks upon worker behavior as a direct function of the available environmental contingencies of reinforcement. Through learning experiences incorporating the process of modeling, extinction, punishment, and reinforcement, the staff member's behaviors are gradually shaped into the clinical composite of behaviors collectively known as burn-out.

The difference between these two viewpoints is not simply an academic one; rather each indicates a specific approach to prevent and alleviate staff burn-out. The former views "burn-out" behavior as a product of internal states. Accordingly, treatment is best directed towards modifying those attitudes responsible for burn-out. The latter, social learning view, would tend to focus on positively altering the environmental contingencies functionally related to the acquisition and maintenance of burn-out like behavior. Underlying attitudes, beliefs, and expectancies would not be ignored, but rather would be progressively improved as the staff member encounters positive learning experiences.

From this social learning perspective, those behaviors collectively subsumed under the label of "burn-out" have five possible causes: (1) most non-burn-out behaviors of the profes-

sional staff person have been gradually *extinguished* through a lack of reinforcement. An example would be the staff member who expends a great deal of extra time and effort on a particular project on the job, and who receives no recognition or praise for his/her achievement. The likelihood of such extra effort occurring in the future will be decreased; (2) the burn-out like behaviors of the staff person have been selectively reinforced by environmental contingencies. For example, by leaving the job early or taking an overlong lunch break, the staff person may escape an aversive situation (the work setting), which negatively *reinforces* away from the job behaviors; (3) non-burn-out behaviors have been punished. Take the staff member who heavily "invests" in his/her work and becomes deeply concerned over the well-being of one of his/her clients, only to be reprimanded by a supervisor for lacking professional detachment. This would serve to decrease such future personal commitment to clients; (4) if the majority of co-workers consistently *model* burn-out like behavior, the staff member may rapidly acquire similar behaviors through imitation; and (5) any combination of the above factors. Take, for example, the new staff person who initially comes to work consistently early. If this person receives no recognition or praise (extinction) but is assigned an extra heavy caseload (punishment) to "take advantage" of his/her extra time, and the work setting becomes aversive, then the staff member may tend to begin coming in late, in order to avoid the situation (negative reinforcement) for as long as possible.

The role of operant factors in managerial practice has been extensively discussed by Sanzotta (1977), and applied to improve worker performance and morale by Lind (1967), Brethower and Rummler (1966), and Feeney (1973). When operant principles are manipulated as independent variables in a research design, it is of course necessary that they be clearly recognizable and measurable. Significant success in the social work field has been demonstrated in measuring and manipulating behaviors which represent operant factors by Thomas, Carter and Gambrill (1971), Thomas, Carter, Gambrill and Butterfield (1970) and Thomas, Walter and O'Flaherty (1974). Such

a measurement technology could readily be adapted to study the interpersonal contingencies of reinforcement present in burn-out prone settings.

THE EXPERIMENTAL ANALYSIS OF BEHAVIOR: THE METHODOLOGY

A possible objection to applying experimental methodology to the analysis of burn-out is that the need for a comparable control group may render such an approach ethically unfeasible due to the withholding of treatment from a human service organization in need. This is a justifiable reservation if a social scientist intends to apply group experimental designs to analyze the problem (Campbell and Stanley, 1963). An experimental methodology well suited for clinical research in areas such as burn-out, which does not require the use of control groups would be the implementation of interrupted time series analyses. Most commonly used in clinical and experimental research with single subjects (Hersen and Barlow, 1976; Sidman, 1960; Kratochwill, 1978; Kazdin, 1978), interrupted time series designs are equally applicable to the analysis of managerial (Miller, 1978), business (Feeney, 1973; Brethower and Rummeler, 1966), governmental (Brown and Rummeler, 1978), community (Holahan, 1977; Fellin, Rothman and Meyer, 1967; Rothman and Thyer, 1984) and societal (Clark, Burgess and Hendee, 1972) behaviors.

