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Assessing the Social Climate of Six Navy Schools

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Assessing the Social Climate of Six Navy Schools

During the last eighty years, the field of psychological assessment has expanded from the first intelligence scales to the latest techniques devised to reveal as much about an individual as possible. While test data from these instruments have been used to predict various performance criteria, limitations as to the predictability of these and background information variables have been reported by many investigators. Arthur (1971), for example, reviewed a number of prediction studies in the military and concluded that the use of individual characteristics as predictors resulted in validities of rarely more than .40. The difficulty of breaking through this prediction ceiling has caused many determined researchers to create or identify new variables that would, hopefully, boost their validities, and their egos.

Within the last two decades, and possibly dating back to Murray's work (1938), interest has been directed toward the influence of environmental characteristics upon human behavior. According to Moos (1975) and Stern, Stein, and Bloom (1963), elements within an individual's surroundings should be assessed along with individual determinants of behavior. During the last few years, Gunderson and his associates (Gunderson & Sells, 1975; Pugh & Gunderson, 1975), have been studying the effects of environmental conditions upon the health and performance of individuals within Navy environments. After identifying the environmental variables to be used as predictors, researchers may find that these variables add enough variance to raise the upper limits of many validities and, thereby, improve behavioral predictions.

Even though the field of environmental assessment is a relatively recent development, a number of researchers have created scales designed to measure

participants' perceptions of various environmental dimensions within different settings. Gunderson and his associates (1974) constructed a comprehensive habitability and shipboard climate questionnaire that was administered to sailors within many divisions aboard twenty ships. Results of their work showed that many occupational effects were significantly related to health and performance criteria. During the last decade, Moos (1973) has studied the effectiveness of environmental surveys in assessing such diverse settings as military training companies, correctional institutions, high school classrooms, mental institutions, and university dormitories. His intention was to identify similar underlying characteristics within dissimilar environments, a goal that proved accomplishable.

In addition to entering these variables into prediction equations, Moos (1975) suggested that environmental information should be used to describe, evaluate and, if necessary, change an individual's milieu. His method of assessment consisted of asking participants to rate their environments according to what they expected the environment would be like (expectations), what it was really like (real), and what it should be like (ideal); large discrepancies in an unfavorable direction between the real and the other measures would be indicative of a need for further consideration or change. Regardless of the environmental setting, the items on the questionnaires fell into ten subscales that were conceptualized as measuring relationship, personal development, and system maintenance variables. Moos also proposed that such environmental information could help in: facilitating environmental change, formulating clinical case descriptions, maximizing environmental information, transcending environmental pressure, and enhancing environmental competence.

As an attempt to describe and evaluate environments, the present project was designed to examine a method of assessing the environmental dimensions within Navy schools and to explore the performance of individuals within these settings. The method used to assess the social climate of Navy schools as perceived by students was based upon the technique developed by Moos and his colleagues (1973). Specifically, the objectives of this study were to: 1) assess the environmental dimensions within six Navy schools as perceived by Navy students, 2) identify differences in ratings between graduates and disenrollees of these schools, 3) determine differences and similarities across schools, and 4) evaluate the effectiveness of this method in accomplishing the objectives.

Method

Subjects Data collection for this study was conducted within six Navy schools at the Naval Training Center, San Diego, California between April, 1973 and July, 1974. The sample consisted of 6257 men and women who attended the following six schools: Data Processor (N=820), Machinery Repairmen (N=557), Mess Management Specialist (N=2028), Personnelman (N=671), Radioman (N=1500), and Yeoman (N=681). Although 6257 students were enrolled in these schools, the following percentages of sailors did not graduate: 6.3 percent for Data Processors, 12.7 percent for Machinery Repairmen, 3.1 percent for Mess Management Specialists, 9.1 percent for Personnelmen, 19.9 percent for Radiomen, and 19.5 percent for Yeomen.

Data Collected The questionnaires used for this study were adapted from the Work Environment Scale created by Insel and Moos (1974). Three forms of this scale were administered and contained 138 true-or-false statements. To simplify

the handling of the 138 items, Insel and Moos developed ten subscales or factors which consisted of between 11 and 16 statements. Many of the 138 items were modified or changed by the authors of this study to make them more relevant within a Navy setting. Wherever possible, the authors substituted Navy terminology for those words primarily concerned with industrial settings.

