A Model of Burnout in the Work Place

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ABSTRACT

Burnout is a problem associated with work in social service organizations. It is characterized by loss of energy, negative attitudes, and decreased performance. This system dynamics model encompasses the literature on burnout and belongs to a general class of stress and motivational models which describe problems of alcoholism and sexual harassment in the work place, etc. The gap between performance and professional expectations generates physical and psychological fatigue, which decreases involvement and performance. Supervisors frequently ignore the workers' problems, but will initiate structure when quality is perceived to decrease. The gap between expectations and performance may account for burnout initially, but cannot account for maintaining burnout after expectations decrease. Learned helpless may be the mechanisms that sustains burnout.

INTRODUCTION

The problem of burnout has generated much interest lately among service perfessionals and researchers. Burnout is defined as a long term process in which previously committed professionals disengage themselves from work in response to stress experience on the job (Cherniss, 1980). Its reference mode, or set of identifying characteristics, includes emotional and physical exhaustion, depersonalization in the treatment of clients, and perceptions of reduced personal accomplishment. In particular, burnout affects those in the helping professions, such as social workers, health providers, and teachers.

The literature indicates that burnout results from the effects of prolonged job stress on the worker (Golembiewski and Munzenrider, 1981). Burnout has been correlated with work overload, conflicting demands, lack of supervisory goal setting, role conflict, excessive paper work, and role ambiguity. Some studies suggest that burned out individuals may go through a sequence of stages that include enthusiasm, stagnation, frustration, and finally apathy (Edelwich and Brodsky, 1980). Moreover, those affected can influence the functioning of fellow workers. It is not unusual to find half, or more than half, of the workers in a given department

affected with some degree of burnout symptoms.

This general problem of burnout in service organizations, as outlined above, has many complex mechanisms. However, the history of the concept of burnout began with the hypothesis of single causal mechanisms. Helping professionals come to the job with high expectations of success, and an intense desire to help others. It was hypothesized that the discrepancy between high expectations and actual effectiveness causes stress in the individual. This is compounded in many public agencies by chronically heavy caseloads, making it extremely difficult for professionals to maintain high quality levels of treatment and service.

A second group of theories emphasizes organizational aspects of the burnout problem. Many studies have shown that burnout is more likely to occur when supervisors lack communication skills, and fail to set clear and realistic goals (Maslach, 1978). Some organizational theories also stress the role of fellow workers in the formation or prevention of burnout. Studies have shown that burnout is likely in organiztional climates that isolate the workers and foster competition within the department. On the other hand, burnout is rarely found in organizations where stressed individuals receive support from fellow workers and supervisors (Pines, 1982).

These two views imply different treatment strategies, ranging from counseling and psychotherapy to changes in organizational structure. Recently, a third approach has emerged, which hypothesizes multiple causes of burnout (Maslach, 1978). This approach has been extended (Carroll and White, 1982) to an ecological or systems approach which includes the interaction of organizational structure and its relationship to other influences, such as family problems and economic conditions.

MODELING STRESS REACTIONS

As indicated above, there are a number of issues and controversies concerning the dynamics of the burnout process. However, knowledge of the literature and our experiences working with organizations that have a burnout problem, indicate it would be advantageous to model the problem to gain insight into the burnout process. The model can provide a conceptual framework for further empirical research, derived from theory, and can serve as a useful policy tool for evaluation of suggested solutions to the burnout problem.

A secondary aim in modeling is to point out the commonality of process in stressful situations, as was done by other system dyanamicists for problems inventory management (e.g., Lyneis, 1980), and urban dynamics (Forrester, 1969; Alfeld and Graham, 1976). Burnout is a special category of general

stress in the work place, and many of the mechanisms which characterize job stress can also be found in burnout among helping professionals.

In recent years, several system dynamics models of stress and motivation have appeared in the literature. Some mechanisms suggested to explain the stressful effects of overtime on sales persons (Morecroft, 1983) appear to be very general, insightful, and applicable in similar situations. Likewise, stress was used as a key concept in a model of alcoholism (Goluke, Landeen, and Meadows, 1983), a model of sexual harassment in the work place (Norris, 1985), and in a model of conformity behavior in which anxiety played an important role in the dynamics of the behavior of the subjects (Richmond, 1980). The effects of stress are very general. We have encompassed some of these mechanisms in our model of burnout.

