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**AN EVALUATION OF COUNSELING SERVICES FOR FIRE DEPARTMENT
PERSONNEL**

The University of Arizona

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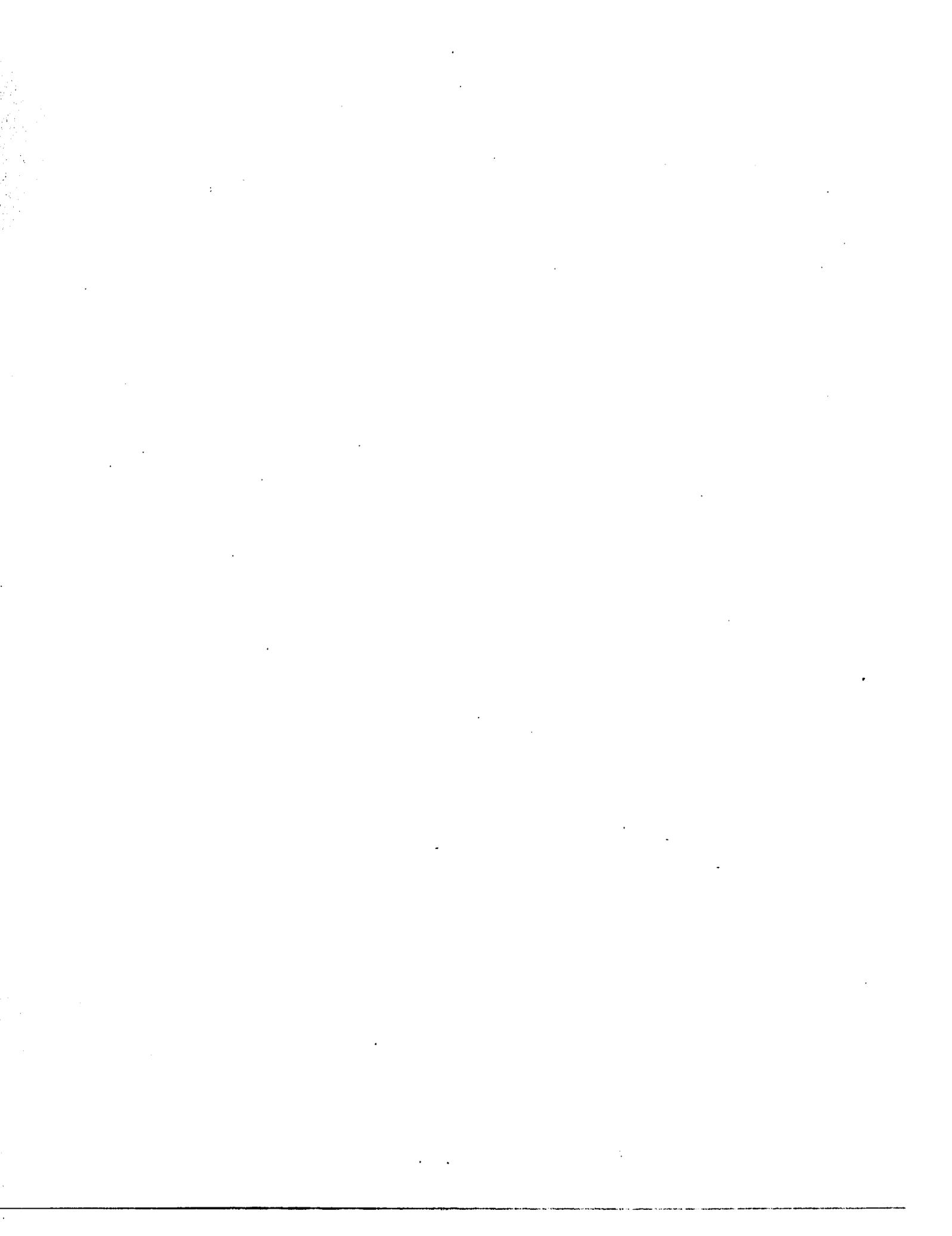


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AN EVALUATION OF COUNSELING SERVICES
FOR FIRE DEPARTMENT PERSONNEL

by

Hal Steven Snyder

A Thesis Submitted to the Faculty of the
DEPARTMENT OF COUNSELING AND GUIDANCE
In Partial Fulfillment of the Requirements
For the Degree of
MASTER OF ARTS
In the Graduate College
THE UNIVERSITY OF ARIZONA

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ABSTRACT

The purpose of the present study was to ascertain if current counseling programs were meeting firefighters' needs. One hundred twenty-nine subjects, full and part-time firefighters and paramedics of Rural/Metro Corporation's Pima County, Arizona area division, were given a multi-topic questionnaire that provided information on the following topics: general demographic information; general, career and retirement counseling issues, birth order and adjective check list; self-rank problem check list; and burn-out questionnaire. Anaysis was conducted by simple comparison, mean differences, rank order, and birth-order position. A 60 percent response yielded the following information. An overwhelming majority supported both the company-sponsored and staff counselor concept. Career counseling was considered important enough that half were willing to pay for that service. Oldest children made up 41 percent of the respondents' birth order positions. Administrative policy ranked high as a subjective cause of burnout. Discussion centers on further reseach.

CHAPTER 1

INTRODUCTION

Williams (1958) stated that if we consider mental health as the ability to cope with crisis and the ability to handle unpredictable stress, maintaining mental health becomes a requisite for effective behavior in dealing with disaster. Professionals have long ignored the needs of persons who act as rescue workers during situations of crisis, despite the later occurrence of mental or medical disasters. It is the rescue workers whose complex role involves instantaneous decision making in ambiguous or life-and-death situations, requiring clear perceptions, emotional stability, and level-headed judgments. They cannot afford to be negatively affected by stress during, or subsequent to, the disaster incident (Dunning and Silva, 1982).

In 1949, a conference entitled Life Stress and Bodily Disease came up with some disturbing findings about the effects of stress upon humans. The conference found that humans spend nearly one-third of their lives experiencing shocks and encounters in daily living. The conference concluded that stress is a catalyst in an appalling

number of diseases: peptic ulcer, migraine, hypertension, rheumatoid arthritis, back ache, emphysema, ulcerative colitis, neurodermatitis, asthma, mental disease, cancer, coronary thrombosis, and the list goes on (Staver, 1979).