The questionnaires, titled the Navy Environment Scale, were designed to assess students' expectations, real perceptions, and ideal conceptions of school on the ten environmental dimensions. Form A (expectations of school) was administered within the first three days of the students' arrival whereas Form B (real perceptions of school) and Form C (ideal conceptualizations of school) were completed at a mid-point in the school program. The three questionnaires differed only in the verb tense of the individual statements; participants responded to basically the same items in terms of their expectations and actual perceptions of school as well as their conceptions of an ideal school program. For this study, therefore, students were administered the three versions of the Navy Environment Scale which contained the same 138 true-or-false statements modified to reflect their anticipated, real, and ideal perceptions within the school setting. Table 1 contains a brief explanation and an example of each of the ten subscales.

After computing subscale scores for each of the three administrations, differences between real perceptions and the other two measures were obtained for the ten environmental dimensions. Each individual who completed the three questionnaires would have twenty scores, ten expected-real discrepancies and ten ideal-real differences. Small discrepancies or a congruence between perceptions and expectations as well as between real and ideal perceptions would be suggestive

of satisfaction with the setting. Conversely, individuals who have large discrepancies between measures may be less satisfied with their environments, and their results would point up those areas possibly in need of change. Mean discrepancies for successful and unsuccessful students within schools and for all students from each of the six schools were compared for the purpose of assessing, describing, and evaluating six Navy school environments.

Analyses of the Data For each of the three test administrations, the subscales were computed by summing responses to those items that comprised each of the ten subscales. A "true" response to a statement was given a value of "1" and a "false" answer became a "0." Before the summations were calculated, the values for 48 negatively-worded items were reversed. After obtaining sums for the ten subscales on each of the three forms, differences between an individual's expectations and real perceptions as well as between his real and ideal perceptions were computed by subtracting real perceptions from the other two measures. Means and standard deviations for these twenty scores were calculated for the six groups of students and also for graduates and disenrollees within the schools. Comparative analyses across schools and between graduates and disenrollees were performed for the mean discrepancies.

The results of these analyses were divided into three phases and will be discussed in the following order: 1) comparisons of mean expected-real discrepancies were performed across the six schools to identify the largest significant discrepancies on the ten subscales among schools and significant differences between graduates and disenrollees within schools, 2) comparisons of mean ideal-real discrepancies were conducted across the six schools to find the largest discrepancies on the ten environmental dimensions and to determine if differences

existed between successful and unsuccessful students, and 3) differences and similarities across schools were identified after comparing schools on disenrollment percentages and mean ideal-real discrepancies.

Results

Comparisons of Students' Mean Expected-Real Discrepancies

In comparing the mean discrepancies between expectations and real perceptions across schools, statistically significant F-ratios were obtained for the ten analyses which indicated that student groups differed on all environmental dimensions. Of all schools, students from the Radioman school attained the largest mean expect-real differences for the subscales of Involvement, Staff Support, Personal Growth or Autonomy, Clarity, Innovation, and Physical Comfort. For the subscale of Work Pressure, students from the Yeoman and Radioman schools responded that the press of work tended to dominate the school environment more than had been expected; their means were the largest for this subscale. Although significantly different, the mean discrepancies for the remaining subscales were quite small, less than 1.3, suggesting that students' real perceptions were similar to their expectations. In other words, students appraised the subscales of Peer Cohesion, Task Orientation, and Control as being comparable with what they had expected. To summarize these comparative analyses, Radioman students felt that their school program emphasized less student involvement, support from instructors, clarity of the rules and regulations, innovative teaching techniques, physical comfort, and more work pressure (in agreement with Yeoman students) than had been expected. For the other subscales, the small mean discrepancies showed that the emphasis on these dimensions was comparable with students' expectations.

Within schools, disenrollees generally had larger mean expected-real differences than graduates even though only three of the comparative analyses reached statistical significance. Because there were so few significant differences, the results indicated that both graduates and disenrollees rated their schools very similarly.