THE BURNOUT MODEL

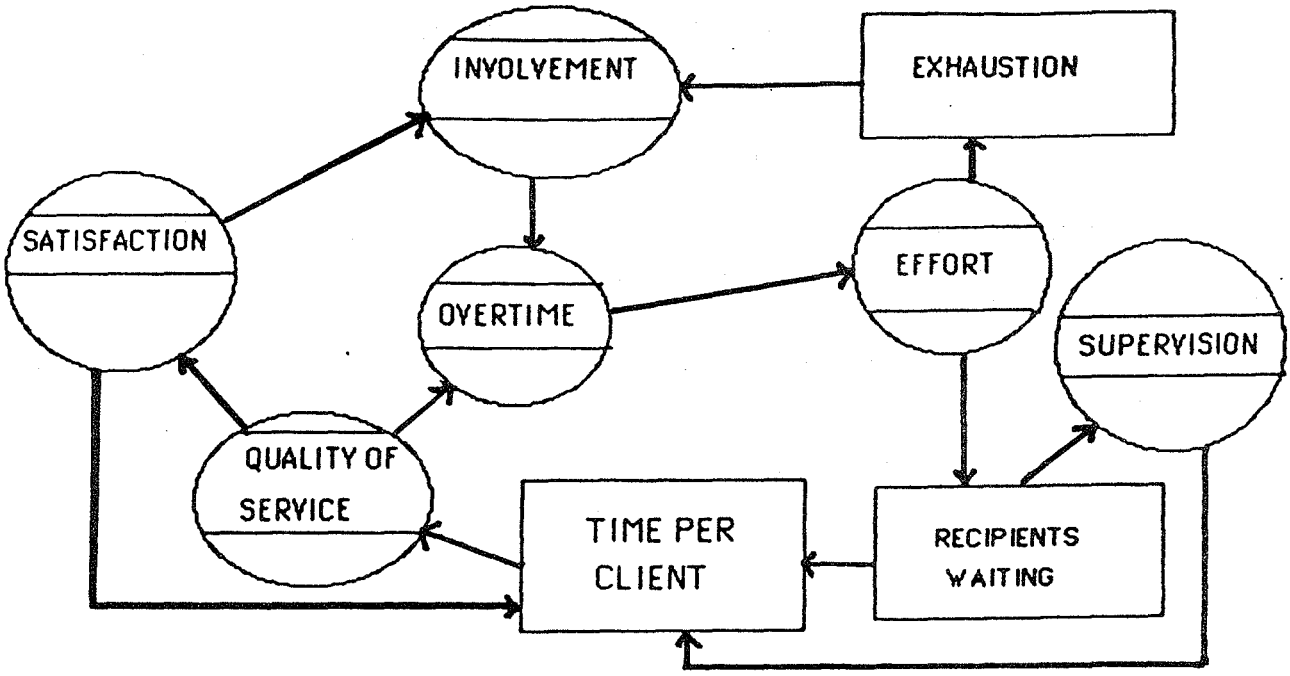

Figure 1: Policy Diagram of the Burnout Process

It was decided to model the burnout process at the organizational, rather than at individual level, because the problem is widespread throughout many organizations, general performance was low, and one can recognize the existence of a number of feedback mechanisms operating among workers, clients, and supervisors.

The main portion of the model deals with the reaction of

workers to the gap between their expectations of success and the reality of working with large numbers of indivuals who need help. A second component sector of the model deals with the role of the supervisor, monitoring some of the flow characteristics of the system, i.e., the number of clients per month being served as well as the overall quality of service being given to the clients. Finally there is the client sector of the model. Some clients may have to wait months to be serviced, especially in organizations where caseloads are high. Figure 1 shows the overall policy diagram of the system being modeled.

THE DYNAMICS OF THE WORKER SECTOR

We hypothesize four major loops associated with the reaction to the gap between expectations and actual performance. Figure 2 describes this hypothesized loop structure.

