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Human Resources Research

BOREDOM: CONSTRUCT, CAUSES AND CONSEQUENCES

Cynthia D. Fisher

February, 1987

TR-ONR-9

Texas A&M University
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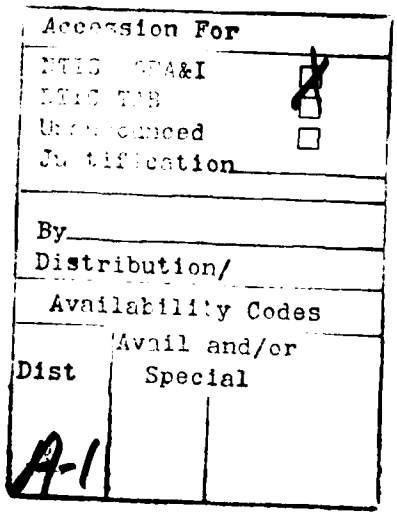

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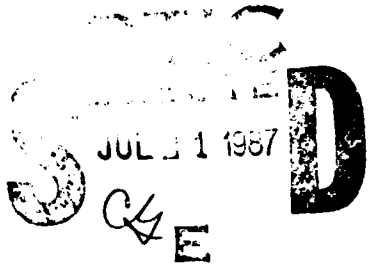
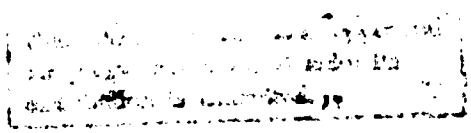


Prepared for:
Office of Naval Research
800 N. Quincy Street
Arlington, Virginia 22217

This report was prepared for the Manpower R&D Program of the Office of of Naval Research under contract N00014-85-k-0289.



Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER: TR-ONR-9	2. GOVT ACCESSION NO.: AD-A182937
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle): Boredom: Construct, Causes and Consequences	5. TYPE OF REPORT & PERIOD COVERED: Technical report
	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s): Cynthia D. Fisher	8. CONTRACT OR GRANT NUMBER(s): N-00014-85-k-0289
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Department of Management, Texas A&M University, College Station, Texas 77843	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: NR-475-036
11. CONTROLLING OFFICE NAME AND ADDRESS: Office of Naval Research, Department of Navy, Arlington, Virginia 22217	12. REPORT DATE: February, 1987
	13. NUMBER OF PAGES
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	15. SECURITY CLASS. (of this report): Unclassified
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

Supported by the Office of Naval Research Manpower R&D Program

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Boredom, job satisfaction, job design, military life.

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The literature on cause of work and life boredom is reviewed. A qualitative study of causes of boredom on and off the job is presented, and a typology of causes is developed. Problems of measuring both experienced boredom and the boredom potential of situations are discussed, followed by suggestions for future research.

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Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

Boredom: Construct, Causes, and Consequences

Cynthia D. Fisher

Our interest in boredom began while we were conducting interviews with enlisted Marines as part of a study of adjustment to overseas transfer. The Marines reported being bored while on duty when they had little to do or were occupied with menial tasks such as picking up cigarette butts or raking sand walkways. This kind of boredom was not surprising, and is discussed in some detail in the existing literature on monotony, repetitive tasks, and job design. The problem of job boredom among soldiers during peace time has also been acknowledged by military scholars (c.f. Alford, 1979; Harris and Segal, 1985).

More interesting was the frequent mention of boredom while off duty. The Marines were constrained to a rather limited setting--the base and small surrounding communities--yet there were numerous activities available for off duty hours. We noted great variation in the extent to which individual Marines took advantage of these opportunities to amuse themselves. Despite the fact that the exact same opportunities were available to all, some respondents seemed determined to be bored, while others had no difficulty in finding interesting things to do.

The above observations were made in California, before the overseas transfer. Follow-up interviews conducted in Okinawa revealed a similar pattern. Some people were unrelievedly bored, some were constructively entertained (with correspondence courses, body building, or other sports), while others were destructively entertained (drinking to excess and brawling). Further, it appeared that those who were bored or destructive in California tended to adapt to Okinawa in the same dysfuctional way, while those who were better able to entertain themselves in California were also able to do so following transfer (Shaw, Fisher, and Woodman, 1983).

Thus, our interest in work and non-work boredom was piqued. A search of the literature revealed several limited views of on-the-job boredom and very little attention to off-the-job boredom, so we decided to investigate further. The report which follows contains a review of past approaches to boredom, a typology of situations that may lead to boredom, and a discussion of reactions to boredom. Areas in need of empirical research are identified and a program of research outlined.

So that this preliminary theorizing would be at least partially grounded in data, we conducted a qualitative study on boredom. Specifically, 500 college students were asked

to describe one boring incident they had experienced at work and/or one they had experienced off-the-job. The results of this study will be reported later in the paper. Before going further, however, we will give our definition of boredom.

A Definition of Boredom

We define boredom as a transient affective state in which the individual feels that he/she has nothing to do, has too little to do, has to do something uninteresting which he/she would rather not do at that time, or simply doesn't feel like doing anything in particular yet wishes to be entertained. Boredom may be brought on by factors in the individual, the situation, or more commonly, an interaction of the two. Basic to our definition of boredom is the idea of a desired level of stimulation. This level undoubtedly varies within people over time, and there seem to be consistent differences between people as well (i.e. high vs low sensation seekers, Zuckerman, Kolin, Price and Zoob, 1964; Zuckerman, 1971). Further, there seem to be differences in how well individuals are able to seek, find, or invent activities to stimulate themselves in a situation that would otherwise be boring. Thus, most boredom can be understood as an interaction between the level of stimulation provided by the environment and the individual's desired level of stimulation and ability to produce additional stimulation. When total stimulation falls below the desired level, boredom is experienced. This definition represents a combination of several different approaches to boredom found in the literature. Each approach and associated research will be briefly reviewed below.

Approaches to Boredom

Guest, Williams, and Dewe (1978) suggest that boredom has been conceptualized and researched in three different ways: 1) as a result of a repetitive or monotonous task which provides insufficient arousal or stimulation; 2) as a result of constraint on behavior; and 3) as a concentration on the passage of time and a feeling of time drag. Each of these will be discussed, followed by three additional conceptualizations of boredom: 4) as a function of individual differences; 5) as a function of a mismatch between the task content and the interests of the bored person; and 6) as a chronic pathological state.

