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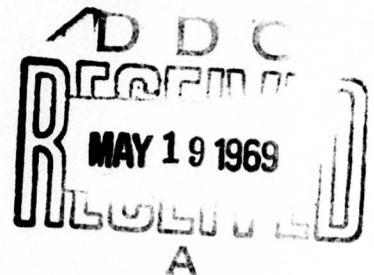
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SOME FURTHER NOTES ON ISRAELI PSYCHOLOGY: 1969

By JOSEPH ZEIDNER

1 May 1969

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## INTRODUCTION

This is the fifth ONR London report on behavioral science in Israel within the last decade. (See Chapanis ONRL-36-61; Lanzetta ONRL-29-63; Rasmussen ONRL-44-67; and Sinaiko ONRL-24-68). One reason for the close coverage given to psychology in Israel is because of its high level of activity and dynamic growth rate. It has, proportionately, one of the highest concentrations of psychologists in the world, about per capita equivalent of the United States. Another reason is the similarity of technical approach in the two countries. Indeed, a significant percentage of on-going research is contracted by US government agencies and foundations. Not only has there been an exchange of information, but strong professional ties have been developed over the years as well. The most important reason for the close liaison, however, is the quality of research being accomplished. All of the previous reports have stressed the remarkable range of studies and the sophistication and vigor of the professional community.

For interested readers, the previous reports taken as a whole constitute a comprehensive view of the development and status of behavioral science in Israel. All essential topics have been covered in these reports, including journals, university training, research institutions, military psychology, applied studies related to the unusual problems of cultural heterogeneity, professional affairs, and background of prominent scientists. This report therefore is delimited to presenting some current research activities at the major institutions and general information which has not been previously described.

## THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University was founded in 1925. It currently has 12,000 students in eleven faculties and schools. At about the time of the emergence of the State of Israel, the University created a Department of Economics and Social Sciences as a first step in developing study in this area. In 1953, the expanding program was given the status of a School, and this in turn developed into what is now the Faculty of Social Sciences. The Faculty offers study programs in eight subject areas, including psychology. There are about 400 psychology majors at the undergraduate level and 60 at the graduate level. Of about 400 applicants for training, less than 100 are accepted for the freshman class.

The course of studies leading to the BA degree generally extends over three years. The student is required to concentrate his studies in two departments. These departmental studies are designated as the student's main subjects. In addition to departmental requirements, the student must take a set of courses comprising basic studies.

As has been indicated by previous liaison scientists, there is a great deal of similarity in physical appearance of offices and laboratories of the Department of Psychology with those in the United States. The

facilities are quite good by any standard. A number of the staff are Americans or American trained, and while lectures are generally given in Hebrew (except for those of visiting professors), nearly all assigned texts and journals are in English. The Department also has a PhD program which follows the traditional European pattern.

Currently under construction is a Center for Human Development. Its director will be Prof. Shlomo Kugelmass, an American with a PhD from Columbia University. From 1953 to March 1963 he served as Chairman of the Department. The Center will coordinate research in human development from early childhood to late adulthood. It hopes to be a focal point for cross-cultural research in human development by establishing close communications with researchers abroad and providing facilities for collecting, processing and storing data.

The full- and part-time members of the Department along with their highest degree and current interests are listed below. In addition there are ten instructors.

- Professor:** L. Guttman, PhD, 1942, Minnesota (attitude surveys, statistical methodology)
- Associate Professor:** S. Kugelmass, PhD, 1953, Columbia (psychophysiology, perception)
- Senior Lecturers:** S.N. Herman, PhD, 1949, Witwatersrand, South Africa (linguistics, group dynamics)  
D. Kahneman, PhD, Berkeley (vision, human factors)  
R. Kohen-Raz, PhD, 1954, Zürich (educational psychology)  
A. Minkowich, PhD, 1958, Michigan (motivation, risk-taking)  
E.O. Schild, PhD (gaming models, simulation)  
Head of Department  
J. Shanan, PhD, 1956, Chicago (psychotherapy, cross-cultural)  
A.A. Weiss, PhD, 1937, Vienna (projective technique, visual motor)
- Lecturers:** K. Benyamini, PhD, 1963, Michigan (educational, experimental)  
S. Breznitz, PhD, 1967, Hebrew (stress, physiological)  
R.R. Eiferman, PhD, 1958, London (socialization, human development)  
C.W. Greenbaum, PhD (social, concept information)  
W.L. Klein, PhD (psychotherapy)  
M. Lasman, PhD (physiological)  
I. Lieblich, PhD (stress, psychophysiology)  
A. Rapoport, PhD (decision-making models)  
I.M. Schlesinger, PhD, 1964, Hebrew (linguistics, measurement)  
A. Tversky, PhD (decision-making, measurement)  
M. Zemach, PhD (marketing)