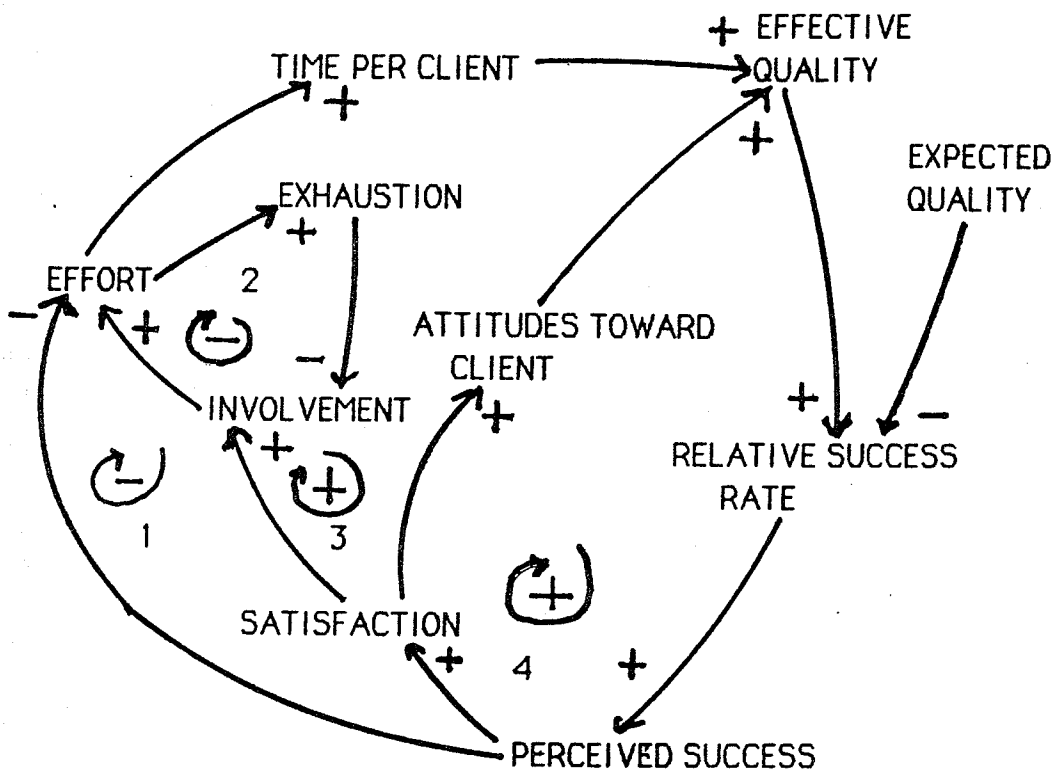

Figure 2: Four Main Loops Associated with the Worker Sector

The first loop is an immediate reaction to poor performance, relative to unrealistic expectations. In the typical agency, new individuals enter the organization with high ideals and a strong degree of motivation to help people. In this case, the initial level of involvement on the job will also be quite high. When individuals perceive that they are not

doing well, relative to their expecations, the first loop begins to operate. The workers can increase their effort by putting more time into the job. This is similiar to the mechanisms described in the model of in among sales personnel (Morecroft, 1983). Loop #2 has an impact somewhat later. Putting extra effort into the job produces fatigue and exhaustion. The more clients the workers treat, the more paper work they must do, which in turn speeds up the exhaustion process.

In the present model, we have also considered aggregate satisfaction and morale among the workers. The third loop, which is positive, contributes to driving the entire system down. Poor performance, relative to idealistic expectations, decreases satisfaction and involement on the job. If there is a strong psychological reaction to the discrepency between performance and expectations, performance can deteriorate quickly.

Ultimately, if morale is low enough, even the workers' professional attitudes toward the clients suffer. This in turn leads to poorer relationships with the clients and decreased quality of service (loop #4). This describes the later stages of burnout, which is characterized by rudeness and apathy. In developing the portion of the model concerned with these later changes in attitudes towards the clients, we applied a hierarchical model of attitude change (Hunter, Levine, and Sayers, 1984), which hypothesizes that more general attitudes and beliefs influence specific attitudes. For example, attitudes toward higher taxes in general will affect attitudes and beliefs about specific taxes. In the burnout model, we hypothesized that as overall job satisfaction decreased over time, eventually low morale spreads to other more resistant attitudes, such as workers' feelings toward their clients. This results in a decreased quality of professional behavior toward the people the workers are trying to help.

In closing this section on the dynamics of the helping professionals, it should be noted that loop #3 represents the mechanism which underlies the highly motivated behavior of devoting many extra hours to the job, ie. overtime due to job involvement. This may be different from other organizations where overtime is under more external control. In modeling the long term reactions to overtime among salespersons (Morecroft, 1983), it was the custom in that organization to go into overtime only if the target sales objective was not reached, a mechanism similar to our loop #1. Our situation has to include mechanisms that would explain the behavior of workaholics who, if satisfied with their performance, might work overtime, because they are involved in their work. Overtime, whether generated because of poor performance or good performance, still would be constrained over time by fatigue effects.