Monotonous Task/Arousal Approach

The most popular approach to boredom holds that it is an affective response to an environment or task which is insufficiently stimulating. The latter has typically been operationalized as a short-cycle repetitive task such as those found on some assembly lines, or as a vigilance or

inspection task requiring responses to infrequent and hard to detect signals. Boredom is thought to occur in these situations because the task provides an insufficient level of stimulation, and produces, after habituation, a sub-optimal level of arousal. There is some evidence that both affect and performance bear an inverted u-shaped relationship with arousal (Fiske and Maddi, 1961; Scott, 1966). Further, performance has been found to degrade rapidly beginning about 30 minutes into monotonous vigilance tasks which would be expected to produce lowered arousal (see Cox, 1980; and Davies, Shackleton, and Parasuraman, 1983, for reviews).

A fair amount of physiological support for the arousal level approach has been found. Barmack (1937) and many others (c.f. Thackray, Bailey, and Touchstone 1977; Thackray, Jones, and Touchstone, 1974) have demonstrated that working on a monotonous task is often accompanied by decreases in physiological indices of arousal such as GSR, oxygen consumption, and blood pressure. Barmack (1938, 1939) hypothesized that the administration of stimulants might prevent these physiological changes and hence the experience of boredom in repetitive work. He found that subjects receiving a stimulant rather than a placebo reported feeling less bored and fatigued, and more relaxed, awake, and attentive.

On the other hand, London, Schubert, and Washburn (1972) reported two studies in which autonomic arousal was greater while working on a boring task than while working on an interesting one. They argued that in order to continue to perform the boring task, subjects had to exert effort to force themselves to focus on the task. This increased effort caused the higher level of arousal observed aong subjects on the boring task. However, the work period in these studies was 40 minutes or less. Whether high levels of attention and arousal on the boring task could have been maintained over a longer period of time is not known.

Constraint

A second approach to boredom focuses on constraint--the extent to which one is forced to remain in a particular situation, location, or activity. Constraint could cause boredom through at least three different mechanisms. First, there is some evidence that constraint itself is inherently distasteful. Brehm and Brehm (1981) cite extensive work showing that individuals do not like losing their freedom of choice, and will act to preserve or reassert this freedom if it seems to be threatened. Deci (1975) also discusses the issue of self-determination or personal control. He asserts that personal control, together with feelings of competence, are major determinants of intrinsic interest in a task. When individuals feel

forced to work on a task, they rate it as less interesting than do others who perform the same task but are led to believe that they do so of their own free will. Lepper and Green (1978) and Staw (1976) refer to this phenomenon as "over-sufficient justification." Following an attribution theory framework, they suggest that individuals seek plausible causes for their behavior. If one performs a task without salient external causes for doing so, then in order to find sufficient justification for the behavior, one must infer that the task is interesting and one is intrinsically motivated. If one performs the same task while plausible extrinsic reasons are present (i.e. pay, threat of discharge for non-performance, surveillance) then one need not infer that the task is interesting, and may in fact conclude that the task must be boring since others have felt it necessary to apply extrinsic control methods. Thus, being forced (or extrinsically encouraged) to remain in a particular setting may cause the situation to be labeled "boring" through the mechanism of over-sufficient justification, regardless of the actual level of stimulation provided by the task.

Second, constraint could contribute to feelings of boredom when one is forced to remain in a low stimulation setting. Examples include having to stay at work for a full shift even though there is little work to be done, having to wait in an airport, or having to sit in a car until one's destination is reached. In some cases, one is not only stuck in a low stimulation setting, but is also prohibited from initiating other concurrent activities which could provide additional stimulation. For instance, life guards are often forbidden to read or socialize while on duty, assembly line workers may be unable to leave their station or vary their pace, and radar monitors cannot let their eyes or attention wander from the screen. Cox (1970 p. 87) notes that a job which requires "full attention or none at all is preferred to a job which calls for steady perceptual attention but makes few intellectual demands. This last type neither interests the operator, not allows her to talk or think of other things. It calls for a half-person."

Third, individual desires can interact with constraint to a setting to intensify feelings of boredom. Even an objectively stimulating task may be peceived as boring when the performer compares it to an alternate desired activity. For instance, some of our student respondents reported that work was boring because they had to be there, but would rather have been laying on the beach - an objectively less stimulating activity.

To summarize, it appears that constraint affects feelings of boredom in three ways: by directly arousing feelings of external control at the expense of intrinsic interest; by forcing one to remain in a low stimulation/low possibility of additional stimulation environment; or by forcing one to

remain in an environment when an alternate environment is preferred.

Time Drag

A third approach to boredom focuses on the subjective duration of events, and suggests that time seems to drag or pass more slowly when one is bored (Wyatt, 1929). Research results on this apparent truism have been mixed. Geiwitz (1966) and Kerr and Keil (1963) found no relationship between rated boredom and error in estimating the passage of time. However, Kerr and Keil also found that individuals on longer time cycle, higher variety jobs thought time passed more slowly than those on simple, repetitive, and presumably boring jobs. Grubb (1975) found significant correlations in three samples of .36, .47, and .55 between rated boredom and the item, "When your shift is over, does it seem like no time at all to you since the shift began, or does it seem like a very long time?", such that shifts seemed longer to those who reported greater boredom at work.

Ornstein (1971) has conducted a series of inventive studies which partially resolve these conflicting results. He has shown that the subjective duration of an event is related to the amount of information processing or mental storage space needed to encode the event. Thus, novel or complex stimuli appear to last longer than familiar or simple stimuli. Time appears to pass more quickly when performing a well-learned task automatically than when performing a novel task requiring conscious control for the same length of time. Kerr and Keil (1963) used a similar rationale for their results, suggesting that more complex tasks include a greater number of discrete events to break up and slow the apparent flow of time, while simple routine tasks without "significant psychological time markers" will seem to flow more quickly.

On a repetitive task, if an individual performs thoughtlessly and automatically, time may seem to pass quickly. On the other hand, if the individual is very consciously aware of the monotonous situation, and is "forced to attend to more of the stimulus array than he or she normally would, like listening to a professor drone on and on" or watching a pot while waiting for it to boil, more storage space will be used to encode detailed information, and longer subjective duration will result (Ornstein, 1971, p 112).