The application of time series analysis to the investigation of individual and group behavior is based on the following principles: (1) objective identification of the techniques or procedures to be manipulated over the course of the experiment; this, of course, entails being able to clearly ascertain when these factors (independent variables) are present and absent; (2) objective identification of the behaviors under investigation considered to be indicative of burn-out (dependent variables); and (3) a method of observing in the natural environment the presence and extent of the target behaviors (dependent variables). These steps, in many respects, are congruent with certain factors previously identified as leading to, or indicative of, burn-out. Quantifiable independent variables implicated as

causative factors resulting in staff burn-out are excess case-loads, lack of variety in one's clients, lack of job security, and the impossibility of doing a good job (Cherniss, 1978b), continuous direct contact with clients, lack of positive feedback (Maslach, 1977), inadequate resources, excess paperwork, non-productive meetings, isolation from colleagues, lack of knowledge and skill necessary to perform effectively, and inadequate financial remuneration (Cherniss, 1978a), staff shortages, and changes in supervisory personnel (Schwartz and Will, 1953). The presence or absence of each of the above factors should be readily ascertainable, and as such are appropriate independent variables for incorporation into a time series study.

The results of burn-out, observable behavior considered to be the dependent variables derived from those conditions previously listed as independent variables, include absenteeism, job turnover, time spent on or off the job prior to or beyond regular working hours, fatigue, frequent colds, flus, and headaches, gastrointestinal disturbances, insomnia, excessive use of drugs, physical withdrawal from clients, and abuse of clients (Cherniss, 1978a). Again, such factors are readily quantifiable and thus useful for experimental investigation.

Following the selection of operationally defined dependent and independent variables, an appropriate methodology must be derived to assess their status and degree of change. This may entail nothing more than examining time cards and sick leave records, or may involve the repeated administration of some valid assessment instruments. See Ciminero, Calhoun and Adams (1977) for a detailed discussion of assessment methodologies useful in time series analysis.

An interrupted time series design basically consists of repeatedly sampling, through a valid assessment procedure, whatever dependent variables are under investigation. If changes in the levels of these dependent variables are observed to covary with changes in the presence or absence of the independent variable(s), then causal knowledge may be arrived at. If experimental manipulation of these independent variables is feasible, then the development of interventive technology is

possible. Finally, when repeated measurements are made of operationally specific dependent variables, then evaluation can occur even in the absence of clear cut causal inferences (such as when several independent variables are altered simultaneously). Thomas (1975) enumerates over twenty different interrupted time series designs, and the reader interested in a more complete exposition of the subject is referred to the comprehensive text by Hersen and Barlow (1976).

Two points deserve emphasis in this discussion on the application of experimental methodology to the investigation of staff burn-out. First, while most examples of time series research in the social work literature have been manifestly behavioral in orientation, this need not be the case. The dependent variable could just as readily be some pencil and paper measure of burn-out, such as the Maslach Burn-Out Inventory (Maslach and Jackson, 1981), objectively scored Rorschach Test results, or even some form of content analysis of staff dreams. The relevant factor is on the susceptibility of the dependent variable towards repeated, objective measurement, regardless of whether the factor is a behavioral, psychodynamic, cognitive or physiological function. Secondly, the social scientist need not have complete control over the independent variables in order to implement this design methodology. It would be perfectly feasible to monitor staff changes in degree of burn-out occurring over factors the experimenter him/herself is not manipulating. For example, a researcher could take advantage of a supervisor vacation period to conduct an A-B-A causal study. Likewise, a researcher forewarned of Proposition 13 type legislation about to be implemented could conduct an evaluative A-B study designed to assess the impact such legislation has on the degree of staff burn-out.