A firefighter experiences a large amount of stress-provoking situations during the course of a day. It has been suggested that it is the life-style of the person that leads one to become a firefighter and hence leads them to suffer the psychosomatic maladies of stress. A recent study by Lester (1982) showed that police officers who have a belief in an external locus of control are more likely to report that more aspects of their jobs are stressful; therefore, they are more likely to report higher levels of subjective stress. These results suggest that statements which indicate that police work is extremely stressful fail to take into account the personality of the people who become police officers. Foushee (1980) and McDermott (1984) related burnout to locus of control. Foushee randomly assigned people into a "perceived control" group and to a "no perceived control" group. Subjects had either "success, failure, or no outcome" responses from the experimenter. Important findings from this study indicate that feedback, positive or negative, provided subjects with a sense of positive control over the stress. McDermott found that those with lower burnout scores (author developed burnout

inventory), exhibited greater control. Conversely, those with higher burnout scores experienced less control. To tie all this together, the studies suggest that if a person has perceived control over a situation with adequate feedback and is not burned out, they will suffer fewer of the psychosomatic maladies associated with loss of control. Whether the life-style of the individual is responsible for the occupational stress or not, burnout affects not only the worker, but the recipient of his or her services. It is vital to control it.

Many times, what is required of a person is more than he or she can handle; this is called task overload. At other times, an organization may have an individual who can take on the overload but his/her well-being will be at risk. Orpen (1982) and Harris (1983) studied role conflict and role overload. It was found that role stress does not have uniformly adverse affects for all individuals. However, strong evidence was found that task overload is associated with high levels of stress. It is important to interpret these results with some caution. Because they are correlational in nature and employed self-report measures, there is no guarantee that the subjects' self-reports were totally valid or accurate. For instance, they may have expressed feelings of strain that did not correspond precisely with how they really felt for one reason or another. These are

problems with the majority of studies in this area and are unlikely to be overcome until field experiments are conducted using more satisfactory measures and controls of the major variable.

Statement of Need

In past decades, firefighting has been one of the most dangerous jobs in the United States. Deaths in the fire service are not overly publicized; however, more firefighters than police officers are killed each year, even though there are fewer firefighters than police officers. In 1981, 123 firefighters died in the line of duty (NFPA, 1982) compared to 88 police officers who died while serving in their occupational capacity (FBI, 1983). The National Fire Protection Agency compiles death and injury statistics from across the United States. Fire departments, both full-pay and volunteer organizations, report their data, and the findings are quite staggering. During 1981, over nine percent of fire ground injuries were attributed to stress; about one-sixth of all the 98,070 injuries reported were directly attributed to heart attacks (NFPA, 1981). Stress was found to be a leading cause of fatal injuries and a precipitation of stroke and cardiac arrest. Stress was a factor accountable for 49 percent of all deaths (NFPA, 1982). Even the initial subtle stresses that occur, i.e., when a paramedic checks the inventory of critical cardiac

drugs, and when the firefighter conducts pre-emergency service on his/her breathing apparatus, are closely associated with serious emotional and physical consequences (Mitchell, 1984).

Due to the nature of the job, there is almost no escape from the disruptive biological changes that are induced by irregular work schedules and midnight emergency responses. The rhythmic (circadian) cycles, which normally cycle at their highest levels during the day and lowest levels at night during sleep, are disrupted in shift work, creating alterations in the body's temperature, cardiac rate, blood pressure, and respirations (Ochota, 1977). During succeeding weeks or months, the individual suffers slower reaction time, increased industrial accidents and gastric imbalance (Hildebrand, 1984). It has been pointed out in studies by the National Institute of Occupational Safety and Health (NIOSH) that certain rescue occupations, e.g., the police or fire department, involving high stress, make them a definite risk population for diseases of adaptation. The research yielded evidence that of 20,000 rescue workers (police) studied (questionnaire), 36 percent had serious health problems, 23 percent had serious alcohol problems, 37 percent reported serious marital problems, and 20 percent had problems with drugs (Richard and Fell, 1975). It should be noted that the subjective ranking of "serious"

was based on a Likert-type five-point scale. In addition, the divorce rates among these individuals are somewhere between two and six times that of the national average (Kroes, 1974). Given the cumulative nature of stress, the onset of a disaster could well prove to be the trigger to a stress reaction (Dunning and Silva, 1980).

Stress in the rescue occupations is high, yet the prevailing attitude of the public and those persons responsible for the supervision of disaster rescue workers is exemplified in the comments of Dr. Robert L. Wick, medical director of American Airlines, immediately after the American Airlines Flight 191 crash of May 25, 1979. According to Dr. Wick:

These are professionals--from the sheriff, police, ambulance crew, and so forth. They've seen it all before . . . this is what they are trained to do. If any of them need help dealing with a situation such as this, perhaps the worker really is not suited for this type of job (Staver, 1979).

Such an attitude disregards that persons, even those in rescue-oriented professions, are still greatly influenced by disastrous or potentially disastrous situations. Recent research on the incidence of stress-related disease experienced by police officers suggests that the police, among other rescue professions, do not become immune to the negative or distasteful responsibilities of their occupation. To suggest that they are not affected by the circumstances

in which they work or have some experience, is disproved by what little research does exist.

The presumption that selection and training develops the ability to prevent stress and its manifestations is irresponsible, because the only course of action for those in the rescue professions who experience trauma would be job severance. The prevailing sentiment, both in and out of the profession, is that if you cannot take the heat, get out of the kitchen (Dunning & Silva, 1982).

Literature from the National Institute of Mental Health (NIMH) and from sociologists at the Disaster Research Center at Ohio State University divides disasters into phases. For the rescue workers, one such phase may be "burnout." Rescue workers are faced with unprecedented demands; some workers will let disaster-created tasks supersede all other responsibilities. The result of overwork is the burnout syndrome, a state of exhaustion, irritability, and fatigue which may creep up on the individual unrecognized and undetected, and markedly decrease his/her effectiveness and capability (National Institute of Mental Health, 1976, 1978a, b, c, & d).

Although there is not an abundance of literature and research on the effects of disasters on rescue personnel, there certainly seems to be enough to recognize that a specific high risk population is suffering from a dearth of

services. More than twenty years ago, Berger (1962) pointed out that those who work around gory sights and sounds may actually experience emotional pain. He also noted that the same vicarious experience of pain was possible by simply observing others as they react to pain. Both Duffy (1979) and Freeman (1979) report an array of emotional and physiological stress reactions in fire, rescue, paramedical and police personnel who worked the San Diego aircraft disaster and the American Airlines crash in Chicago in 1979. John Duffy (1979), a psychiatrist who specializes in disaster psychiatry, notes that even those highly trained in psychology and psychiatry, like himself, experienced serious stress-related symptoms such as disturbing nightmares after working at the scenes of tragedies.

Reactions to a disaster, as described by fire, rescue, paramedical and police officer personnel during discussions that occurred after the Air Florida 90 disaster, were not considered psychopathological in nature, they were considered as normal reactions to overwhelming stress (Mitchell, 1982). This is an important consideration in the treatment of involved personnel. Stress reactions were either immediate or delayed and were emotional, cognitive, or physical in nature, and are in concert with stress response syndromes described by Horowitz (1976), Holsti

(1971), Selye (1976), Frederick (1981), and Cohen and Ahearn (1980).