Precisely which situational or individual difference factors trigger automatic versus painfully thoughtful and detailed encoding in low stimulation environments is not known. However, it is clear that objectively monotonous or repetitive situations may be perceived as being of either longer or shorter duration than more stimulating situations

of the same actual length. Thus, time drag or subjective duration cannot be used as a surrogate measure of boredom, though further investigation of the relationship between the two concepts may be interesting.

Individual Differences in Boredom Proneness

A fourth approach to boredom research is to identify individual differences which account for the variance in either reported boredom or performance decrement on repetitive or vigilance tasks. The existance of individual differences in boredom proneness was discussed in 1929 by both Wyatt and Thompson. Extensive interviews with workers in 1953 (reported in Cox, 1980, p. 24) again revealed differences in reactions to the same task, "Some workers liked tasks which demanded considerable attention because time passed quickly and their experience of boredom was reduced. Others liked tasks which did not demand attention so that they could carry out the job automatically, and talk to their work mates." The traits which have been investigated as possible moderators of reactions to monotonous tasks will be discussed below.

Age seems to be negatively related to experienced boredom, with younger workers more likely to report being bored than older workers on the same task (Hill, 1975b; Smith, 1955; Stagner, 1975). Work experience, tenure, and education have shown inconsistent relationships to boredom across studies (Drory, 1982; Smith, 1955). Early theorists suggested that more intelligent people were more likely to feel bored on a repetitive task, and there is limited evidence that this may occur (London et al., 1972; Thompson, 1929). However, intelligence is not related to performance decrement over time on vigilance tasks (Davies and Parasuraman, 1982).

Drory (1982) suggested that personal capacity would be related to boredom proneness. He operationalized capacity as age, health, military rank, education, intellectual activities, tenure, and length of residence in Israel, where the study was conducted. Except for age, which had the expected negative correlation, all of the variables were positively related to rated boredom while driving a monotonous section of road. These personal capacity variables accounted for 50% of the variance in rated boredom among truck drivers. Personal capacity variables also moderated the relationship between rated boredom and property damage to one's truck, a measure of performance. For those of low capacity, boredom and property damage were positively related (r's from .43 to .72), while the performance of those of high capacity was not significantly influenced by experienced boredom.

A number of personality factors have also been investigated as determinants of boredom proneness. Following Wyatt's

(1929) suggestion that those of lively and mercurial temperament would be more bored with monotonous tasks than those who were phlegmatic and patient, Thompson (1929) found that preference for variety versus uniformity predicted performance decrement on a repetitive task. Smith (1955) developed a self-report measure of "restlessness in daily habits and leisure" which predicted experienced boredom at work. Those who preferred structured and sedentary activities off-the-job were less bored by routine tasks on-the-job. Hill (1975b) found that women who scored high on a neuroticism scale were more likely to be bored on a repetitive press-operating job, while Thackray, Jones, and Touchstone (1973) and Antrobus, Coleman, and Singer (1967) found that self-rated distractibility and propensity to daydream affected performance patterns on monotonous tasks.

The most thoroughly researched personality correlate of boredom is introversion/extroversion. This dimension does not seem to be related to self-rated boredom (Hill, 1975b; Smith, 1955), but it is reliably related to performance decrement on vigilance tasks (Davies and Parasuraman, 1982). Extroverts, who are considered to require more external stimulation, experience sharper declines in vigilance performance over time. They also show more variability in response times while doing vigilance tasks as their attention tends to wander (Thackray, et al., 1974). Hill (1975a) found that extroverts introduced more variety into a dull task, and increased the amount of variety over time, while introverts seemed content to continue doing the repetitive task in exactly the same way.

Content Boredom

The fifth approach to boredom is found very rarely in the literature but is intuitively quite appealing, and seems to apply very well to the boredom most people experience occasionally in life and work. Baldamus (1951) has described and labeled it as "content boredom". This occurs when a situation or task does not match one's interests or desires. The situation may be objectively stimulating, but is simply not interesing to the bored participant. Davies et al. (1983) give the example of reading a book, which may contain a variety of ideas or actions presented in rapid order (not repetitive or monotonous in an objective sense) but which a particular reader may find boring because he or she is simply not interested in the content of the book at the moment. This may be the type of boredom which is experienced from time to time by professionals and others who hold "enriched" and presumably stimulating jobs.

Chronic or Pathological Boredom

Smith in his 1981 review notes with surprise that boredom has been almost entirely ignored by psychiatrists and

clinical psychologists, even though it is a very common complaint from individuals seeking therapy. In one of the few articles on the subject, Bernstein (1975) discusses two types of boredom. The first, responsive boredom, is caused by a truly monotonous and unstimulating environment, as discussed in approach one above. It is a perfectly normal, transient response to an external situation. The second type he labels chronic boredom, and it is largely internally caused. However, victims usually blame the environment for their feelings of boredom and try unsuccessfully to relieve these feelings by seeking stimulation from the environment. The actual cause, according to Bernstein, is that sufferers have "lost their ability to feel". This comes about when children are forced to control their emotions and behavior before they have learned socially acceptable ways of discharging the tensions aroused by the emotions. Thus, they simply learn to repress their emotions, and lose the ability to acknowledge and deal with intense feelings. Chronic boredom (or ennui) surfaces later in life when environmental stimulation drops below a level hectic enough to mask the feeling deficiency. Often this is middle age, when careers plateau and children leave home. Chronic boredom is experienced as restlessness and apathy, a lack of interest in things, difficulty in paying attention, and a feeling of emptiness or alienation.

Fenichel (1951) provides a psychoanalytic framework for understanding boredom. He states that people experience pathological boredom when they feel drive-tension, or an impulse to act, but have repressed the drive-aim, so they do not know how to release the drive-tension. In fact, they will actively avoid any type of stimulation which would discharge the drive tension, because the Ego refuses to acknowledge the existence of a particular drive aim held by the Id. According to Fenichel (pp. 354-355), the person feels that, "I am excited. If I allow this excitation to continue, I shall get anxious. Therefore I tell myself, I am not at all excited, I don't want to do anything. Simultaneously, however, I feel I do want to do someting; but I have forgotten my original goal and do not know what I want to do. The external world must do someting to relieve me of my tension without making me anxious...or responsible...It must distract me, so that what I do will be sufficiently remote from my original goal." Both Bernstein's (1975) and Fenichel's (1951) versions of chronic pathological boredom include the idea of a desire to be stimulated together with the inability to be stimulated. In both cases, the suggested remedy is extensive psychoanalysis.