Research Fellow: R. Guttman, PhD (behavioral genetics)

Selected on-going or recently completed research studies not yet published are given below. The descriptions of these studies are taken from Research Report 1968, Volume III. The Report also includes the titles of nearly 150 studies published in scientific journals by psychology staff members during the 1966-1967 period. Most of the publications appear in US journals.

"The Analysis of Diagnostic Effectiveness of a Facet-Designed Battery of Achievement and Analytical Ability Tests," L. Guttman and I.M. Schlesinger

The general purpose of this study was to carry out a deeper analysis than usual of the internal structure which holds in a battery of achievement and intelligence tests, with a view to enhancing their diagnostic value. It was carried out through the facilities of the Israel Institute of Applied Social Research with the cooperation of the Ministry of Education, and a grant from the U.S. Office of Education. The basis for the study was a battery of achievement tests and analytic ability tests, constructed by facet design. The facet approach to test construction makes it possible to arrive at items by a systematic a priori design, instead of the usual process of designing test items (which is largely based on intuition and subsequent weeding out of items by heuristic statistical analysis of test results).

Test results of a sub-sample of 600 subjects were transferred to IBM cards and analyzed by the new computer techniques, G-L SSA-I, G-L SSA-II and G-L MSA-I.

While the main efforts of the study were directed towards an exploration of the utility of the new kinds of nonmetric analyses in the area of testing and their adaptation for diagnostic purposes, there are a number of substantive results which should prove to be of immediate practical value:

- (a) There exist stages of development and achievement in the various areas tested.
- (b) There are certain kinds of systematic difficulties which can be diagnosed by facet design and by analysis of test distractors.

"Reactions to Stress," S. Kugelmass, S. Breznitz and I. Lieblich

This research program has attempted to evaluate the reactions of human beings to stress situations. Within the general program there have been three lines of research: an evaluation of GSR as a discriminatory index of emotion under different levels of stress, a study of the influence of time on the "fear reaction" to threat and the possible ordering of individual differences in the reactions to the stress situations. Emphasis has been recently placed on the analysis of an experimental lie-detection paradigm tried with children, students and police trainees. This analysis indicates that the GSR continues to be a useful channel for detection under various

levels of stress. Preliminary findings suggest that age, ethnic background and years of education may be relevant variables which influence differential GSR activity.

"Temporal Factors in Vision," D. Kahneman

Two time-dependent phenomena of perception were studied. In apparent motion, a simple illuminated square which is rapidly followed by another in a different location is seen as moving smoothly from the first location to the second. In metacontrast, a simple square followed by two adjacent squares fails entirely to be seen.

A first experiment demonstrated that apparent motion and metacontrast are closely related effects. Variations of the exposure duration of the two stimuli and of the interval between them have similar effects on the two phenomena. An onset-onset law applies: the quality of both apparent motion and metacontrast depends only on the interval between the onsets of the two stimuli. This law applies strictly up to exposure durations of about 100 msec. The disappearance of the initial stimulus in metacontrast is the counterpart of optimal motion in the two-square presentation: both effects are most obvious at an onset-onset separation of 100-120 msec. Metacontrast was interpreted as a case of impossible motion, a failure of form-synthesis produced by simultaneous cues for incompatible motions of a simple object.