SUPERVISORY SECTOR

The burnout literature indicates that supervisors in service agencies where burnout is prevalent are insensitive to the workers' needs and frequently fail to provide for the service staff appropriate goals. In many situations they may not provide enough structure for the helping professional to function adequately in their daily routines. The burnout model hypothesizes three areas where supervisors interact with other sectors of the model: (1) in responding to poor quality of work by the helping professionals, (2) in reinforcing good performance, and (3) in responding to changes in client caseloads.

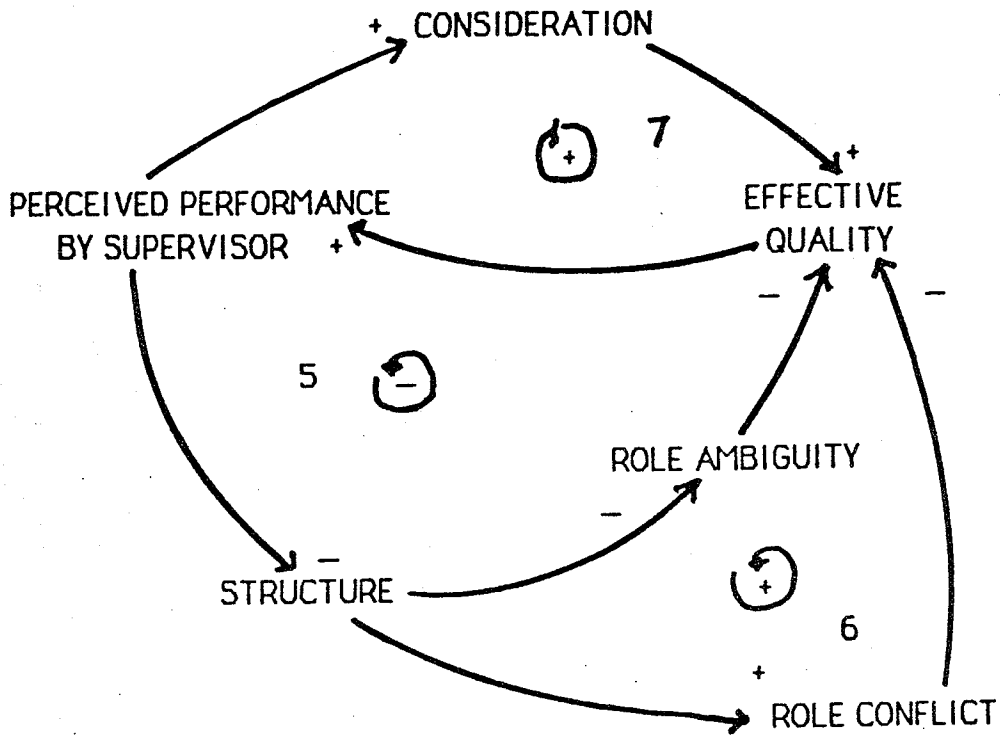

Figure 3: The Initiation of Structure and Positive Reinforcement by Supervisors.

The model hypothesizes that supervisors eventually perceive poor quality of performance. Low quality becomes an item of concern. One alternative is to initiate structure, which could mean to provide helpful hints about how to be more effective and efficient. The worker learns more about what is expected, goals are clearer, and role ambiguity is de-creased. Loop #5 describes how the supervisor's sensitivity to performance may generate structure, which lowers the

workers's role ambiguity and eventually yields better performance. On other hand, if the supervisor generates too much structure, other mechanisms come into play which eventually makes the level of performance even lower. This is described by loop #6. Control of the situation may be difficult, because on one end of the continuum, being too ambigious, which is the usual case, can lead poor performance; on the other extreme, the supervisor can elicit hostility, conflict, and rebellion from the staff, if the workers perceive him/her as being too autocratic.

Loop #7 in Figure 3 deals with the reinforcement of good performance. This loop comes into play at higher levels of performance, while loops #5 and #6 are principally active under conditions of poor performance. Loop #7 represents another mechanism for supervisorory support of the worker. It would be the main intervention point used by behaviorists to improve performance.

Figure 4 shows the dynamic structure of a second set of roles the supervisor takes in this situation. It is hypothesized that the supervisor monitors the the number of clients per month, and uses that as an index of the overall functioning of the service program. This is captured by a first order information delay. If the workers take too much time per client, the number of clients per month processed by the system diminishes. Supervisors, who also may be reacting to policies from above, then begin to put pressure on the helping professionals to take on higher caseloads by decreasing the time per client.