There are very few planned, experimental studies conducted on rescue personnel. One such study by Dutton, Smolensky, Lorimor, Hsi and Leach (1983) consisted of three parts. The first two parts were questionnaires, by far the most common research technique used on rescue personnel. The third part was a urinary determination of catecholamines and corticosteroids. The research directive was to "evaluate the effects of job stress on the potential for illness, disease or loss of functional capacity in adults." Of particular concern to the researchers was the possibility that ambulance paramedics might be subjected to excessive job-related emotional stress due to their direct responsibility for the lives of others, the repeated rush periods of work, the long working hours, and rotating shifts. It is interesting to note that Dutton et al. found that "a literature search failed to reveal published reports of emotional stress levels in paramedical workers."

The subjects in this study were groups of firefighters and paramedics from the Houston Fire Department. Because of the amount of space delegated to questionnaire usage, Only the laboratory procedure in this three-part study will be discussed. The collection of two 24-hour urine samples was obtained: one from a work day and one

from a non-work day, and were analyzed for epinephrine and norepinephrine concentrations by the Von Euler and Lishajko method. Cortisols were determined by radioimmunoassay. Creatinine was determined by the Jaffe reaction using autoanalysis. A paired t-test and Wilcoxon Matched Paired Signed Rank test both revealed significant differences, $p < .04$, and $p < .02$, respectively, for the differences in paramedic versus firefighter chemical levels for work and non-work days. The information was compared to the subjective questionnaire findings. The response rate of the questionnaire was 43 percent.

It is important to note that the findings should not be generalized beyond the volunteering firefighters and paramedics of the Houston Fire Department. Whether or not non-participating firefighters or paramedics experience similar levels of psychological stress is unknown. It is interesting that the results of the urinary catecholamine and cortisol analyses were generally consistent with the findings obtained by means of the questionnaires. A confounding factor may be the work load difference between firefighters and paramedics. The paramedics responded to far greater numbers of calls and were involved in more demanding critical decision making incidents.

In the few research efforts that attempt to study the effects of disasters on rescue workers, each suggests

the need for further data collection to document the extent and type of stress manifestation experienced.

Purpose of the Study

It is ludicrous to think that the human psyche, no matter how well it is trained, can be prepared to face some horrendously traumatic event without the benefit of psychological warmup. Is a well-trained paramedic, trained to save lives, expected to be unaffected by walking through human carnage after an airline disaster while hauling hoses around and cutting human bodies open and spraying them to extinguish the burning jet fuel that saturated them? This inexcusable use of trained personnel for extended periods of time was exactly what occurred after the Kenner Airline disaster on July 9, 1982 (Chadborn and Robinson, 1983).

Is it any wonder that after participation in major disasters there are staggering turnover rates of fire fighting personnel. For years, the prevailing sentiment both in and out of the fire department was, if you can't stand the heat, get out of the kitchen. That attitude leaves only one choice for those persons who are responding in a very normal way to an abnormal situation, that being job severance. It is not only the rookies and young, inexperienced rescue workers who are affected. In the aftermath of the San Ysidro shooting, 20-year veteran police officers

sought assistance from mental health professionals as a direct result of their traumatic experience (Time, 1979).

The time has come to recognize that much of the communities' emergency medical and fire-fighting expertise is being lost due to the cumulative effects of stress. The periodic great loss of life in major disasters and the inadequate mental health services being provided by most fire and ambulance departments across the country is short-sighted. Can these feelings of inadequacy be resolved by providing outside counseling and psychological services?

For the most part, the fire department's hierarchy makes the decision as to which benefits will be provided employees. Should budgetary considerations be the sole determining factor for benefits? Is activity by crisis enough, or are preventive measures needed when it comes to alleviating psychological stress?

Statement of the Problem

Do firefighters indicate a need for counseling services as part of their benefit package?

Research Questions

1. Are current counseling programs available to firefighters meeting their needs?
2. Is career and retirement counseling a necessary adjunct to a good counseling program?

3. For what period is the fire department responsible for a firefighter's comprehensive counseling needs?
4. Do firefighters self-select into the profession by virtue of the characteristics described in Adlerian birth order theory?
5. What are the perceived elements that are involved in firefighter burnout?

Operational Definitions

The following definitions will be used in this study:

1. Adlerian birth order: The theory advanced by Alfred Adler regarding one's birth order position as an influencing factor in their developing characteristics.
 2. Ambulance personnel: Those persons (EMT, IEMT, paramedic) who are employed on work solely on an ambulance or medic truck.
 3. Burn-out: A state of exhaustion, irritability and fatigue which may markedly decrease a person's effectiveness and capability (NIMH, 1978).
 4. Career counseling: Assisting an individual in their decision-making processes on movement within the company or without.
 5. Company: Synonymous with fire department and department.
-

6. Counseling services: Providers in the helping profession who promote personal, family, and group wellness.
7. Department: Synonymous with fire department and company.
8. Emergency services: A service or services that provide fire, medical, rescue, police, and disaster assistance.
9. Emergency medical technician (EMT): Trained individual in the administration of basic life support.
10. Firefighters: Persons trained in basic or advanced life support and in fire suppression who work for an established and professional organization who respond when called to fire or medical emergencies.
11. Fire ground: The scene of a fire.
12. First responder: One who first responds, as a professional, to an emergency.
13. Intermediate emergency medical technician (IEMT): Trained individual in the administration of advanced life support services with some cardiac limitations.
14. Mental health programs: Synonymous with counseling programs.
15. Paramedic: Trained individual in the administration of advanced life support services.

16. Psychological services: Synonymous with counseling programs.
17. Rescue worker: Synonymous with first responder and firefighter.
18. Stress: The total mental, physical, and chemical reactions of an individual to one or more demands (National Fire Academy, 1985).

Assumptions

In performing the study, the following assumptions have been made:

1. That participants have responded truthfully and honestly in answering all portions of the questionnaire.
2. That the nature of the instrument, the statements and form, did not interfere with the administration of the instrument.
3. That the job burn-out scale is an accurate measuring instrument of the participating rescue workers.
4. That the response rate is adequate and the results considered as reliable.

Limitations

Subjects were limited to employees of Rural Metro Corporations Pima County areas fire and ambulance division who received a paycheck on a given date. Subject responses

to the study were limited due to the use of a paper and pencil, self-reported questionnaire, which subjects completed voluntarily with guaranteed anonymity.

CHAPTER 2

METHODS AND PROCEDURES

This chapter describes the methods and procedures used to examine the research questions presented in Chapter 1 of this study. The following will be discussed: the sampling procedure and sample; the instrument; and the analysis of data.

Research Questions

The following research questions were formulated for this study:

1. Are current counseling programs available to firefighters meeting their needs?
2. Is career and retirement counseling a necessary adjunct to a good counseling program?
3. For what period of time is the fire department responsible for a firefighter's comprehensive counseling needs?
4. Do firefighters self-select into the profession by virtue of the characteristics described in Adlerian Birth Order Theory?
5. What are the perceived elements that are involved in firefighter burnout?