Kafry and Pines (1980) have recently made an effort to define a malady somewhat similar to chronic boredom, which they call "tedium". It is, "A general experience of physical, emotional, and mental exhaustion...characterized

by feelings of strain and burnout...and by negative attitudes toward oneself, one's environment, and one's life. It is the experience of distress and discontent with one's work and way of life. In its extreme form...tedium overlaps depression." (p. 478). Work and life factors which correlated with the experience of tedium in several samples included cognitive under and overload, work-life conflict, and lack of success, feedback, variety, autonomy, and social support. In general, life factors were stronger correlates of tedium than work factors. Kafry and Pines found that about 6% of each sample reported extreme tedium. They did not discuss treatment.

Smith's (1955) work on correlates of boredom proneness may have foreshadowed the idea of chronic boredom. She found that individuals who were dissatisfied with other aspects of work or who were discontent outside of work were more likely to report feeling bored at work. On the other hand, Davies et al. (1983, p. 13), in a reanalysis of Wyatt, Langdon, and Stock's (1937) data, found essentially no relationship between rated levels of boredom across five jobs performed sequentially by the same workers, casting doubt on the idea that "boredom is a general characteristic" of some people. This is certainly an idea which merits further research. We will now proceed to a discussion of the qualitative study on causes and responses to boredom.

A Qualitative Investigation of Boredom Causes and Responses

One or more incidents of work or non-work boredom were collected from about 200 U.S. university students and 300 Singaporean university students. After describing the incident and telling which situational factors caused them to feel bored, they also explained how they reacted to the boredom and whether this action was successful in relieving the boredom. Work and non-work incidents were content analysed separately. Initial sorts were based on the type of situation which produced bordeom. Subsequent sorts were based on the second question of how people responded to the boring situation and the efficacy of the response in reducing boredom.

Obviously, the use of recalled incidents is not a strong or particularly reliable technique. Since subjects were reporting on themselves as actors, the data may be biased toward environmental rather than dispositional causes of boredom (Jones and Nisbett, 1976). Nevertheless, this data will be used to provide a tentative typology of the way people actually conceptualize and experience boredom in their daily lives.

Causes of Work Boredom

Approximately 200 incidents of boredom on the job were collected. These incidents were sorted into categories based on the reasons students gave for feeling bored. Four major causes of work boredom emerged.

The first is boredom due to lack of work (quantitative underload). This is a category seldom mentioned in the boredom literature, yet it was the most common complaint (110 incidents). Students involved in retailing jobs were bored when there were no customers to wait on. Their boredom was often exacerbated by rules which constrained them to a particular location (behind the cash register) or posture (standing) and prohibited subsidiary behaviors such as reading or talking to coworkers. Office and plant workers were bored when there were no orders to process, no phone calls to take, no typing to be done, and so on. Tutors were bored during the time that their charges worked on assignments on their own, former servicemen were bored standing guard duty, and a number of people reported being bored during their first few days on a new job before they were trained and given a specific task to do. A number of respondents described entire jobs on which there was very seldom anything to do.

This cause of boredom has been completely ignored by job enrichment/redesign theorists. Neither of the two commonly used instruments for measuring job characteristics contain any items relating to workload. It is possible to envision a job with high meaningfulness, requiring several skills, and providing intrinsic feedback, but which takes only two hours per day to accomplish. The Motivating Potential Score of this job would be high, but it seems likely that the incumbent, if required to remain at his or her desk for eight hours per day, would be less than satisfied with the job.

The finding that so many respondents had no work to do is quite troubling. This complaint was not limited to service and retail organizations where workload fluctuates with the number of customers present at the moment. Organizations which should have been able to predict and allocate workload more efficiently also had employees with nothing to do. Admittedly, most of our respondents held temporary, unskilled jobs. It would be interesting to find out how frequently permanent full time workers and skilled, professional, and managerial employees report having nothing to do, and whether they find this situation aversive.

A second common cause of boredom had to do with the nature of the task (73 incidents). Repetitive tasks such as typing forms, filing, proof reading, counting and rolling coins, inputting data, and collating and stapling were given as

examples of boring work situations. Some students complained that these tasks were unchallenging, did not make use of their skills, and insulted their intelligence (qualitative underload). Vigilance tasks such as inspection, driving, and life guarding were also cited as boring. Boredom of this type has been discussed quite thoroughly in the job enrichment literature, together with suggestions for redesigning jobs so that they are less repetitive and more meaningful. However, redesigning jobs to make them more interesting is not always possible, and little attention has been paid to alternative methods of decreasing the boredom experienced by workers on such jobs. Our questions on how people actually responded to job boredom and whether or not these responses successfully relieved boredom may suggest some new ways of making monotonous jobs more bearable.

A third cause of boredom is being with dull or unfriendly others (10 incidents). When coworkers were present but unwilling to talk or make friends, students reported being bored. Singaporean students frequently mentioned this problem when they worked as private tutors to younger students who were unresponsive and noncommunicative.

This is a reason for boredom which is not mentioned in previous research on work boredom. In fact, there has been a tacit assumption that boredom would be lower if co-workers were present at all. In the job enrichment literature, the importance of congenial co-workers has been emphasized only by the socio-technical systems approach. Sims, Szilagyi, and Keller's (1976) Job Characteristics Inventory includes items on the chance to talk to co-workers and make friends at work as one of six factors which might be important in determining employees' reactions to their jobs. The more popular Job Diagnostic Survey (Hackman and Oldham, 1975) includes items on contact with people on other jobs, but these items are not considered relevant to a job's "interestingness" as assessed by its motivating potential score.

As will be mentioned below, talking to co-workers is a frequent reaction to monotonous work or quantitative underload. When co-workers are absent, uncommunicative, or uninteresting, this important method of ameliorating boredom is not available. Dull co-workers may result in greater experienced boredom and in the selection of alternative boredom relief behaviors (such as sleeping) which are considered less desirable by the organization.