We have tried to capture this conflict between the practitioners and their supervisors. The model assumes the workers pay attention to the quality of care and the opportunity to perform well. This is reflected in the adjustment of the amount of time they have to work with their clients, the time per client, which is a state variable in the model. Although Figure 4 does not show all of the loops associated with this adjustment process, the model assumes the workers attempt to maintain a set of professional norms, which in this case, translates to setting a minimum number of hours per client and trying to at least maintain that minimum criterion in the face of pressure from their bosses.

Finally, Figure 4 shows one more mechanism operating to put pressure on the workers to take on more clients per month. In many agencies, the workers are aware of the size of the backlog of clients needing help. Loop #9 shows this mechanism. It is felt that this has a small effect on the worker's behavior, but does add intrinsic pressure to that generated "extrinsically" by the supervisor.

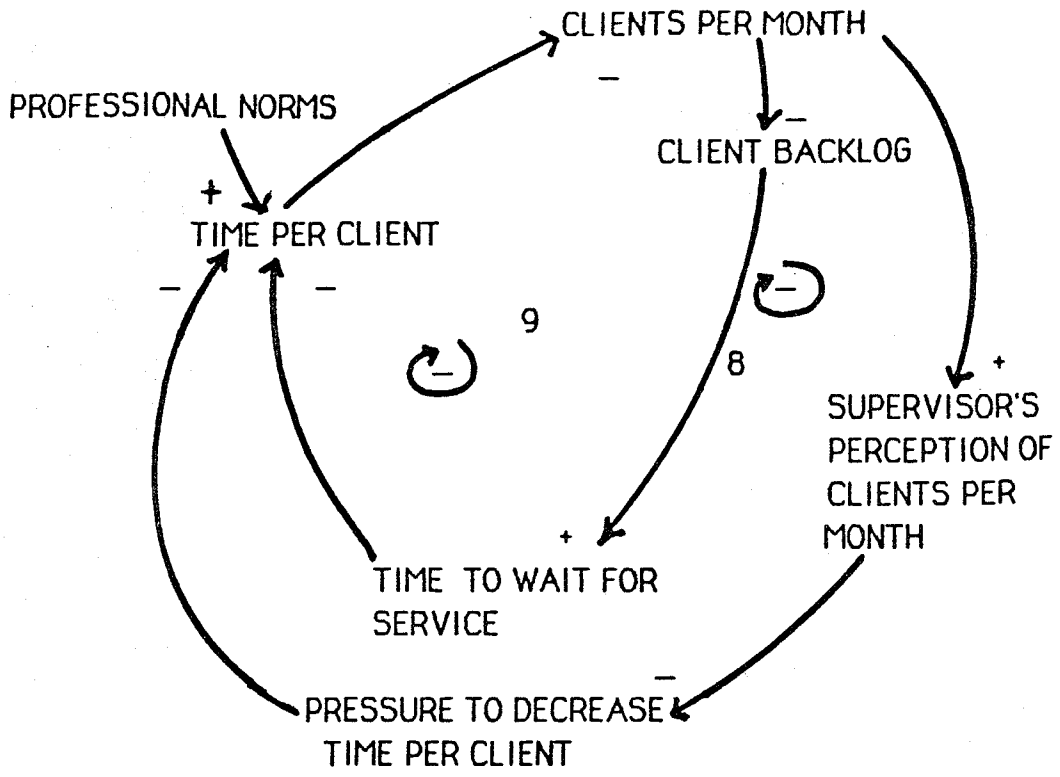

Figure 4: The Supervisor's Control of the Flow of Clients

CLIENT SECTOR

The client sector of the model is the least elaborated of all the components of the model. The backlog of clients has been included in the model as state variable. Its dynamics are quite simple. There is a steady flow of potential clients into the agency. The rate of processing is equal to the number of aggregate clients per month being serviced by the helping professionals. The attrition rate is some function of the size of the backlog of clients. Finally, information about the average length of waiting by clients, relative to some perceived normal time, has an effect on the workers' "decision" to lower the time per client.

PRELIMINARY RESULTS

In order to attempt to reproduce the reference mode, most of the preliminary runs were performed using realistic initial values of the level variables, rather than starting at the model at possible equilibrium points. It was assumed that, for a group of workers entering the agency, most individuals would have very high levels of aspiration and expectations. Likewise, it was assumed that initially the level of involve-

ment in their work would be near its maximum. In other words, these newly graduated social workers, police officiers, nurses, and teachers were assumed to be quite motivated to help people. Their extreme enthusiasm generates a gap between their performance and expectations. This gap sets the stage for the burnout process to begin.