Sampling Procedure and Sample

This study conducted with the approval of Rural/Metro Corporation, who provided a complete list of all fire and ambulance personnel who were to receive paychecks for a period of two months.

A multi-topic questionnaire (Appendix B) was attached to all fire and ambulance personnel's paychecks on May 6, 1985. The use of paychecks as a distribution medium was used to ensure blanket and uniform coverage of all full-time and part-time fire and ambulance personnel in Rural/Metros Corporation's Pima County, Arizona area division. Along with the questionnaire, a cover letter explained the purpose of the study, asked for voluntary participation and ensured complete anonymity (Appendix A).

Instrument

Since most investigations of the effects of stress in the emergency field have been conducted with questionnaires and with on-site reports, it is important to take some time to explore the relative merits of the questionnaire as a research tool.

Mailed questionnaires have been used as a research technique in many fields of study for many years. For as long as questionnaires have been in use, questions concerning the validity of mailed questionnaires have been asked. One of the questions most commonly heard is: Does the

nonrespondent group bias the survey results? In other words, if the nonrespondents were to answer the questionnaire, would their answers differ from the answers given by those who did respond? Much of the research concerning mailed questionnaires has dealt with lowering the nonresponse numbers, thereby reducing a bias, if any, that may be introduced by the nonrespondents. Another interesting area of concern is who is actually answering the questionnaire? Did the intended person answer the questionnaire or did a substitute? Other important considerations when utilizing questionnaires are the response rates, mailed questionnaires, questionnaire length, and questionnaires mailed to a select homogeneous population.

The popularity of the mail questionnaire derives from the economies it offers the survey researcher. Because of the cost effectiveness, the mail questionnaire may be overused in data collection. One of the major drawbacks of the mail survey is that it usually yields a lower response rate than other data-gathering techniques: a response rate of less than 50 percent is common (Walker & Burdick, 1977). A low rate of return creates a problem which is the nonresponse bias.

Numerous research articles on mail questionnaires focus their criticism on the low response rates and the bias between those who respond and those who do not (Adams, 1956;

Blair, 1964; Donald, 1960; Schiriam & Blaine, 1966). It is easy to focus all the attention on what is wrong with research. However, market researchers have recognized for some time the advantages of mail questionnaire surveys. They are relatively low in cost, geographically flexible, and can reach a widely disperse sample simultaneously without the problems of interviewer access (Watson, 1965). Mail questionnaires are free from the costs, time consumption, and interviewer bias or variability (Boyd & Westfall, 1955) and the relative or promised anonymity encourages respondents to freely divulge information (McDonagh & Rosenblum, 1965).

Mail questionnaires tend to be more valid than either telephone or personal interviews because they enable respondents to check information by verifying their records or consulting with other family members (Nichols, 1964) and because they permit a leisurely and thoughtful reply. It should be noted that in a recent study by Bloch and Nebenzahl (1983), they pointed out that in an empirical study, 16.7 percent of returned questionnaires were answered by someone other than the addressed and that respondent bias does exist. They discuss the three basic strategies normally used: ignore the problem and include all respondents in his/her sample; the researchers may elect to exclude those respondents from his/her sample; the researcher may

analyze each set of responses separately and compare the similarity of results. Bloch and Nebenzahl (1983) suggest that by providing clear instructions and including proper screening questions, the researcher may have better control over the respondents and reduce bias.

How high a response rate is necessary for a valid response to a mailed questionnaire? What factors or variables are involved in enhancing the number of returns on a mailed questionnaire? In a study by Champion and Sear (1969), the differential effects of three important variables on response rates of mailed questionnaires were examined. They are:

1. The length of questionnaire mailed to the respondent.
2. The type of postage used.
3. The incentive provided in the cover letter.

Common sense suggests that shorter questionnaires should result in higher response rates than longer ones because of the limited demand they make on the respondent's time; however, the evidence gives very little support to this view. In fact, in studies by Kanuk and Berenson (1975) and Champion and Sear (1969), the data indicate that the opposite may be true. The studies revealed that the longer questionnaires were returned the most frequently, both in the initial and in the follow-up mailings. The difference

in response rate in the Champion and Sear (1969) study according to different questionnaire lengths was significant only in the initial mailing. The significance level was .05. Those findings cast some doubt on the blanket generalization that short questionnaires are returned more frequently than longer ones.

There has been a great deal of experimentation in both the class of mailing and the type of postage utilized. The results have been somewhat inconsistent. Champion and Sear (1969) found a greater response rate for hand-stamped and special delivery postage than for general bulk rate. Kanuk and Berenson (1975) cite general studies, all of which found varying degrees of success with the use of different stamps and procedures. In general, the use of a personalized, hand-stamped questionnaire tended to have a "better" return rate than machined, bulk rated mail.

The influence of the cover letter on response rates has received almost no experimental attention, despite the fact that the cover letter is an integral part of the mail survey. The cover letter appears to be the most logical vehicle for persuading individuals to respond. Champion and Sear (1969) found significant ($p < .05$) differences in response rates in questionnaires that had a cover letter that was worded to emphasize the benefit the respondent would receive to "have his chances to tell others what he thought

about. . . ." It was stressed that the researchers were very interested in learning what "he" had to say about things. The other type of cover letter emphasized the direct benefits the research organization would receive: Help your fellow man and do something for someone else type of letter. It was interesting that most of the factors influencing the return rates on these questionnaires were superficial to the questionnaire content.

In an article by Becker and Iliff (1983), the existence of nonresponse bias was questioned and whether or not high response rates and elaborate, costly follow-up techniques are always necessary. In the study, a follow-up mail questionnaire followed an on-site questionnaire. The follow-up final response rate was 46 percent. The implications of the study suggest that when sampling homogeneous populations, it is not necessary to achieve high response rates to avoid nonresponse bias. It is important to note that the criteria for determining homogeneity was arbitrary and based on recreational preference. The homogeneity factor seemed not to be influenced by limited geographical considerations, as respondents were from different geographical locations.

Despite the large numbers of research studies reporting techniques designed to improve response rates, there is no strong evidence favoring any single technique

other than follow-up. Although response rates have been reported which range from below 20 percent to 100 percent, there is still no reliable evidence identifying the factors responsible for this enormous variation. There is no systematic body of knowledge, nor conceptual framework, which relates specific techniques to questionnaire response behavior except in an intuitive sense.

In the present study, the questionnaire packets were color coded by battalions. Research has shown that paper color does not affect response rates (Champion and Sear, 1969). Battalion IV was yellow, Battalion V was blue, Battalion VI was green, Battalion VIII was white, and Flowing Wells had golden colored paper. The packets were placed with the cover letter, which is on University of Arizona Department of Counseling and Guidance letterhead, in a pre-addressed, hand-stamped envelope addressed to the University of Arizona Counseling and Guidance Office. The envelopes were then stapled to each individual paycheck.