In summary, the experimental methodology presented in this section is seen as offering several distinct advantages towards the goals of attaining causal and interventive knowledge relating to the problem of staff burn-out. The focus on concretely measurable independent and dependent variables is in recognition of the premise that "the successful implementation of the planned change is also dependent on the ability of the change agents to effectively operationalize the technological

components identified in the plan" (Hasenfeld, 1979, p. 10). A few experimental efforts oriented along these designs are more likely to prove productive in demonstrating the causative factors of burn-out and the efficacy of interventive efforts than a multitude of correlational studies based solely upon assessment methods such as interviews, field observations, and self-report inventories and questionnaires. These latter methods are undoubtedly useful in the initial stages of research in a developing field, however, they are not capable of yielding causal information, information which is best obtained through experimental work. Using a particular staff member or human service organization as its own control, as in an interrupted time series study, renders such experimental methods feasible in a clinical or community setting.

SUMMARY

The phenomenon of staff burn-out represents a significant problem for the effective administration and functioning of social service settings. At present the financial, personal and social costs of social worker burn-out are uncalculable, but can be assumed to be of immense proportions. The time has come to augment the use of topographical description and correlational study of the problem of staff burn-out with the application of experimental methodologies designed to identify causative factors and evaluate interventive procedures. Such efforts can be facilitated by refocusing our theoretical perspective from an emphasis on the dispositional qualities of burned-out staff members, to examining the social contingencies of reinforcement and situational factors responsible for the acquisition and maintenance of burn-out. If this theoretical shift is made, in conjunction with the application of interrupted time series analysis as an experimental design methodology, the prospects for enhancing our understanding of the causes of burn-out and developing effective interventive procedures are encouraging.

REFERENCES

- Bandura, Albert. 1969. *Principles of Behavior Modification*. New York: Holt, Rinehart and Winston, Inc.
- Bandura, Albert. 1977. *Social Learning Theory*. Englewood Cliffs, NJ: Prentice Hall.

- Brethower, D. and Rummeler, G. 1966. "For Improved Performance: Accentuate the Positive." *Personnel Magazine* 43:40-49.
- Brill, Peter L. 1984. "The Need for an Operational Definition of Burnout." *Family and Community Health* 6:12-24.
- Brown, P. and Rummeler, G. 1978. *Behavior Modification in Business, Industry and Government*. Champagne, Ill: Research Press.
- Campbell, Donald T. and Stanley, Julian C. 1963. *Experimental and Quasi-experimental Designs for Research*. Boston, Mass: Houghton Mifflin.
- Cherniss, Cary. 1978a. *Recent Research and Theory of Job Stress and Burnout in Helping Professions*. University of Michigan: Unpublished.
- Cherniss, Cary. 1978b. *Shama Phillips: Lawyer - Struggling to Overcome Burnout*. University of Michigan: Unpublished.
- Ciminero, Anthony, Calhoun, Karen, and Adams, H. 1977. *The Handbook of Behavioral Assessment*. New York: Wiley.
- Clark, Roger N., Burgess, Robert L., and Hendee, John C. 1972. "The Development of Anti-Litter Behavior in a Forest Campground." *Journal of Applied Behavior Analysis* 5:1-6.
- Feeney, E. 1973. "At Emery Air Freight: Positive Reinforcement Boosts Performance." *Organizational Dynamics*, Winter:41-50.
- Fellin, Phillip, Rothman, J., and Meyer, H. 1967. "Implications of the Sociobehavioral Approach for Community Organization Practice." in *The Sociobehavioral Approach and Applications to Social Work*, edited by E. Thomas. New York: Council on Social Work Education.
- Freudenberger, Herbert. 1974. "Staff Burnout." *Journal of Social Issues* 30:159-165.
- Golembiewski, Robert T., Munzenrider, R., and Carter, Diane. 1983. "Phases of Progressive Burnout and their Work Site Covariants: Critical Issues in OD Research and Praxis". *Journal of Applied Behavioral Science* 19:461-481.
- Hasenfeld, Yeheskel. 1979. "The Implementation of Change in Human Service Organizations: A Political Economy Perspective." Paper Presented at the Annual Program Meeting of the Council on Social Work Education. Boston, Mass: Unpublished.
- Hersen, Michael and Barlow, David. 1976. *Single Case Experimental Designs: Strategies for Studying Behavior Change*. New York: Pergamon.
- Holahan, C. 1977. "Environmental Effects on Outdoor Social Behavior in a Low-Income Urban Neighborhood: A Naturalistic Investigation". in *Annual Review of Behavior Therapy: Theory and Practice*, edited by C. Franks and G. Wilson. New York: Bruner/Mazel.
- Jayarathne, Srinika and Chess, Wayne A. 1984. "Job Satisfaction, Burnout, and Turnover: A National Study." *Social Work* 29:448-455.
- Kazdin, Aian. 1978. "Methodological and Interpretive Problems of Single-Case Experimental Designs." *Journal of Consulting and Clinical Psychology* 46:629-642.
- Kratochwill, Thomas. 1978. *Single Subject Research*. New York: Academic Press.