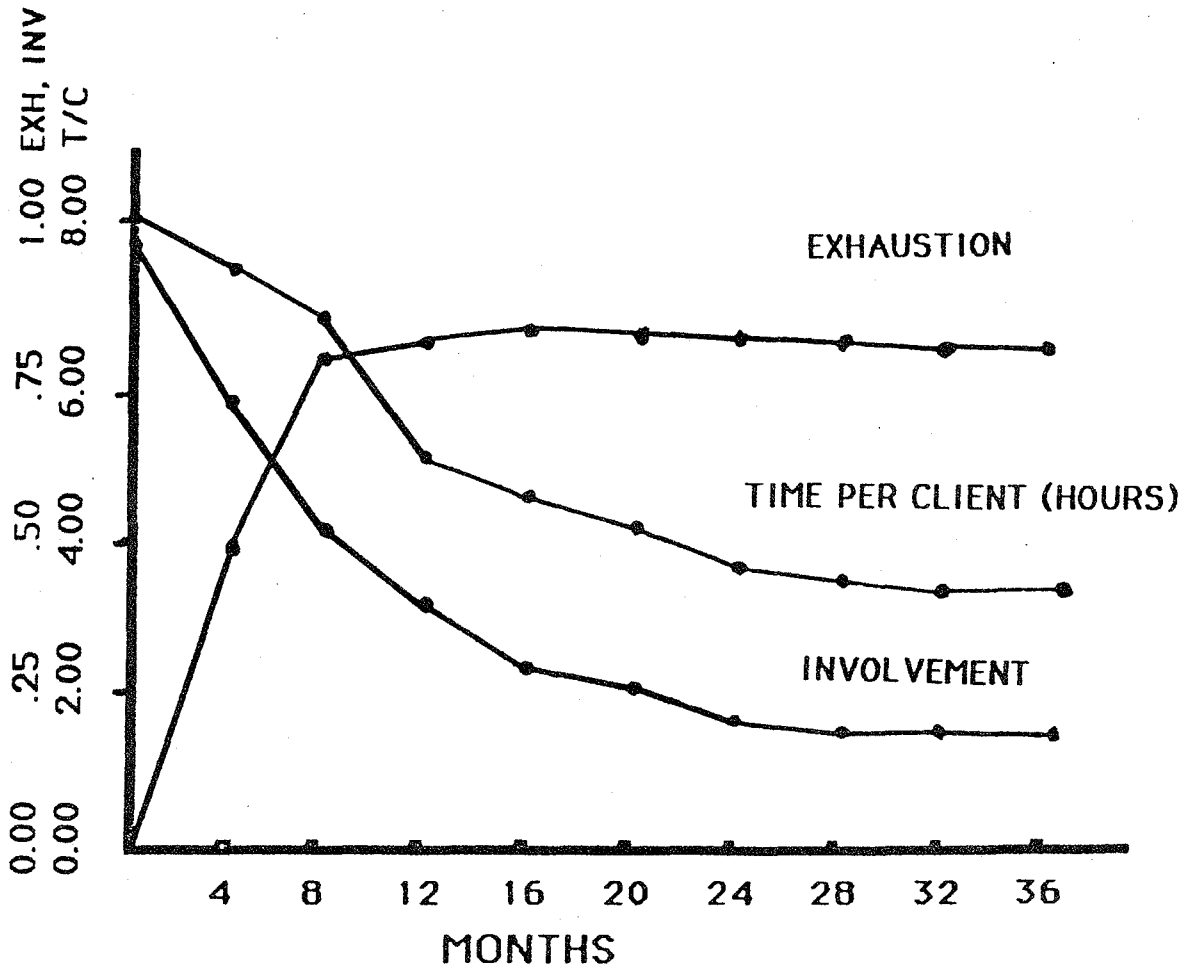

Figure 5: Output of Burnout Model: Exhaustion, Involvement in One's Work, and Time per Client.

Figure 5 shows the typical pattern of burnout described in the literature. Most of the drop in performance and complaints concerning fatigue occur in the first ten months or so, which corresponds with our own experience with burned out individuals. In general, the value of the time constants in the model correspond well with what formal data is available to us; they are within the ranges suggested by the literature.