Analysis of Data

Analysis of the data was conducted by tabulating all returned questionnaires on an individual battalion master ledger. After all returns were in, trend analysis was utilized. Trends will be revealed by simple comparison, mean differences, rank order, and birth-order position. Battalion results, as well as division-wide results, will be

tabulated and reported in Chapter 3. Additionally, results will be furnished to the fire department.

In summary, questionnaire packets in stamped, pre-addressed envelopes were attached to paychecks. The subjects were to answer the questions and place the stamped, pre-addressed envelope in a mailbox for return. Results, both battalion- and division-wide, were tabulated on a master ledger. Trends were revealed by simple statistics, and the results can be found in the following chapter. Rural/Metro Corp. was furnished results, in an abbreviated form.

CHAPTER 3

FINDINGS AND DEMOGRAPHIC INFORMATION

A multi-topic questionnaire was given to 129 fire and ambulance personnel in Battalions IV, V, VI, and VIII of Rural-Metro Corporation's Pima County, Arizona area division. The questionnaires were attached to paychecks and were distributed to all fire and ambulance personnel who received a paycheck on May 6, 1985. Return envelopes and postage were provided. Each battalion received a different colored questionnaire packet in order to compare individual battalion results with other battalions as well as to reporting group results. Questionnaire results were tabulated and trend analysis utilized to highlight potential interest areas. Of the 129 questionnaires distributed, 77 were returned for a response rate of 60 percent.

It has been suggested that non-responders may bias questionnaire results (Adams, 1956; Blair, 1964; Donald, 1960; Schwiriam and Blaine, 1966). In articles by Kerlinger (1973) and Zaltman and Burger (1975), typical mail questionnaires often yielded response rates of less than 50 percent. In a study by Becker and Iliff (1983), it was found that homogeneous groups of people tend to have higher response

reliability and a lower likelihood of response bias. In other words, a total response rate of 60 percent and individual battalion response rates from 47 percent to 71 percent are considered adequate and the results considered reliable.

The multi-topic questionnaire addressed the following topics: general demographic information (age, sex, job duties, years performing these duties, and marital status); general, career and retirement counseling issues; birth order and adjective checklist; a self-rank problem checklist; and a burn-out questionnaire. A brief quantitative analysis will address some of the interesting findings.

Demographic

Table 1 displays the demographic data for each battalion, including battalion number.

Battalion IV: 20 people responded to the questionnaire for a 67 percent response rate. The average age of those who responded was 25.6, and the average length of fire and ambulance service for those who responded was 5.5 years.

Battalion V: 17 people responded, for a 71 percent response rate. The average age of those who responded was 25.8, and the average length of service was 4.3 years.

Battalion VI (not including Flowing Wells): 17 people responded for a 49 percent response rate. The average age of those persons who responded was 26.5. The average length of service was 5.7 years.

Battalion VIII: 15 people responded for a response rate of 65 percent. The average age of those person who responded was 24.0. The average length of service was 5.4 years.

Flowing Wells District: 8 persons responded, for a response rate of 47 percent. The average age of those persons who responded was 35. The average length of service was 7.75 years.

The total response rate was 60 percent. The average age of those persons who responded was 27.6, and the average length of service was 5.73 years. The age range of respondents was 20 to 54 years, and years of service ranged from 6 months to 20 years. In order to ensure confidentiality, the numbers of full and part-time employees or the sexes of the respondents are not broken down.

Are Current Counseling Programs Available
to Firefighters Meeting Their Needs?

The questionnaire included a general counseling section where existing counseling services were compared to other counseling and non-counseling options. These questions were designed to ascertain if current counseling programs were meeting respondents' needs. This was not intended as a critique or evaluation of existing program effectiveness. Greater than 98 percent supported the concept of a company-sponsored counselor. While 39 percent supported the peer counselor concept, 96 percent felt the

Table 1. Demographic data by battalion: response rate, age, and years of service.

Battalion	Response Rate, Percent	Average Age	Average Years of Service
IV	67%	25.6	5.5
V	71%	25.8	4.3
VI	49%	26.5	5.7
VIII	65%	24.0	5.4
Flowing Wells	47%	35.0	7.75

need for a staff counselor. Sixty-four percent felt counseling should take place anytime, anyplace, where needed. Eighty-seven percent felt there should be no limit on the number of sessions allowed.

A possible conclusion that may be drawn from the general counseling section is the personnel who responded felt an almost universal need for either the use of, or potential use of, counselors. The long-relied-upon kitchen talk and black humor used around the station after a call may not be enough in today's high-stress and high-risk emergency field to relieve tension or anxiety. The benefits of station talk are not being questioned here; the benefits are more than likely essential for day-to-day functioning. With 96 percent of the people also choosing the staff counselor option, one must question whether needs are being met, or if there is a greater unmet need? It would appear that ideally, EAPs (Employee Assistance Programs) and staff counselors should both be integral parts of a progressive disaster and rescue organization.

Can an EAP supply all the counseling needs? Possibly; they certainly meet many of the requirements of this questionnaire's respondents. However, the respondents, 96 percent, felt a staff counselor may also meet or be a needed supplement to meet their growing needs. Many respondents added comments to their questionnaire. Some stated

that they felt comfortable talking to a trained counselor who has disaster and rescue experience and was knowledgeable about corporate policy. In contrast, others liked the security of going to an unknown, outside counselor. There are pros and cons to any program. The important issue is whether employee mental health needs are beginning to be met. As the field of disaster and crisis counseling for rescue workers expands, the pool of qualified counselors grows and becomes more readily available for employment, and hence, employee assistance.

Is Career and Retirement Counseling a Necessary
Adjunct to a Good Counseling Program?

The questionnaire section entitled "Is There Life After the Fire Department" questioned whether respondents would be interested in seeing a career counselor if they were to retire or leave the fire department. It was interesting to note that 57 percent of the respondents felt they would be interested in seeing a career counselor if they were to retire or leave the corporation. Of the respondents, 50 percent felt that they should pick up the career counseling charge on their own.

A Likert-type (5 point) scale was used to determine when a career counselor should be seen. 63 percent responded with important or very important to see a career counselor before entering the fire department, and

64 percent responded in a like fashion to see a career counselor before leaving the fire department. Most respondents felt it was less important to see a career counselor after entering (61 percent) and after leaving (55 percent) the fire department. This is understandable when social attitudes are considered. Educational experiences suggest that once our mind is made up, we stick to it. In other words, it is more important to utilize career counseling before you make a move either in or out of the department. Seventy-seven percent believe that career counseling should be an ongoing process, not just a one-shot deal. The 77 percent response rate is consistent with the previous response rate regarding seeing a counselor anytime and anyplace for an unlimited number of sessions.