A second experiment extended the study of apparent motion to cases in which the duration of the stimuli is longer. The suggestion was made that the duration of an elementary visual response does not vary with stimulus durations up to a value of 100 msec. Increments of stimulus duration beyond that value produce corresponding increments of response duration; the apparent motion effect depends on the interval between the termination of the first response and the onset of the second. Derivations from the model concerning the effects of stimulus duration on motion were confirmed.

A rather novel method of investigation was employed in both studies: the perceptual effects (motion, metacontrast) are described to naive subjects who then rate the correspondence of their experience under various conditions to the standard description. This type of design provides an objective approach to the measurement of changes in phenomenal experience as a function of stimulus conditions.

"Situational, Motivational and Affective Determinants of Risk-Taking Behavior," A. Minkowich

The study is an extension of a former, more encompassing project on risk-taking behavior. The topics of investigation in this study are as follows:

(1) It was postulated in the former project the existence of a motivational component in risk-taking activities, in addition to payoff utilities. The hypothesis obtained support from findings of two experiments which

demonstrated the sensitivity of risk tendencies to arousal procedures (deprivation resulting from the interruption of an ongoing risk activity). In the present study, it is planned to examine the generality of the former findings by a number of experiments in which arousal procedures and the nature of risk tasks will be varied.

(2) Another objective is to investigate the effect of experimentally aroused aggression toward the experimenter on subsequent risk-taking behavior. It is hypothesized that the induced aggression will be displaced onto the risk-taking task and heighten the individual's level of risk in subjects.

(3) The third objective is to test the reliability of the two following tendencies in risk-taking behavior: (a) conservatism vs. high risk and (b) stability vs. vacillation of choices. This will be done by a repeated administration of risk-taking tests to the same samples with an interval of six months between first and second administration.

"Culture and Simulation Structure as determined in Life Strategies in the US and Israel," E.O. Schild and S.S. Boocock (Dept. of Social Relations, Johns Hopkins University)

The purpose of the study is to assess learning by adolescents induced by participation in the parent-child game. "Learning" is meant not only as the shaping of strategies during the game but also -- at a later stage -- as generalization to the real-life situation.

While learning is thus the dependent variable, the independent variables are: (a) structure of the simulation (simulating authoritarian vs. non-authoritarian families); (b) personality trait (high F vs. low F) of the player; (c) real-life background of the player (authoritarian vs. non-authoritarian family). The players are drawn from different cultural backgrounds (in the US: white and Negro; in Israel: Western and Oriental).

At present we have collected some data to enable adaptation of the original simulation to Israeli conditions and developed instruments to measure the variables.

Serendipitous observations which have called for further efforts have been: (a) an apparently lower involvement of Israeli children (gifted, average and "culturally disadvantaged") in the games, relative to Americans; (b) greater severity on the part of Israeli parents towards their adolescent children than that reported in American studies. Neither of these assertions is as yet validated, but based on arbitrary (though large) samples and/or impressionistic -- albeit striking -- observations.

These observations have then necessitated some rethinking, both on the validity of the simulation and on the cultural conditions for effective learning in games.

"Teacher's Model of the School Pupil," K. Benyamini

The incongruency between the concepts, approaches, and attitudes of traditional clinical psychology and those prevalent in education causes intrinsic problems in psychological counseling to the schools. To overcome this difficulty, an attempt is being made to construct a psycho-educational model of the school pupil, based upon teachers' explicit and implicit concepts. Such a model is to provide an account of children's normal and deviant school behavior, furnish guidelines for school-relevant psychological assessment, and form the basis for educationally meaningful treatment methods.

In two previous unpublished studies,<sup>\*</sup> a method was devised through which it is possible to derive from teachers a valid model of the pupil. The research work now under way is expected to yield a general model of the pupil as viewed by the teachers, and a number of age- and school-type-specific ones.

"Schoolchildren's Games and the Modes of Organization of their Play Groups," R. Eiferman

During the two stages of the investigation (1964-1966), observations of children in freely formed play groups were conducted in 27 Israeli schools, Jewish and Arabic. The cumulative record of play participants throughout the complete observation period amounted to over one hundred thousand and twenty units. Amongst the variables recorded with reference to each play group were its size, its composition by grade and sex, ethnic or religious affiliation of the participants, length of play, incidence of quarrel, play area and surface and the name of the game. An Encyclopedia of Games has been compiled, in which some five thousand descriptions of games and their variants have been systematically categorized and encoded.