Finally, boredom due to constraint was sometimes mentioned, either alone or in combination with one of the above causes. Being required to remain on a repetitive job or one in which there was nothing to do seemed especially aversive. Constraint was also resented when the respondent had

something specific in mind which he or she would prefer to be doing rather than working. Feelings of constraint have been discussed in the job redesign literature under the label of autonomy, though flexitime programs may deal more directly with the type of constraint experienced by our bored respondents.

Boredom of all types seems to be worsened by physical discomfort. When there is nothing interesting to do and one is cold, hot, slightly ill, itchy, or has sore feet, a much more unpleasant state is experienced than if either situation is present without the other. The same minor discomforts are probably more likely to be noticed when there is nothing interesting going on to hold one's attention.

Responses to Work Boredom

Three major types of responses to boredom were found. In order of frequency of occurance, these were: engaging in non-work related activities on the job, engaging in work-related activites, and simply tolerating the boredom. Often, several reactions were used sequentially by the same person.

Fifty three percent of respondents reported engaging in non-work behavior when they were bored on the job. These behaviors consisted of reading, writing letters, listening to music, singing, day dreaming, playing games, and talking. In some cases, these activites were carried out in knowing violation of company rules, which seemed to make them even more stimulating. These activities were often successful in reducing experienced boredom. Some of these activities occurred while actively working, such as singing or listening to music. It seems likely that these activities would interfere very little with productivity, or might even enhance it if arousal had dropped below the level of alertness. Davies et al. (1983) reviewed the effect of music on performance and attitudes on repetitive tasks. Music only occasionally has a facilitative effect on performance, but quite often has a positive effect on attitudes. The latter could occur because boredom is reduced.

Other reactions to boredom may be more distracting, such as daydreaming and talking, and may interfere with performance of activities requiring a high attention level. However, on tasks which can be performed automatically, there should be no adverse effect. Non-work activites such as reading and writing letters tended to be used under conditions of quantitative underload, so that they did not damage productivity per se, but made more enjoyable time which would not have been productive in any case.

Twenty four percent of respondents tried to relieve boredom by engaging in desirable work related behaviors. These included working faster, taking an interest in clients, asking for more work or training, finding additional tasks to do on their own, and helping other employees. One respondent, a piano accompanist at a dance studio, relieved the boredom of playing the same pieces again and again by transposing them into a different key each time. Work-related behaviors were often unsuccessful in relieving boredom, as respondents reported that their bosses did not have any more work for them or were unwilling to give extra training, coworkers did not need help, or that the boredom returned as soon as they finished cleaning their work area, folding napkins for the next shift, or completing other menial tasks they had been able to find. This may indicate a need to reallocate duties or reduce the number of employees, so that all can be fully utilized most of the time.

A third reaction to boredom was simply to tolerate it. Ten percent of American respondents reported doing this, largely those on repetitive jobs which did not permit much in the way of subsidiary behaviors. Twenty percent of the Asian respondents tolerated boredom, either because they had no choice or because they felt duty bound to complete a job or term of work which they had agreed to do. Statements such as, "I just watched the clock and told myself that it was only a six weeks long job" were common. Our data do not indicate what type of adjustment might occur when a very boring job is held for a long period of time.

Finally, a small number of respondents left the boring situation, either by quitting or by taking frequent breaks. Three fell asleep, three walked around, one engaged in minor sabotage, and two tried to get their boring tasks reassigned to other employees.

In summary, work boredom seems to be caused by not having anything to do, working on a repetitive or unchallenging task, being with unresponsive co-workers, and/or feeling constrained to remain in the work setting when one would rather be elsewhere. Only one of these causes has been well research (repetitive/unchallenging task), and only a few solutions to work boredom have been thoroughly studied (job rotation, enlargement, or redesign, and music). Left to their own devices, employees come up with a host of others ways to relieve job boredom. Perhaps when boring jobs cannot be redesigned to increase interest, managers should allow employees greater freedom to amuse themselves in other ways at work.

Causes of Non-work Boredom

About 340 incidents of non-work boredom were collected. Being bored off the job seems to be a more varied phenomenon, as nine reasons for non-work boredom were identified from the incidents.

One very common situation causing boredom was being at home with nothing to do (81 incidents). Many respondents said they were alone at home, or at least without friends of the same age. Some incidents had an element of separation or grief--"my friends had all joined the Army, so I was home alone." "I'd just had a fight with my brother, so I was home alone." "My girlfriend had broken up with me, so I was home alone."

An equally frequent cause of boredom was being constrained to a low stimulation setting with limited opportunitites to relieve boredom (79 incidents). Common examples were waiting to meet a friend who was late, waiting for a bus, waiting in an airport, sitting in a car during a long journey, and sitting in a lecture class.

A third boring situation involved feeling that there was nothing interesting to do, even though one was with friends. Twenty incidents referred to being bored in groups, either sitting around someone's house, wandering the shopping district, or bar hopping.

A fourth reason given for feeling bored was a sudden drop in activity level. Twenty-two respondents reported being bored after losing a job, between being discharged from the Army and beginning college, or immediately after final exams. The contrast between the earlier hectic pace and the current slow one seemed to intensify feelings of boredom. A composite response of post-exam students in Singapore is, "I spent months in the library trying to squeeze everything into my brain. After the exams were over, I felt so empty and bored...as if I had lost something...there was nothing urgent to do, nothing to accomplish anymore."

The above four situations all contain the element of having nothing to do. The next few causes of boredom occur when there is something to do, but it does not appeal to the doer. Earlier, this was referred to as content boredom. Many of these disliked tasks were also described as monotonous. Thirty-five incidents concerned making oneself do something one does not like to do, especially when it is repetitive or has been done for a long period of time. Examples were doing accounting problems, studying for final exams day in and day out, and doing housework. Fifteen additional respondents were bored when they were studying or listening to a lecture on a subject which they did not understand or found difficult to comprehend. Finally, 15

respondents reported being bored while procrastinating. They had something to do which they did not want to start doing, so they were bored by both present inactivity and the prospect of performing a disliked task in the near future.