Currently we are in the process of performing a sensitivity

analysis on the model to ascertain the importance of each dynamic mechanism described previously. Aside from pulling each loop out of the model to systematically ascertain its role in burnout, we plan to perform a simultaneous interval analysis (Moore, 1979) on the model find its behavior modes, given plausible ranges of its parameters, table functions, and initial values.

The predominant behavior mode, generated by the model, is toward pathology. Burnout is considered a pattern of functioning, and all of the major variables considered in model confirm the picture shown in Figure 5. For example, absenteeism increases, clients per month increase, and effective quality drops over a thirty-six month period.

An initial sensitivty analysis indicates that the dominant processes driving this system are represented by loops 3 and 4 (Figure 2), which were most sensitive to changes in parameter values and table functions. Once the gap between performance and expectation appears, dissatisfaction lowers effort, etc. and the dynamics of the loop #3 unfold. At later stages, the fourth loop comes into play. This is when general dissatisfaction and morale spread into professional attitudes toward the client.

Some of the burnout literature in this area also points to the importance of exhaustion as part of the burnout pattern. Indeed, sometimes it suggested that a solution to the burnout problem is to prescribe exercise programs and new activities, and allow long vacations for those showing symptoms of burnout. Our model indicates that loop #2 (Figure 2) and other loops in which exhaustion is a part, do not play a dominant role in the burnout process. Simulation runs, holding loop #2 inoperative, showed that exhaustion only moderates the quantitative aspects of the burnout process. The qualitative behavior patterns remained the same, so that exogeneous influences on exhaustion appears have little effect on preventing or curing burnout.

Likewise, if people take long vacations, the model predicts that fatigue might dissipate to a degree. When they return to the same set of pressures, however, any temporary gains would be lost, and the same pattern would soon emerge. This was shown in runs simulating the effects of a long vacation. It also should be pointed out that, if absenteeism is tolerated, it is the burned out individuals who are absent the most. These people are away from the stressful work environment, yet this mechanism is not powerful enough to overcome severe burnout.

Figure 3 dealt with the some of policies available to the supervisor for supporting workers who are under stress. The literature describes supervisors in service organizations in

a most unfavorable light. Workers frequently complain of the insensitivity of their supervisors to the stressful climate they are subjected to. Moreover, supervisors are characterized as being non-communicative and lacking in leadership skills and training. The burnout model handles individual differences in senitivity in terms of a single parameter associated with the initiation of structure. For some runs, the sensitivity multiplier was set a .5, which would be in the typical range for the population of managers associated with organizations having burnout problems. Even when set to 1.Ø, however, although the initiation of structure aided in raising quality somewhat in the beginning, eventually effective quality drops over a longer period of time.

The dynamics represented in loop #7 (Figure 3), which is a positive loop is very interesting, especially to those social scientists with a behaviorist bent. The purpose of the loop is to reinforce good performance, and constitutes a theoretically important method of support and consideration by the supervisor. The loop was placed in the model for generality. In situations where burnout is prevalent, in the range of parameter values suggested to represent this type of organization, simple behavior modification techniques have little chance of being successful. Burned out people rarely do well, and therefore there is little opportunity to reinforce good performance.

EXPECTATIONS

As we have indicated, the gap between performance and expectations generates the burnout pattern. The original model held expectations constant. The value of expectations was set high to reflect the literature. However, if one starts the simulation run by setting expectations equal to the worker's performance level, then little or no burnout occurs. People are satisfied with their performance, they become involved in their work, and the natural constraints on effective quality, coupled with fatigue keep effort from going too high.

There may be some merit to the suggestion in the literature that early training programs be set up for the workers to learn the stressful realities of being a helping professional, both in college and upon entering the organization. Indeed, many agencies stress more realistic goals and expectations in thier initial orientation training given to all entering service providers.

The model, as presented thus far, makes clear predictions about what would happen if expectations were changed after the individuals were burned out. Satisfaction, which in later stages of the burnout process is quite low, would

increase, and the positive loops would switch into a growth mode. Upon reflection, this seemed to be a possible failure of the model. Although there are many articles noting the importance of the gap between performance and expectations, there are no studies, for example, which follow the expectations over time. It seems reasonable to assume that, although expectations and aspirations would change slowly, because they represent committment and values, they would nevertheless erode substantially over time as the person gains experience on the job. It also seems reasonable to assume that one could easily find burned out individuals whose expectations of success closely matched their current performance. If there is no longer a gap between expectations and performance, then why does burnout persist?