- Lind, Roger. 1967. "Applications of Sociobehavioral Theory to Administrative Practice." in *The Socio-Behavioral Approach and Applications to Social Work*, edited by E. Thomas. New York: Council on Social Work Education.
- Maslach, Christina. 1977. *Burn-out: A Social Psychological Analysis*. Unpublished paper presented at the meeting of the American Psychological Association, San Francisco, CA.
- , and Jackson, S.E. 1981. "The Measurement of Experienced Burn-out." *Journal of Occupational Behavior* 2:99-113.
- , and Pines, Ayla. 1979. "Burnout: The Loss of Human Caring." in *Experiencing Social Psychology*, edited by A. Pines and C. Maslach. New York: Random House.
- Meier, Scott T. 1983. "Toward a Theory of Burnout." *Human Relations* 10:899-910.
- Miller, Lawrence M. 1978. *Behavior Management: The Science of Managing People at Work*. New York: Wiley.
- Paine, Whiton S. 1984. "Professional Burnout: Some Major Costs." *Family and Community Health* 6:1-11.
- Rigger, T.F., Garner, W.E., and Hafer, M. 1984. "Rehabilitation Personnel Burnout: Organizational Cures." *Journal of Rehabilitation Administration* 8:94-103.
- Rothman, Jack, and Thyer, Bruce A. 1984. "Behavioral Social Work In Community And Organizational Settings." *Journal of Sociology and Social Welfare* 11:294-326.
- Ryan, William. 1971. *Blaming the Victim*. New York: Pantheon.
- Sanzotta, Donald. 1977. *Motivational Theories and Applications for Managers*. New York: AMACOM.
- Schoenfeld, William. 1970. *The Theory of Reinforcement Schedules*. New York: Appleton.
- Schwartz, M., and Will, G. 1953. "Low Morale and Mutual Withdrawal on a Mental Hospital Ward." *Psychiatry* 16:337-353.
- Seiderman, S. 1978. "Combatting Staff Burn-Out." *Day Care and Early Education* Summer:6-9.
- Sidman, Murray. 1960. *Tactics of Scientific Research*. New York: Basic Books.
- Skinner, Burrhus F. 1953. *Science and Human Behavior*. New York: Free Press.
- Thomas, Edwin. 1975. "Use of Research Methods in Interpersonal Practice." in *Social Work Research*, edited by N. Polansky. Chicago: University of Chicago Press.
- , Carter, Robert, and Gambrill, Eileen. 1971. "Some Possibilities of Behavior Modification of Marital Problems Using SAM (Signal System for the Assessment and Modification of Behavior)." in *Advances in Behavior Therapy*, edited by R. Rubin. New York: Academic Press.
- , Carter, Robert, Gambrill, Eileen, and Butterfield, William. 1970. "A Signal System for Assessment and Modification of Behavior (SAM)." *Behavior Therapy* 1:232-259.

- , Walter, Claude and O'Flaherty, Kevin. 1974. "Computer Assisted Assessment and Modification: Possibilities and Illustrative Data." *Social Service Review*, 48:170-183.
- Thyer, Bruce A. Forthcoming. "Contingency Analysis: Toward A Unified Theory of Social Work Practice. *Social Work*.