For What Period of Time is the Fire Department
Responsible for a Firefighter's
Comprehensive Counseling Needs?

Those persons who responded to the section on how long the fire department should be responsible for your mental health after you leave or retire, and, is the department responsible for making your transition to and from the department a smooth one, gave several interesting and insightful comments. Some of the most common responses were that the department is responsible for your mental health for two years after you retire, but holds no responsibility if you are fired. The department should be

responsible forever (the rest of your life) if it (the department) was responsible for your problems. Most people felt the transition "to" the department was the department's responsibility, and the transition "from" the department was their own if they were fired but not if they were retiring. These results are interesting and slightly different than the typical verbal responses employees had made prior to this study. The discrepancy may come from one of the benefits a questionnaire provides, that is time to sit and think about responses before putting them on paper. However, the immediate verbal responses of an individual at times of crisis or disciplinary action may give insight into the personnel's subjective levels of stress and provide needed information for potential problem-solving strategies which may affect other company employees in similar stress-provoking or decision-making situations.

Do Firefighters Self-select into the
Profession by Virtue of the Characteristics
Described in Adlerian Birth Order Theory?

Section IV (birth order and adjective checklist) was scholastic in nature and investigates the general hypothesis that persons in high risk/high stress occupations may tend to fall in certain birth-order positions. The following is a description of birth-order positions provided by the respondents. Please note that a space of five years between siblings constitutes a new family unit. So if your older

sibling was six years older than you and your next sibling was two years younger, you would be considered an oldest child (Eckstein, Baruth and Mahrer, 1978). One would expect, all things being equal, that there would be equal numbers of only, oldest, middle and youngest children in a given occupation. However, all things are not equal, and persons grow up in different environments, family atmospheres, and there are special circumstances that play an integral part in an individual's development. Also, one must be aware that although a person is a "second born," he or she may interpret themselves as the oldest, and thereby assume that role in their given family.

According to Adlerian family constellation principles, a firstborn or eldest child may be described by the following adjectives: best, responsible, organized, high achiever, perfectionist, serious, conforming, bossy, critical, insecure, and most important. The most commonly checked adjective on the list was "responsible." Knowing this, one would assume that there would be a greater number of oldest children working for the fire department. As it turns out, 41 percent, almost twice that of any other birth-order position, were the oldest children. Only children are often described by the adjectives special, mature, self-centered, outgoing, helpless, and pampered, while the youngest child is described by words such as cute,

charming, spoiled, avoids decisions, very high achiever, very independent, and outdoes others. Both the only and youngest child positions ranked as the second most popular position, with a 22 percent occurrence in the responders. The middle child is usually described as the trouble maker, athletic, victim, rebel, very social, competitive, poorer student, opposite the first born, excitement seeker, and feels discriminated against. Only 14 percent of the responders to the questionnaire were middle children. Please note we all fit many of the adjectives, and any one position is not better than the other. There are many factors which influence an individual as to which role he/she plays in their respective family.

The questionnaire results are indeed interesting and do indeed fall into generally accepted birth order characteristics. The most commonly checked adjectives on the questionnaire are as follows. Most checked was responsible, followed by hard-working, sense of humor (are you surprised --if we were not laughing, we would be crying), considerate, sensitive/easily hurt, easy going, neat, conforming, compromiser, problem solver, cheerful and pleasing, critical of others, and rescuer. Very few checked trouble maker, bossy, and demanded your own way (which may surprise some administrators and chiefs). The results are consistent with respondents' duties. Respondents must be responsible,

compassionate, pleasing, hardworking, critical of self and others, compromising, as well as a host of other descriptions. The department does not have a lot of room for those who fit under the anti-social, non-caring descriptions.

What are the Perceived Elements That are
Involved in Firefighter Burnout?

Rescue workers are faced with unprecedented demands; some workers will let disaster-created tasks supercede all other responsibilities. The result of overwork is the burnout syndrome, a state of exhaustion, irritability, and fatigue which may creep up on the individual unrecognized and undetected, and markedly decrease his/her effectiveness and capability (National Institute of Mental Health, 1978).

A burnout questionnaire originally developed for nurses was modified for use with rescue personnel. The data were analyzed and individual and battalion burnout scores were tabulated. Scores ranging from 0 to 20 indicate no burnout problem. Scores ranging from 21 to 30 indicate a person is beginning to burn out. Any score above 31 is a warning that a person is in danger of burnout. The battalion burnout scores were derived by combining all individual responses on a single battalion master chart. Scores were tabulated then divided by the total number of respondents to achieve the battalion score. The battalion scores are as follows:

1. Battalion IV, 27.79
2. Battalion V, 29.4
3. Battalion VI, 28.58
4. Battalion VIII, 27.8
5. Flowing Wells, 25.75
6. 20 percent to 60 percent of the persons in each battalion were in danger of burning out.

A comparison was conducted of the battalion burnout scores with the final section of the questionnaire. The final section included a list of possible areas which seem to cause the most discomfort in the personnel's work lives. The personnel chose from a preselected group of options that were compiled from research studies and from discussion with professionals prior to the study's construction. This was done in order to discriminate between possible causes of problems and to provide information which may alleviate some of the suspected causes of burnout in the future. It is interesting to note that although the burnout scores were relatively similar between battalions, some of the subjective causes were different.

The following is a rank order list of perceived discomforts, by battalions based on the subjective problem checklists.

1. Battallin IV:
 - a. administrative policy and lack of training
 - b. pay
 - c. equipment
 - d. communication
 - e. hours worked per week
 - f. death
 - g. injured people
 - h. co-workers
 - i. sleep
 - j. home problems
 - k. relationship problems
2. Battalion V:
 - a. pay
 - b. home problems
 - c. administrative policy
 - d. communications
 - e. equipment
 - f. lack of training
 - g. hours per week
 - h. relationship problems
 - i. sleep
 - j. paper work
 - k. death

- l. injured people
 - m. co-workers
3. Battalion VI:
- a. administrative policy
 - b. communication
 - c. lack of training
 - d. problems with co-workers
 - e. paper work
 - f. pay
 - g. hours per week
 - h. equipment
 - i. relationship problems
 - j. sleep
 - k. home problems
4. Battalion VIII:
- a. paper work
 - b. administrative policy
 - c. sleep
 - d. pay
 - e. hours per week
 - f. communication
 - g. problems with co-workers
 - h. death
 - i. injured people
 - j. lack of training

- k. home problems
- l. relationship problems
- 5. Flowing Wells
 - a. communication
 - b. administrative policy
 - c. paper work
 - d. pay
 - e. equipment
 - f. relationship problems
 - g. death
 - h. lack of training
 - i. home problems
 - j. hours per week
 - k. injured people

Additional Comments

Battalion VI: No one listed death or injured people as areas of discomfort.

Battalion VIII: No one listed equipment as an area of discomfort.