Examples of the type of analysis conducted on the data thus far are the following: "supergames," which never disappear from the play scene, have been distinguished from "periodic" and "sporadic" games, and characteristics which determine the life span of a game have been defined. An analysis of the extent of interaction in play between boys and girls has revealed that about one-quarter of them play in mixed groups, though there is considerable variability in this respect, depending on age and culture. In all cases, however, more girls play with boys than vice versa, and, indeed, girls have fewer games which they can call entirely their own. Typical boys' games have been distinguished from typical girls' games, according to such characteristics as extent of interdependence between players, outcomes of winning and losing (both more characteristic of boys' games), and precise prescription of action sequences (typical of girls' games).

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\* Benyamini, K. Personal Traits of Driver Licensing Testers. Office of the Civil Service Commissioner, Government of Israel, 1965. Benyamini, K. Psychologist's Model of the School Teacher. 1967

The data analyzed have theoretical implications related to child development on the one hand and to the nature and functions of play and games on the other; it is also of immediate practical relevance to such problems as the design of playgrounds and play sessions, and to the planning of educational games and toys.

"Personality Variables and Behavior Change," C.W. Greenbaum and Y. Eshel

Previous work on the development of projective measures relating susceptibility to influence appeals was continued. One study, using a sample of eighth-grade kibbutz children, developed a projective measure of cynicism, which utilized internal checks on construct validity as well as an attempted external criterion, namely, judgments by teachers of the degree of cynicism of their students. The internal analysis yields promising evidence of validity: an external criterion, judgments by teachers of the degree of cynicism of their students, yields equivocal results with respect to validity.

In a second study, a number of projective measures of risk-taking in driving situations was tested on a sample of bus drivers. The drivers were also exposed to a highly realistic film depicting the results of auto accidents. The purposes of the study were to detect personality measures related to good and poor driving and to determine which personality characteristics were related to influence in the direction of better driving and more positive driving attitudes.

The results indicate a number of interesting relationships between answers to the projective measures and driver behavior. The effects of the film on driver attitudes and behavior are currently being analyzed.

"Manipulation of Contrast between GSR Differential Reactivities through the Use of Ordered Tasks of Information Detection," I. Lieblich

Three facets involved in arousal of attention were identified: (a) frequency of usage of the stimulus by the organism; (b) relevance of the stimulus to the organism; (c) the use of the verbal channel as a response to stimulus presentation. Stimuli sequences for information detection were constructed by combining these facets and physiological responsiveness was observed using the GSR channel. It was hypothesized that short-term physiological responsivity could be manipulated in an ordered fashion using a combination of the above-mentioned facets. Each one of 54 students and 26 four-year-old children was tested in six experimental conditions. It was found that manipulation was possible in the predicted direction.

"Advantage Theory: A Model of Value and Choice," A. Tversky

"Most probabilistic theories of choice behavior are based on the assumption that the probability of choosing one alternative (x) over another (y), denoted  $p(x, y)$ , is expressible as a monotone function of the scale values of the alternatives. Although this assumption has underlain most research in this area, both theoretical and empirical considerations indicate that it is inadequate. This is the case because observed choice

probabilities reflect not only the discrepancy between the scale values of the alternatives but also the difficulty of comparison. In order to account for observed choice probabilities, a theory based on the concept of advantage has been developed. From a psychological viewpoint, the advantage of  $x$  over  $y$ , denoted  $A_{xy}$ , is the sum of all the evaluative components, or aspects, that exist in  $x$  but not in  $y$ . The theory assumes that the alternatives can be ordered by some evaluative process (e.g., magnitude estimation, cash equivalence) and that this order satisfies the additive conjoint measurement model. The theory is currently being tested in a series of experiments using alternatives such as hypothetical college applicants varying in intelligence and in personality scores, gambles varying in probability and outcome and dot patterns varying in area and density. The advantages of the alternatives are then derived from the data, via the additive model, and used to predict the choice probabilities between the alternatives. In the next stage of the research, the advantage model will be applied to more complex situations such as political and economic choices (e.g., selection of candidates and products).