Another reason for being bored while doing something is doing it with a boring person. Twenty-seven incidents were reported in which students were doing something such as talking to a friend on the phone or in person, but were bored because they were not interested in what they other person was saying. Common complaints were that the other person was bragging or talking about his/her own problems, not allowing the listener a chance to speak, and not showing interest in the listener.

The final cause of boredom seems to be a bored mood, in which everything is seen as boring. Earlier, this possibility was discussed as chronic or pathological boredom. In this state, the individual cannot think of any activity which would be interesting. He or she may have things to do, but doesn't feel like doing any of them. "I was bored doing difficult homework on a Sunday, so I tried to do other things and then go back to the homework. But I was already too bored, so the other things seemed equally boring, even though they may really have been interesting." "I sat on the sofa trying to think of something to do, took out a book to read but couldn't concentrate, went to bed but couldn't sleep, so I switched on the TV but the program made me even more bored." The bored mood may be relatively short-lived, perhaps just one rainy Sunday afternoon, or may be more persistant as shown in the quotes below. "I feel bored and frustrated with everything. Life is meaningless." "The whole pattern of life, busywork, and shallow relationships is boring." "Nothing seems to be pleasing or motivating".

People are bored off the job for a variety of reasons. However, these reasons (with the exception of bored mood) could be collapsed in to the same categories as emerged for work boredom: nothing to do, dull or disliked task, and boring people. As with work boredom, both constraint and discomfort seem to intensify feelings of boredom, what ever its original cause. "I was waiting for a bus to go home. I was hungry, the mosquitoes were biting me, there was nobody to talk to, and the bus didn't come for ages." "My broken leg was hurting and it also kept me from getting out of the house to go anywhere." were typical examples of constraint plus discomfort intensifying boredom.

Responses to Non-work Boredom

Commonly mentioned responses to non-work boredom are listed in table 1. Boredom was simply tolerated by 15% of respondents, primarily by those who were constrained to a

boring situation or who did not understand a subject being taught or studied. Day dreaming was also a frequent response when waiting or otherwise constrained to a boring situation. Sleep was occasionally chosen as an escape from having nothing to do at home alone, and from having to do a disliked task. Physical activity generally seemed to be an effective way of relieving boredom from all causes. Eating, reading, and playing the TV or radio were reported to be effective in relieving boredom only about half the time. Respondents often engaged in several of these activities in sequence, finally finding one which caught their interest. Looking for others was a common response to being at home alone. It was successful in relieving boredom only when others could be located and were free to chat or join the bored person in an activity. When respondents were bored in groups, smoking, drinking, and taking drugs were occasionally mentioned as responses, usually unsuccessful, to overcome boredom.

Insert Table 1 About Here

Summary

Combining the results of the qualitative study with the empirical and conceptual literature reviewed earlier suggests the following composite typology of boredom causes occuring both on and off the job:

- Boredom due to situational causes:
  - Short-cycle, repetitive, undemanding tasks
  - Vigilance tasks
  - Constraint to a low stimulation setting
  - Constraints on allowable subsidiary behaviors
  - Nothing to do
  - No other people around
- Boredom due to individual causes
  - Chronic pathological boredom/bored mood
- Boredom due to individual X situation causes
  - Mismatch between current activities and individual's interests
  - Lack of understanding of task
  - Abrupt drop from one's previous activity level
  - Company of other(s) regarded as dull or unfriendly
  - Strong and frustrated desire to be elsewhere or to be performing another activity
  - Procrastination when disliked task should be performed
  - Youth, intelligence, extroversion, high optimal arousal level combined with low stimulation task

Some of these causes tend to occur together in natural settings, and it may not be feasible or necessary to isolate each for research purposes. However, one could count the

number co-occuring in any given setting, and expect this number to be positively correlated with the intensity of boredom experienced.

In the case of the Marines who expressed boredom when interviewed in California and Okinawa, many of these causes were present. The respondents were young, and since most had volunteered for the Marines, it seems likely that they were higher than average on sensation seeking. Both of these characteristics seem to predispose people to feel bored when placed in a relatively low stimulation environment. Several Marines commented that life on base was especially boring in contrast to boot camp, where structured activities filled every waking moment. Constraint was also experienced compared to the freedom enjoyed previously as civilians. Tasks tended to be menial, repetitive, and interspersed with long periods during which there was nothing to do. Field exercises were eagerly anticipated as an enjoyable change of pace.

Although not mentioned in the literature or the qualitative study using student samples, another possible cause of boredom and disinterest could be unmet expectations. Life on base may have seemed especially boring when compared to what was expected. Many of the Marines thought they would be kept busy with training, seeing the world, or engaging in heroic combat, as shown in recruiting materials and war movies. The reality of being soldiers in peacetime was quite a different experience.

Before research on these boredom causes can proceed, we need to have reliable ways of measuring boredom. The next section considers past approaches to this measurement problem and suggests some future directions.

Measures of Job Boredom

As noted in the preceding section of this paper, boredom has been conceptualized and researched in a variety of ways. At least four methods of assessing boredom either directly or indirectly have been reported in the literature: 1) physiological measures of arousal, 2) objective measures of output, 3) objective or self-report measures of "subsidiary behaviors", and 4) subjective reports of affect, boredom, or time drag. Physiological indices have proved to be unreliable measures of experienced boredom and will not be discussed further in this paper, but the other methods of assesing boredom will be describeed and evaluated below.

Output

Early researchers believed that boredom strongly affected output and in fact could be assessed by measuring output amount or pattern. Wyatt et al. (1937, cited in Davies et

al. 1983) distinguished between output curves indicative of fatigue, in which output declines over the work period, and curves indicative of boredom, in which output begins low or falls as boredom sets in, then rebounds as the end of the work period is anticipated. Other researchers have assessed average levels of performance and errors, performance decrement over time, variability in response speed, or awareness of errors (McBain, 1961; 1970; Thackray et al. 1974; Thompson, 1929). Attempts to correlate these performance measures with the subjective experience of boredom have been infrequent and the results mixed. Thackray, Bailey, and Touchstone (1977) found that subjects who reported being highly bored by an air traffic control task had longer response times than those who were not bored. In a study conducted in a sewing factory, Smith (1953) found no evidence of a relationship between output pattern and reported boredom, and Locke and Bryan (1967) found no relationship between the latter and performance level. Thus, objective measures of output level or pattern do not seem to be reliable or construct valid ways of assessing boredom, though they may be related to experienced boredom in some situations.