Flowing Wells: No one listed discomfort with co-workers or sleep.

Summary

In summary, 60 percent of all fire and ambulance personnel, both full and part-time, responded to a

questionnaire attached to their paychecks on May 6, 1985. The average age of the respondent was 27.6 years, and the average length of experience in the fire and medical field was 5.73 years.

Of the respondents, an overwhelming majority (greater than 98 percent) supported the company-sponsored counselor concept. Consistent with the support of a company counselor, 64 percent felt the counseling should not be limited to an office, but take place anytime, anyplace where needed. Only 13 percent felt that there should be a limit on the number of counseling sessions allowed.

More than 60 percent of the respondents rated seeing a counselor for career and retirement issues as important to very important. It was interesting to note that 50 percent of the respondents believed that they should pick up the career and retirement counseling charge on their own.

Respondents reported a belief that the fire department held no responsibility for a transition from the fire department if fired, but held a two-year responsibility for an individual's mental health if they retired. If the fire department was responsible for the individual's problems, respondents reported that a life-long fire department responsibility to that individual was required.

Oldest children made up 41 percent of the respondents' birth-order positions. Described as responsible,

organized and high achievers, the oldest child seems to fit the socially accepted values the public holds for its first responders. The middle children, sometimes described as the rebel, only makes up 14 percent of the responders, while both the only and youngest birth order positions make up 22 percent, respectively.

The burnout questionnaire yielded a definite warning sign. Twenty percent to 60 percent of the persons in each battalion were in danger of burning out. Administrative policy was ranked either number one, two or three as the area which caused the most discomfort in the firefighter's work lives.

CHAPTER 4

SUMMARY AND RECOMMENDATIONS

The results of this study were unique and should not be generalized beyond the population that was surveyed. The firefighters and ambulance personnel were all employees of a private, non-union, for profit corporation. The corporation is large and operates in several states in both rural and metropolitan areas.

The first research question was designed to ascertain if current counseling programs were meeting firefighter needs. Greater than 98 percent of the respondents supported the concept of a company-sponsored counselor. While this seems to indicate that counseling needs are being met by the existence of a Rural/Metro Corporation sponsored counseling agency, one must take into account that 96 percent of the respondents indicated a need for a staff counselor. Supporting the addition of a staff counselor are the 64 percent of the respondents, who felt counseling should take place anytime, anyplace where needed, and the 87 percent who felt there should be no limit on the number of sessions allowed. The latter two conditions are limited with the company-sponsored counseling agency.

Career and retirement counseling appear to be generally accepted as a necessary adjunct to a good counseling program. Fifty-seven percent of the respondents reported an interest in seeing a career counselor if they were to retire or leave the fire department, and 77 percent believe that career counseling should be an ongoing process, not just a one-shot deal.

The amount of time the fire department is responsible for its employees' comprehensive counseling needs yielded several interesting and insightful responses. Generally, respondents felt that two years was the length of time the fire department should be responsible for employee mental health if the person were to retire. However, respondents indicated that no department responsibility was needed if the person were fired. Life-long departmental responsibility was supported if the fire department was responsible for the mental health problems.

According to Adlerian family constellation principles, a person's birth order position may be an influencing factor in his/her development. The self-selection into the firefighting profession by virtue of birth order needs further exploration due to the findings in the present study. Rescue personnel are described as the best, responsible, organized, high achievers, perfectionistic and most important. It is interesting that eldest children are

described by the same adjectives that describe good fire-fighters and ambulance personnel. In the study, 41 percent, almost twice that of any other birth order position, were the oldest children. The middle child is sometimes described as a trouble maker and nonconformer, both labels not generally accepted as a term used to describe first responders in the fire service. Interestingly, only 14 percent of the respondents were middle children, far less than any other birth order position. There are many factors which influence an individual as to which role he/she plays in their respective family. The questionnaire results, however, do fall into generally accepted birth order characteristics.

Administrative policy, pay, paperwork and communication problems were found to be leading concerns in the possible causes of the high burnout scores. A full 20 percent to 60 percent of the persons in each battalion were in danger of burning out. It was interesting that although death was a source of discomfort, it was not listed as a major problem in the firefighter and ambulance personnels' work lives.

It is clear from the data that the problems were multifaceted and may need more than one approach in order to alleviate them. A problem-free organization is not possible; human nature and the simple definition of the job

(Emergency services) prevents a problem-free environment. The question is, however, what level of job satisfaction and coping skills are required in order to adequately perform the necessary duties in a cost effective manner? Stress is cumulative, and research supports the contention that unchecked stress will result in a greater number of accidents, increases in the use of sick leave, substance abuse, marital and relationship problems, irritability, confusion, mistakes, lower work performance and productivity, as well as affects decision-making skills and leads to greater job turnover rate. All of this leads to greater costs in insurance, repairs, fill-in time, training, and replacement.

Preventive measures derived from this study may in fact improve productivity and job satisfaction across political boundaries, but care should be utilized in inferring cause. The direct effect on the target population depends on whether the data is utilized appropriately and how problems are approached.

Recommendations

Specific recommendations for furthering the information found in this study are:

1. The testing of other populations. The testing of larger city fire departments, union fire departments and fire departments that work fewer days per

month on their rotation schedule will provide needed comparisons.

2. Limit the scope of the questionnaire. By being more specific on overall questionnaire content, comprehensive coverage of a specific area may provide a more detailed analysis of questionnaire data.
3. The development of a stress measure that would include observation, as well as a pre and post test, to provide results other than those obtained by paper and pencil measures.
4. Comparison of results to other high risk, high stress occupations such as police and forest fire fighters.
5. Obtain a larger sample. Although the present study included all fire and ambulance employees of Rural/Metro Corporation's Pima County, Arizona area division, a representative sample from Rural/Metro's state-wide force or national force may provide more revealing data.
6. The conducting of personal interviews may provide needed clarification of misinterpreted questionnaire items.
7. The development of a measure given prior to hire date and given at periodic intervals to monitor the

cumulative effects of stress and exposure to the fire service.

The results of this survey suggests that a comprehensive non-limited, readily available educational program for administrators and employees on mental health and personnel management issues specifically designed for emergency service workers is needed. The "if you can't stand the heat, get out of the kitchen" adage is no longer appropriate in today's emergency services system. The heat is too great, and without a continuous educational/counseling program which is used both as a preventive measure and in crisis situations, the pressure may dwindle the ranks to such an extent that much of the emergency services expertise is lost. As a result, employee outlooks and productivity levels may fall to a point of diminishing returns. If we know there are solutions to a problem, are we remiss in our duties an obligations by not actively working on the solutions?