Comparisons of Students' Mean Ideal-Real Discrepancies

Across all schools, significant F-ratios were obtained for all of the comparisons of the ten mean discrepancies between real and ideal perceptions. These results showed that there were differences across schools on the environmental dimensions and that the mean ideal-real discrepancies varied markedly from the smallest of 0.8 on the Control subscale to the largest of 6.3 on the Innovation subscale. Within individual schools, the largest mean ideal-real differences occurred for students from the Radioman and Yeoman schools on the subscales of Involvement, Peer Cohesion, Staff Support, Personal Growth or Autonomy, Work Pressure, and Clarity. While these students had the largest mean discrepancies for most of the subscales, sailors from the Yeoman and Personnelman schools received the largest means for Physical Comfort, whereas students from the Yeoman and Machinery Repairman schools scored the highest for the subscale of Innovation. Coincidentally, the largest means for these two dimensions were obtained by students assigned to schools with the least modern buildings and equipment. Across all schools, the smallest means resulted for the subscales of Task Orientation and Control; most students, therefore, felt that the emphasis on these dimensions was just about right within their schools.

In comparing the means of graduates and disenrollees, few significant differences were obtained within schools; five of the comparisons between student

subgroups resulted in statistical significance. Even though not significant for all student groups, there was a tendency for most disenrollees to respond that their superiors, ideally, could have been more supportive, and that there could have been less pressure to complete work requirements and meet deadlines.

Differences and Similarities Across Schools in Discrepancies and Disenrollment Percentages

The findings of this study indicated that significant differences existed across schools in response to the ten environmental dimensions and that very few significant differences were obtained between graduates' and disenrollees' mean discrepancies. The results, furthermore, showed that the magnitude of the mean discrepancies differentiated among schools on the basis of their disenrollment percentages. That is, students assigned to schools with the largest disenrollment percentages also attained the largest mean discrepancies and, conversely, students who were enrolled in schools with very low drop-out rates had the lowest mean differences.

To elaborate, students from the Radioman and Yeoman schools, whose disenrollment rates were nearly 20 percent, had the largest ideal-real mean discrepancies for most environmental dimensions. The large discrepancies indicated that within their schools these students would like to see less emphasis on work pressure and increased emphasis on student involvement, peer cohesiveness, support from instructors, personal development, and a clarification of the rules and regulations. Although not the largest of all schools, their mean ideal-real differences for the subscales of Innovation and Physical Comfort were also elevated, suggesting that these students agreed on the need for changes in these environmental dimensions.

At the other end of the discrepancy and disenrollment rate continuum, students from the Mess Management Specialist and Data Processor schools had the smallest mean differences between real and ideal perceptions for the subscales of Staff Support, Personal Growth or Autonomy, Work Pressure, Innovation, and Physical Comfort. On the other subscales, these students also attained mean discrepancies that were among the lowest. These results suggested that Data Processor and Mess Management Specialist students did not feel as strongly as others about the need for changes in the environmental dimensions within their schools. The percentages of disenrollment for these two schools were the smallest of all schools, 6.3 percent for Data Processors and 3.1 percent for Mess Management Specialists.

Figure 1 is a graphic presentation of the mean ideal-real discrepancies for students from the schools with the largest and smallest disenrollment percentages: Radioman school with a disenrollment rate of 19.9 percent and 3.1 percent for the Mess Management Specialist school. To interpret this illustration, the middle value of "0" indicates congruence between ideal and real scores, whereas positive mean discrepancies indicate a need for increases in those dimensions and negative mean discrepancies suggest a need for decreases in those areas. In comparing means from these schools, the figure showed that students from both schools generally agreed that their school tasks could be slightly more work-oriented (Task Orientation) and that the emphasis on control could be decreased slightly. For the other environmental dimensions, the differences between the two student groups were quite large with the largest disparities occurring for the subscales of Staff Support, Work Pressure, Clarity, and Innovation. The "peaks and Valleys" indicated that Radioman students felt there was too much

pressure within their school and not enough student involvement, support from instructors, and innovative changes. Improvements could also be made in the physical surroundings and in clarifying the rules and regulations.