Subsidiary Behaviors

Given that boredom can occur when stimulation from the required activities of the job is uncomfortably low, one might expect that boredom would lead to the seeking of additional stimulation. Thus, one might observe bored workers experimenting with different methods of doing their jobs as one way of introducing variety into a monotonous situation. Hill (1975a) found that extroverts, who are considered to be more susceptible to boredom, varied the pattern used in performing a simple task more than did introverts. Runcie (1980) describes how bored auto workers doubled up on jobs or increased work tempo in alternation with unsanctioned work breaks to add variety to their assembly line jobs. They also engaged in occasional minor sabotage, theft, or destruction of equipment for a change of pace. In addition to increasing stimulation directly from the work itself, bored workers may engage in subsidiary behaviors such as talking, singing, daydreaming, solving mental puzzles, playing games, fidgeting, looking around, and so on (Grubb, 1975; Kishida, 1977; Runcie, 1980; Smith, 1953). On tasks requiring continuous attention, such as inspection and vigilance tasks, subsidiary behaviors seem to damage performance (Kishida, 1977). However, on tasks which can be performed relatively automatically, such behaviors may not be related to output, and on tasks of intermediate attention demand, such as driving, these activities may even increase alertness and thus performance (McBain, 1970).

Smith (1953) found that frequency of subsidiary behaviors was not related to self-reported boredom. However, Davies,

Shackleton, and Lang (1972) reported a correlation of .40 between a single item measure of boredom and self-reported day dreaming on a 30 minute problem solving task. It seems likely that individuals may undertake subsidiary behaviors because they are bored, and that these behaviors may have varying degrees of effectiveness in relieving boredom. In addition, multiperson subsidiary behaviors such as talking and game playing may be displayed by some people who are not bored, after being initiated by those who are bored. Individuals who do not engage in subsidiary behavior either may not be bored, or may be bored but be unable or unwilling to do anything about it. These mechanisms would account for the unreliable relationship between subsidiary behaviors and reported boredom.

It appears that subsidiary behaviors are not an acceptable measure of boredom, but may be an interesting behavioral phenomenon in themselves. Further research on subsidiary behaviors and their relationship to performance on tasks of varying levels of attention demand and to experienced boredom might prove quite fruitful. Schrank (1978) has suggested that satisfaction on monotonous jobs can be increased by allowing workers the freedom to engage in the same non-work behaviors enjoyed on the job by white collar personnel. These include talking with coworkers, making personal phone calls, taking unscheduled breaks, and so on. He calls this "smoozing", and suggests that it may be the most effective way to improve the experience of work when technology requires repetitive work procedures.

Self-report

The final approach to measuring boredom is simply to ask respondents how bored they feel. Smith (1953) endorsed this direct approach, since boredom is a subjective state only loosely related to environmental antecedents or observable employee responses. The authors agree that this direct approach seems preferable to the indirect measures discussed above. If boredom is to be assessed in this way, then a reliable set of questions is needed. Unfortunately, most researchers have utilized one item measures or subjectively scored interviews to assess level of boredom. Several researchers have constructed multi-item scales, but only one reports on the psychometric characteristics of his measure. These scales will be described below.

Smith (1955) used the scale shown in Table 2 to assess boredom among knitting machine operators. No psychometrics were reported for this scale, the rationale for the weighting system is unclear, and many of the items are leading, but total score did correlate as expected with several individual difference measures thought to influence boredom susceptibility.

Insert Table 2 Here

Grubb (1975) began with 25 items related to experienced boredom, time drag, fluctuations in job liking, monotony, subsidiary behaviors, and restlessness at work. By means of a cluster analysis which is not well described in his paper, he derived two boredom subscales, one for cognitive boredom and one for affective boredom. Reliabilities were not reported. Items in the two scales are shown in Table 3. Some of these items, such as "How do you feel about your job?" seem out of place in a measure intended to assess boredom rather than more global job satisfaction.

Insert Table 3 Here

Drory (1982) has done the most thorough job of measuring boredom by questionnaire. He wrote items designed to assess boredom as monotony and lack of stimulation, constraint, and time drag. After administration to a group of 80 truck drivers, a factor analyses was conducted. One factor accounted for 84% of the variance, and the six items with factor loadings over .40 were retained in the scale. These items are displayed in Table 4. Drivers responded by indicating the percent of time during the drive which they felt as described in the item. Coefficient alpha reliability for this scale was .86. The scale is somewhat specific to the job of truck driver, and was developed on a very small sample. Clearly, there is room for additional scale development work on the subject of boredom.

Insert Table 4 Here

There seem to be several directions in which the subjective measurement of boredom could be expanded. First, it would be helpful to have a reliable set of items for measuring <u>transient boredom</u>--how bored a person feels right at this instant. A semantic differential type scale might be quite useful for this purpose. Second, a measure of how bored one <u>typically</u> feels in a given setting such as at work would be helpful. Third, it would be useful to be able to collect ratings on the <u>boredom potential</u> of a job, similar to the way in which the motivating potential of a job is measured. Pilot subscales might include repetitiveness and attention demand of the work, quantitative underload, and external control and constraints on subsidiary behavior. Fourth, measures of <u>chronic life boredom</u> as a relatively enduring aspect of personality could be explored. Finally, the earlier work on individual differences in susceptibility to boredom on monotonous tasks might be continued. Smith (1955) and Thompson (1929) had some success in this area.

More recently, Zuckerman and his collegues (Zuckerman et al., 1964; Zuckerman, 1971) have developed the Sensation Seeking Scale to measure individual differences in optimal arousal level. One subscale, reliable only for males, is called Boredom Susceptibility. It consists of 18 forced choice items. Choices scored on the Boredom Susceptibility scale are shown in Table 5.

Insert Table 5 Here

Suggestions for Research

The first step in researching boredom must be to develop reliable measures. First, scales are needed for assessing the level of boredom experienced by individuals both on and off the job, as mentioned above. With these measures as criteria, researchers can proceed to develop a checklist for objectively assessing the boredom potential of situations, perhaps following the composite typology given earlier. Second, it is necessary to determine whether feelings of boredom have any serious consequences. Do bored workers have lower quantity or quality of performance, more absenteeism, or a higher rate of turnover? In a military setting, is reported boredom both on and off duty related to performance, sick calls, substance abuse, unauthorized absence, nonjudicial proceedings, or reenlistment?