Our original model held expectations constant, because the initial problem was to account for the burnout syndrome. It has become clear since then that it is quite likely that expectations do change during this period of time. If they do, and the system operates as we understand it, then the present model would be inadequate to explain why the workers would remain dissatified, when the gap between expectations and performance dissappeared. The burnout literature is completely unhelpful with respect to whether or not expectations change in the course of the burnout process. Most of the knowledge in the field is generated through cross-sectional studies, and even those studies that measure burnout longitudinally have not been interested in the dynamics of expectations from a theoretical point of view. This system dynamics approach should be helpful in pointing out other useful areas for further empirical research.

LEARNED HELPLESSNESS

There is an area of the psychological literature which may lead to some insights concerning how people can remain being burned out even when expectations match performance. Learned helpless is a relatively well-known phenominon in social psychology. It is the idea that after repeated instances of punishment or failure, individuals become unresponsive and passive in their behavior, even when the situtional conditions generating failure have changed (Seligman, 1975). Learned helplessness has been applied to burnout and other passive maladaptive behavior patterns in organizational settings (Martinko and Gardner, 1982).

Currently we are in the process of enlarging the model by introducing an additional set of loops which represents the dynamics of learned helplessness. In the new model, the gap between expectations and performance would act as before through loops #3 and #4. In addition, poor relative performance would eventually increase a new variable, the attribution of failure, which is a level in the model. People who

begin to think of themselves as failures also begin to feel as though there is nothing in their power they can do to be successful with clients. They look for external causes of their problems, rather than attempting to reflect on internal causes. Burned out individuals not only continue to perform poorly, but they also become quite dissatified with themselves and their job. At the aggregate level, if satisfaction or morale continues to be low, they will continue to display the apathy and passiveness associated with the burnout syndrone.

From a system dynamics point of view, the introduction of this new structural component of the model is interesting. Usually, whenever individuals perceive a large discrepency between some goal and the value of a state variable, a set of mechanisms come into play which attempt to bring the level closer to the goal. This is also true of the current model, but with a slightly different twist. The discrepency between expectations and performance initially provide the motivation for the system to attempt to bring up performance, but as can be seen from Figure 5, the system eventually crashes. Poorer performance also has a cumulative effect on the attributions of failure, and indeed, according to the newer version of the model, failure becomes a habit. It is the process of learned helplessness that keeps satisfaction levels down, even when peoples' expectations start to be more realistic and begin to match performance levels.

APPLICATION OF THE BURNOUT MODEL

The model was developed by systematically tying together a very fragmented literature on burnout by representing various "schools of thought" in the model and testing the importance of each mechanism suggested to explain the burnout process. As a result, this model is very general. It should be relevant in many diverse organizations where burnout occurs. Recently, we have been working very closely with a mental health agency in the Lansing, Michigan area that has an admitted problem of burnout among aides who work with emotionally disturbed people the agency's residential programs.

We began to see whether the model would apply to this situation several months ago. From our talks with both administrative personnel and representatives of the aides themselves, most of the model's parameters, such as the adjustment times for changes in satisfaction levels, correspond closely to those incorporated in our general model. A few elements had to be changed. For example, the aides who come into the houses to help the recipients have very little paperwork to do. Thus we would expect that in this situation exhaustion would not be as high as in other service agencies that have much more paperwork to complete on each client. Second, the system was set up so that very few, if any, of the aides had the spend more than the usual eight hours with

the recipients, i.e., there was no overtime. Instead, as the aides get burned out, they reallocate their time away from contact with the recipients, even though they are physically in the house, finding some place to go where they would have minimal contact with the clients.

Although the details may differ somewhat from the general model of burnout, all of the qualitative mechanisms appear to be present. In validating the model further, we plan to follow incoming streams of workers to observe any changes in measures of expectations and learned helplessness. The original model of burnout serves as a baseline for comparison. If the more sophisticated model is appropriate, then we would hypothesize a correlation between the degree of burnout, as represented by satisfaction and involvement levels and learned helplessness. The correlations should show up both cross-sectionally (if the sample size is large enough) and longitudinally. Finally, measuring performance expectations over time will give us information concerning changes in expectations, something that now should become theoretically interesting to researchers in the burnout area.

In summary, we have formulated a model of burnout in service related organizations. The model belongs to a larger class of models which attempt to understand problems of motivation and stress. In the future, we would hope to build up an accumulated knowledge of these processes, just as has been done in other areas of the social sciences where system dynamics has been found useful.

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