Discussion

As stated above, the purpose of this study was to explore the usefulness of one technique in assessing sailors' perceptions of Navy schools and in identifying differences across schools and between successful and unsuccessful participants within the six schools. Results of this study showed that this method was effective in assessing the social climate of these Navy schools and in attaining a great deal of variability in response to the ten subscales. Within the six settings, mean ideal-real discrepancies differed markedly across the dimensions whereas mean expected-real differences seemed to be less variable and smaller in magnitude. For comparisons across the six schools, significant differences were obtained for both the ten expected-real means and the ten mean ideal-real discrepancies. In comparing graduates' and disenrollees' means, however, very few distinctions were obtained.

Perhaps most important, this method seems to be particularly effective in differentiating schools with the largest disenrollment percentages from those with relatively low percentages. That is, students from the Radioman and Yeoman schools, whose disenrollment rates were nearly 20 percent, attained the largest mean ideal-real discrepancies whereas Data Processor and Mess Management Specialist students had the lowest mean differences and also the smallest disenrollment rates. Differences in their means indicated that Radioman and Yeoman students expressed a greater desire to see improvements made in their schools than was found for Mess Management Specialist and Data Processor

students. Since there were few distinctions between graduates and disenrollees, it was apparent that most students, graduates and disenrollees alike, had similar feelings about their school settings. These findings showed that this method was more effective in providing feedback about the climate within these schools than in differentiating successful from unsuccessful students.

The results of this study also suggested that this technique can be useful in identifying those environmental dimensions that individuals considered most important or in need of change. If modifications are contemplated by administrative personnel within schools with the largest disenrollment percentages, these data would show that students would prefer to see more emphasis on innovative techniques, comfortable surroundings, support from instructors, student involvement, understandable rules and regulations, and less emphasis on work pressure. If changes in the school program are implemented, it would be possible to use this method to reassess these dimensions at a later time to determine if improvements had taken place.

In addition to using these results to evaluate and change environments, Moos (1975) suggested that this information could help individuals in their adjustment to environmental settings. Information showing student perceptions of these settings would provide prospective members with descriptions that could modify expectations, enhance adjustment, and influence decisions to choose an occupational specialty. If evaluations of numerous environments were available to prospective members, the task of selecting one may be simplified.

And finally, characteristics of individuals who adjusted successfully to these settings could be isolated and used to identify comparable qualities in

prospective members. Selection techniques based upon a composite of these variables could possibly prove beneficial in reducing the number of disenrollments from schools and subsequent discharges from the Navy for reasons of unsuitability and unfitness. Future research projects have been designed to pursue these endeavors.

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TABLE 1

Navy Environment Scale: Descriptions of Subscales

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|-----------------------------------|--|
| 1. Involvement | This subscale measures the extent to which enlistees are concerned or committed to their jobs. One example of this 11-item subscale is: "Students put quite a lot of effort into what they do around here." |
| 2. Peer Cohesion | The 14 items in this subscale measure the extent to which sailors are friendly and concerned with each other, i.e., "Students often talk to each other about their personal problems." |
| 3. Staff Support | This subscale of 13 items relates to sailors' feelings about their superiors and how they perceive that superiors treat them, i.e., "Superiors usually compliment a student who does something well." |
| 4. Personal Growth
or Autonomy | This subscale (14 items) assesses the extent to which a sailor feels that he will grow, live up to his potential, assume responsibilities, and pursue opportunities in the Navy, i.e., "Superiors meet with students regularly to discuss their future work and career goals." |
| 5. Task Orientaton | The 15 items in this subscale measure the importance of efficiency and getting the job completed, i.e., "There's a lot of time wasted here because of inefficiencies." |
| 6. Work Pressure | This subscale of 15 items assesses the amont of pressure that is felt by sailors in completing a task or meeting a deadline, i.e., "There always seems to be an urgency about everything here." |
| 7. Clarity | This subscale (14 items) pertains to the extent to which recruits and sailors know what to expect within their environments and how effectively rules and details of jobs are communicated, i.e., "Students are often confused about exactly what they are supposed to do." |
| 8. Control | This subscale consists of 13 items designed to measure the importance of rule enforcement, punishments, and close supervision, i.e., "Superiors are always checking on students and supervise them very closely." |
| 9. Innovation | This subscale (16 items) assesses the extent to which variety, change, and new approaches are emphasized, i.e., "Variety and change are not particularly important here." |
| 10. Physical Comfort | This subscale of 13 items measures the importance of the physical surroundings, i.e., "The physical surroundings here are pleasant enough to work in." |