If boredom does have meaningful consequences, then a more thorough study of individual and situational precursors to boredom will be needed. To the extent that boredom is situationally determined, remedies such as increased on and off duty activites or reduced constraints might be appropriate. However, if individual differences or person X situation interactions are found to account for much of the variability in boredom, then individual characteristics might be used for selection and placement. Specifically, individuals with a high tolerance for monotony might be chosen for repetitive tasks or assignment to remote and unstimulating locations, and interest-content match could be given more weight in job assignment decisions.

A third possibility is that boredom may be socially transmitted. Recent research on perception of job characterstics indicates that when co-workers and superiors express opinions that a job is challenging or contains autonomy, for instance, they can influence both attitudes toward the job and perceptions of "objective" job characteristics in other workers (Thomas and Griffin, 1983). Thus, jobs may come to be perceived as boring by many workers if just one or two initially hold and express that opinion. In military settings, small groups (fireteams, platoons, squads) spend a great deal of time together both on and off duty, so the possibility of attitudes being

influenced by others seems particularly high. Once a situation is defined as boring by an opinion leader, group members may stop seeking out activities which might relieve the boredom. A study of mean differences in rated boredom and participation in on and off duty activites among small groups at the same base or camp (same objective environment) might prove interesting. If boredom is socially defined by co-workers, the suggested remedy would be quite different than if boredom is determined predominantly by the objective situation and/or by individual differences.

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Table 1

Reactions to Non-work Boredom

Tolerate it

Leave the boring situation permanently,
or take a break then resume same activity

Sleep

Turn on TV or radio

Read a book or magazine

Talk to others/Try to find others

Eat

Engage in physical activity
(jog, swim, clean house)

Use drugs or alcohol

Day dream, play one-person games, write or draw

Other
go shopping, change the subject of conversation,
try to get a job, sign up for a course

Table 2

Smith's Boredom Items and Weighting Scheme

Question	Answer	Weight
Do you often get bored with your work?	yes	1
	?	0
	no	-1
Is your job too monotonous?	yes	2
	?	0
	no	-2
Would you like to change from one type of work to another from time to time if the pay remained the same?	yes	1
	?	0
	no	-1
What time of day seems most boring to you?		
Any hour between 7:00am and 3:00pm		1
3:00pm to 4:00pm		0
Any hour outside working hours		0
How well do you like the work that you do?		
I think that it is extremely monotonous		1
I think that it is very monotonous		1
I think that it is pretty monotonous		1
I think that it is not very interesting		0
I think that it is pretty interesting		-1
I think that it is very interesting		-1
I think that it is fascininating		-1
Is there anything about the work which you particularly dislike?		
It is too monotonous		10
Any other response		0

Table 3

Grubb's Job Boredom Scales

Cognitive Boredom

How monontonous is your job?

How bored--that is, disinterested in doing your job, do you usually feel?

How much does the boredom of your job bother you--that is, your disinterest in the job?

Affective Boredom

How often do you find that time seems to drag while you're working at your job?

When your shift is over, does it seem like no time at all to you since the shift began, or does it seem like a very long time?

How do you feel about your job?

How often do you find yourself wishing your job was more interesting or stimulating?

How often do you feel that you are just wasting your abilities on this job?

How often do you turn yourself off while you're working at your job?

How often do you daydream, just think, etc.?

How often are you restless--that is, uneasy, nervous, disinterested, impatient, etc.--while you're working at your job?

Table 4

Drory's Boredom While Driving Scale

What percent of the time on a drive do you experience:

Feeling bored.

Feeling that I wish to do something else now.

Feeling of monotony.

Feeling that time goes very slowly.

Feeling that nothing happens.

Feeling that I wish to be at the end of the road now.

Table 5

Zuckerman's Boredom Susceptibility Items

I can't stand watching a movie that I've seen before.

Although it is sometimes necessary, I usually dislike routine kinds of work.

I get bored seeing the same old faces.

When you can predict almost everything a person will do and say he or she must be a bore.

I usually don't enjoy a movie or play where I can predict what will happen in advance.

I would have preferred living in the unsettled days of our history.

A person should change jobs from time to time simply to avoid getting into a rut.

I like to try new foods that I have never tasted before.

Looking at someone's home movie or travel slides bores me tremendously.

I like to try new brands on the chance of finding something different or better.

I find people who disagree with my beliefs more stimulating than people who agree with me.

I prefer friends who are excitingly unpredictable.

I get restless if I have to stay around home for any length of time.

The worst social sin is to be a bore.

I wish I didn't have to waste so much of a day sleeping.

A good painting should shock or jolt the senses.

I enjoy a heated intellectual argument even if people sometimes get upset.

I have no patience with dull or boring persons.

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Orlando, FL 32813-7100

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NPRDC (Code 01)
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Director, Manpower and Personnel
Laboratory
NPRDC (Code 06)
San Diego, CA 92152-6800

Department of Administrative Sciences
Naval Postgraduate School (Code 54Ka)
Monterey, CA 93943-5100

Program Director
Manpower Research & Advisory Services
Smithsonian Instituition
801 North Pitt Street
Alexandria, VA 22314

Staff Specialist for Training
and Personnel Systems Technology
Office of the Under Secretary of
Defense for Research and Engineering
3D129, The Pentagon
Washington, DC 20301-3080

Technical Director
U.S. Army Research Institute for the
Behavioral and Social Sciences
5001 Eisenhower Avenue
Alexandria, VA 22333

Dr. Benjamin Schneider
Department of Psychology
University of Maryland
College Park, MD 20742

Dr. Albert S. Glickman
Department of Psychology
Old Dominion University
Norfolk, VA 23508

Prof. Bernard M. Bass
School of Management
University Center at Binghamton
State U. of New York
Binghamton, NY 13901

Library
Naval War College
Newport, RI 02940

Lt. Col. Les Petty
MMCE
Headquarters, USMC
Washington, DC 20380

Col. Hester
MMPE
Headquarters, USMC
Washington, DC 20380