"Variation in Activity Scores and Sequences in Two Inbred Mouse Strains, Their Hybrids and Backcrosses," R. Guttman, I. Liebllich and G. Naftali

Nine hundred and twenty mice, consisting of DBA/IJ, C57BL/6J, their  $F_1$ ,  $F_2$ , and backcross generations were tested in a barrier activity cage. The exact sequence of acts of each animal in the cage was recorded during a 5-minute test period. Two aspects of grooming behavior, jumping and peeking over the barrier, were observed and a defecation score. The mean number of motor acts per animal was highest in C57BL, lowest in DBA, and intermediate in hybrids. Grooming scores gave some evidence of heterosis. Estimates of degrees of genetic determination varied from zero for peeking to 46 percent for jumping. Typologies of the total trajectory of the animal in time have been worked out by means of a nonmetric computer technique, Multidimensional Scalogram Analysis. MSA-I space diagrams show well-defined DBA and C57BL regions in a two-dimensional space. The behavioral features distinguishing these regions were evaluated by analyses of certain stages in the behavior sequences as printed by the computer. The approach presented in this study attempts to define behavioral phenotypes in terms of developmental patterns which preserve the temporal order of the elements of the process within a specific time interval.

"The Effects of Stress on Risk-Taking," A. Leiblich

Risk-taking behavior was investigated as related to the kind of decision and to individual differences. This work manipulated a situational variable -- psychological stress -- and tested its effect on two kinds of risk tasks. Risk was tested in decisions based on "luck" or chance outcomes and in decisions where the outcome depends on the person's skill. These risk tests were administered in three experimental conditions: (a) neutral

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Approved as a PhD thesis under the supervision of A. Minkowich.

conditions; (b) relevant stress condition, in which the person perceives a contingency between his performance and the amount of stress; and (c) irrelevant stress condition, in which the person's behavior cannot affect the amount of stress he suffers. Thus, the research plan consisted of six experimental conditions: luck-risk in neutral, relevant and irrelevant conditions and skill-risk in neutral, relevant and irrelevant conditions. More than 400 subjects participated in the study.

The results of the study indicated different trends for the influence of stress on luck vs. skill tasks of risk. It was found that stress increased risk-taking behavior in the luck-test, while it decreased risk-taking behavior in the skill-test. No difference was found between relevant and irrelevant stress in the luck-test. However, in the skill-test the tendency to risk was significantly lower in the irrelevant stress as compared to the relevant stress condition. The later results implied that another factor is involved in the skill-test for risk, namely the motivation to succeed. This factor seemed to heighten risk whereas the anxiety in the stress conditions tended to reduce risk-taking. The suggested model leads to certain predictions that were confirmed in later research.

"Cross-Cultural Study on the Intellectual Abilities of the Pre-School Child,"  
A. Liebllich and S. Kugelmass

This study entails the standardization of the Wechsler Pre-School and Primary Scale of Intelligence (WPPSI), and the testing of differences in intelligence between groups of different cultural background. As a first step, a Hebrew version of the WPPSI was composed, and a pretest conducted on 100 children aged 4 to 6½. Following the collection of the data a revised Hebrew version was composed which is now used for the standardization. It is planned to test a sample of about 1,000 children in Israel until the end of June 1968. In addition to the intelligence examination information is being obtained on the socioeconomic background of the child and the origin of his parents. Some subsamples are also being administered various personality tests, and psychophysiological measures are being taken on others. These will provide richer information on the mental development of the child.

For a number of years research funds have come mainly from US governmental sources. Because of the recent severe cut-backs on foreign research by the US government, there is deep concern in all Israeli scientific circles over the impact this will have on research activities.

The psychologists at Hebrew University were among the most productive I have met anywhere. Possibly one reason for this lies in the necessity for Israeli psychologists to work at about the equivalent of 1½ jobs in order to achieve a reasonable standard of living. This is true despite the fact that university salaries are relatively good. Another contributing factor is the enthusiasm with which these individuals work. Their assistance is often requested on governmental projects concerned with defense and educational matters and also on a wide variety of social problems. They appear to be very well utilized and their recommendations are often followed. In addition, a great deal of stress is placed on

publishing as is so commonly the case in the US. Most of the individuals with whom I spoke in this Department are not adverse to working on applied problems, and where possible they are attempting to relate these problems to their longer range basic or methodological interests.