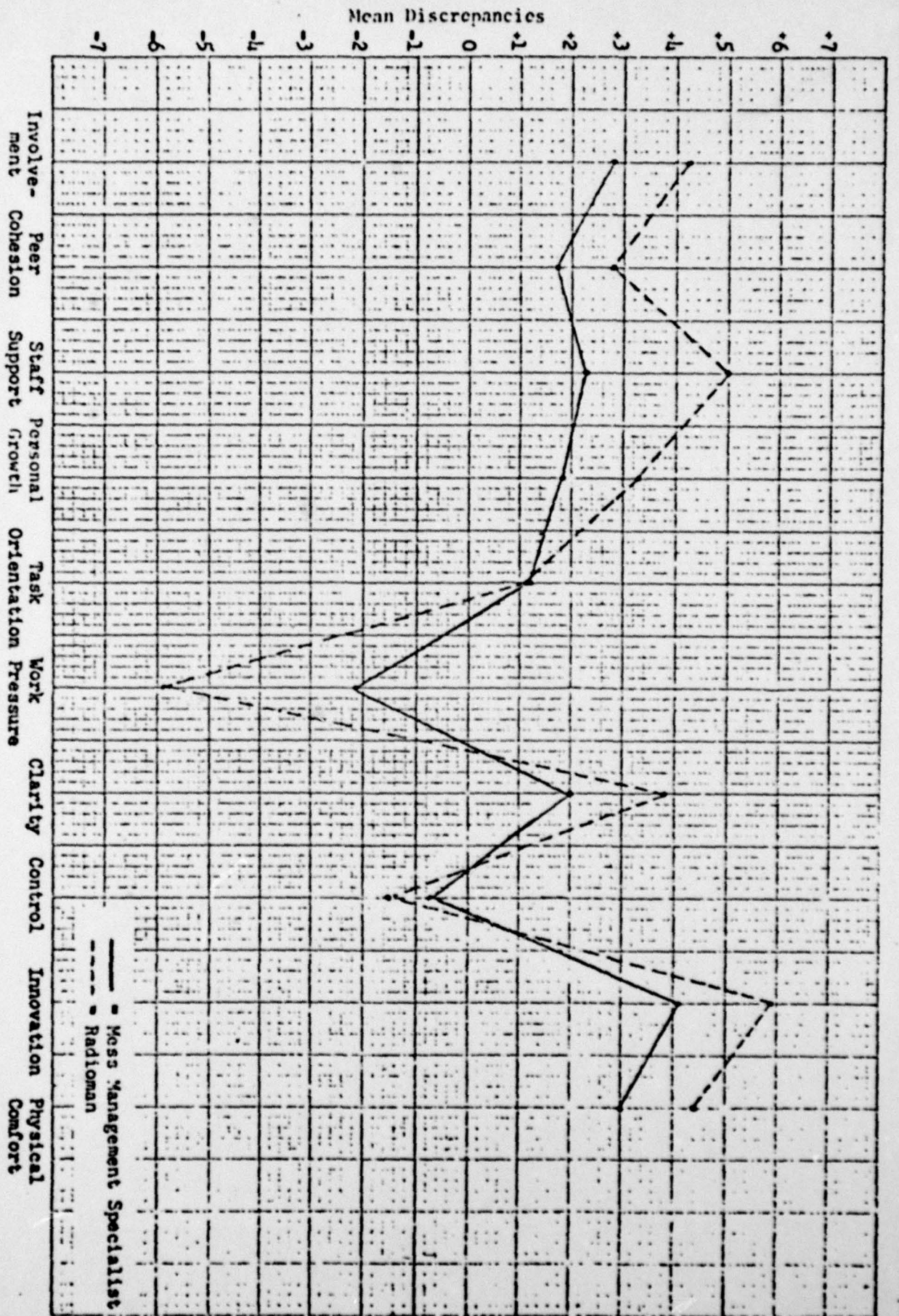


FIG. 1 Discrepant means between actual and ideal perceptions for two student groups

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20. With the largest disenrollment felt that their schools could emphasize less work pressure and more student involvement, staff support, clarity of the rules, innovative changes, and comfortable surroundings. These findings could be used to facilitate environmental change and provide information to prospective students about the social climate within their schools.

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