APPENDIX A

INTRODUCTORY COVER LETTER



The University of Arizona

College of Education
Department of Counseling and Guidance
Tucson, Arizona 85721
(602) 621-3218

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1885

1985

A Proud Beginning

April 9, 1985

Dear Rural Metro Personnel:

I am requesting your voluntary participation to complete these questionnaires. The success of my thesis and of this study depends upon your participation; I believe you will find it interesting. The questionnaires are part of a research study on understanding the stressors that fire fighters/paramedics experience at work and at home.

Your participation in this study is completely voluntary. The completion of these questionnaires will require some time and effort. Please fill them out accurately, but do complete them as soon as possible, as I am on a very tight schedule. There will be no costs or risks to you for participating in this study. You are free to disregard any or all items on the attached questionnaires without incurring any ill will. Return of these questionnaires indicates your consent to contribute to the pool of information which my study will use.

Both Scottsdale and Tucson administrations have given their consent for me to conduct this study and I have assured them that I will keep all participants and information given in the strictest confidence. Please be assured that all questionnaires are anonymous. Your responses will be grouped with the responses of other participants who are providing information. All questionnaires will be destroyed at the conclusion of the study, and there will be no record of your participation in the study.

Your input is deeply appreciated. Thank you for your help. I will provide you with a summary of the results of the study.

Hal Snyder
Graduate Researcher

Betty J. Newlon, Ed.D.
Director of Research

APPENDIX B

MULTI-TOPIC QUESTIONNAIRE

I. PLEASE ANSWER THE FOLLOWING FOR STATISTICAL PURPOSES.

I am:

male female
 single married divorced remarried
 age

I consider myself a:

fire fighter/EMT
 EMT
 paramedic/IEMT
 firefighter/Paramedic/IEMT
 other (please specify)

How many years have you been performing these duties? _____
 (Explain if needed)

II. PLEASE MARK THE STATEMENT OR ANSWER WITH WHICH YOU MOST CLOSELY AGREE.

ALL ANSWERS ARE CONFIDENTIAL

Thank you for your time and assistance.

1. The fire department should sponsor trained counselors to help members during problem times.
 Yes No
2. The counselor should be a member of the fire department.
 Yes No
3. The counselor:
 - should be a paid member of the fire department staff.
 - should not be paid by the fire department but by the person receiving help.
 - should be paid by both the fire department and the member receiving help.

4. The counselor should be available:
- _____ In his/her office only during weekdays 9:00 am to 5:00 pm.
- _____ In his/her office seven days a week 9:00 am to 5:00 pm.
- _____ In his/her office any time when needed.
- _____ Any time and any place where needed.
5. The counselor should be available:
- _____ For a limited number of sessions.
- _____ For as many sessions as necessary to help solve the problem.

III. IS THERE LIFE AFTER THE FIRE DEPARTMENT?

PLEASE ANSWER THE FOLLOWING QUESTIONS.

If you were to retire or leave the fire department, would you be interested in seeing a career counselor?

Yes _____

No _____

Who should pay for this service?

Self _____

Fire department _____

On a five point scale (5 is very important) how important do you feel it would be to see a career counselor?

A. Before entering the fire department. _____

B. Before leaving the fire department. _____

C. After entering the fire department. _____

D. After leaving the fire department. _____

Do you feel career counseling should be an ongoing process?

Yes _____

No _____

Is the fire department responsible for making your transition to, and from, the fire department a smooth one?

Yes _____

No _____

If you were retiring, would you like to see retirement counseling as a step in the retirement process?

Yes _____

No _____

For how long should the fire department be responsible for your mental health after you leave or retire from the fire department.

Please explain _____

IV. BIRTH ORDER

PLEASE LIST IN ORDER YOUR BROTHERS AND SISTERS. INCLUDE YOURSELF IN THE PROPER LOCATION.

Example:

Sister 4 years older than myself
Brother 1 year older than myself
Me Male
Sister 2 years younger

Example:

Brother 1 year older, died at birth
Me Female
Brother and sister - twins 3 years younger than myself

V. LIFESTYLE

HOW DO YOU SEE YOURSELF FITTING INTO YOUR FAMILY?

Check all that apply.

- | | |
|---|--|
| <input type="checkbox"/> Hard working | <input type="checkbox"/> Temper |
| <input type="checkbox"/> Rewarded | <input type="checkbox"/> Stubborn |
| <input type="checkbox"/> Critical of others | <input type="checkbox"/> Shy |
| <input type="checkbox"/> Easy going | <input type="checkbox"/> Sensitive/easily hurt |
| <input type="checkbox"/> Charmer | <input type="checkbox"/> Neat |
| <input type="checkbox"/> Conforming | <input type="checkbox"/> Responsible |
| <input type="checkbox"/> Pleasing | <input type="checkbox"/> Withdrawn |
| <input type="checkbox"/> Cheerful | <input type="checkbox"/> Excitement seeker |
| <input type="checkbox"/> Most friends | <input type="checkbox"/> Rescuer |
| <input type="checkbox"/> Sense of humor | <input type="checkbox"/> Compromiser |
| <input type="checkbox"/> Considerate | <input type="checkbox"/> Trouble maker |
| <input type="checkbox"/> Punished | <input type="checkbox"/> Problem solver |
| <input type="checkbox"/> Bossy | <input type="checkbox"/> Persecutor |
| <input type="checkbox"/> Demanded way | <input type="checkbox"/> Other (explain) |
| <input type="checkbox"/> Got your way | <input type="checkbox"/> Other (explain) |

VI. HOW OFTEN DO YOU FEEL:

Check the Appropriate Box

	DAILY (every day)	MODERATE (once a week)	ONCE IN A WHILE (once a month)	SELDOM (at least once in a 3 month time period)	NOT AT ALL (you have never experienced this situation in your present work setting)
1. ...physically exhausted and rundown?	1				
2. ...emotionally exhausted; overwhelmed, i.e., anxious, helpless?	2				
3. ...badly about yourself or guilty for not doing enough for your victims?	3				
4. ...disillusioned or resentful toward victims or co-workers?	4				
5. ...depressed and hopeless about seriously injured or dying victims?	5				
6. ...our work is not appreciated valued, and recognized by your supervisor or employer?	6				
7. ...overloaded with work, having no free time or routinely working overtime hours?	7				
8. ...alone and isolated with no one to share your feeling with?	8				
9. How often do your officers schedule regular meetings and an opportunity for group sharing or training?	9				
10. How often does your employer encourage attendance at professional meetings and participation in training conferences as part of your work day- NOT as an extra activity outside work?	10				

VII. PLEASE COMMENT ON ANY OF THE FOLLOWING QUESTIONS. FEEL FREE TO ADD YOUR OWN COMMENTS.

1. What are the areas which cause you the most discomfort in your work lives? Circle those that apply.

Example: Communication, administrative policies, paper work, co-workers, pay, sleep, hours per week, equipment, death, injured people, lack of training, home problems, relationship problems.

2. If you would like to comment on your selections or wish to add any, please do so now.

3. Is there anything you would like to add that you feel may be valuable to this entire study?

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