#### BAR-ILAN UNIVERSITY, RAMAT GAN

Bar-Ilan University was founded in 1955 with the additional aim of familiarizing students with the teachings and traditions of Judaism. The University is recognized by the Council of Higher Education in Israel and is chartered by the New York Board of Regents. Student enrollment is about 3800, including about 600 students from foreign countries. There are five major faculties or schools: Judaica Studies, Social Sciences, Language and Literature, Natural Sciences and Social Work. About 40% of the undergraduate body is studying in the Faculty of Social Sciences, and nearly 30% of these are majoring in psychology, making it the largest department in the University. In addition to undergraduate training, about 300 students are enrolled in MA programs, of which 75 are in psychology.

The campus is comprised of some 25 buildings and is situated in Ramat-Gan in the suburbs of Tel-Aviv. As is the case in almost all Israeli universities and research centers, there is an active building construction program underway. A new wing is being added to the building of the Department of Psychology which will consist mainly of laboratory facilities, including an animal psychophysiology laboratory.

Some 69 psychology courses are offered during an academic year. The program is patterned along the American style requiring four years of study. All majors, regardless of area of specialization, are required to take a large number of basic courses in statistics and experimental and physiological psychology. MA students elect to study within one of four areas: clinical, social industrial, psychological counseling, and general experimental.

Isaac Lewin is currently serving as chairman of the Department. He received his PhD from Wayne State University in 1965. His dissertation was concerned with evaluating several hypotheses for predicting the effects of reward on the experience of pain. In recent years he has been interested in experimentally induced sleep and in relating hypnagogic reverie and subsequent dreams to pre-sleep events. He has been engaged in a series of studies in which psychophysiological measures are taken and then related to psychoanalytic explanations of dreams. He feels that many of Freud's and Adler's basic assumptions are challenged by his data, including the relation of dreaming to intensity and number of emotional problems and the activity of the "censoring agency" in dream content and dream forgetting.

In another research area, Lewin and his associates explored environmental and genetic influences in the relationship of rat brain size and learning ability in a discrimination task. A technique was used which enabled the isolation of genetic and environmental factors in brain size. The results indicated that those environmental factors which effected changes in brain size were not related to ability to learn.

Dr. Yehuda Amir has been in the Department for several years. He received his PhD from the New York University in 1959. For a number of years before joining the Department he headed the Psychology Research Unit of the Israeli Army. He is currently interested in attitude measurement, small group research and ethnic interests.

A list of on-going projects of the Department's staff members is given below.

Personality Factors in Motor Accidents, I. Lewin and A. Shere

Genetic and Environment Correlations between Maze Running Ability of Mice in Two Mazes, I. Lewin

A Study of the Personal Factor in Road Accidents, I. Lewin and G. Ben David

The Effect of Reward on Effort, I. Lewin

The Different Measures of the Autokinetic Movement and its Relation to Cognitive Styles, I. Lewin and H. Strauss

The Study of the Chemistry and Physiology of Learning, Memory and Behavior, I. Lewin and D. Samuel

Motives and Factors for Continued Service in the Regular Army, Y. Amir

The Effect of Intergroup Contact on Change in Ethnic Relations and Prejudice, Y. Amir

Morale and Its Components in the Military, Y. Amir

Institutions for Mentally Retarded in Israel -- Cost Structure and Budget Analysis, Y. Amir

Birth Order, Family Structure and Avoidance Behavior, Y. Amir

Israel Youth: Past and Present, Y. Amir and S. Sharan

Peer Rating as a Predictor for Success and Advancement in Fighting Units of the Israel Army, Y. Amir

Psychological Differentiation and Success among Youth of Eastern and Western Origin, Y. Amir

Factors Contributing to Student Satisfaction, Y. Amir

The Effect of Socialization in the Kibbutz on Military Adjustment, Y. Amir

A Study of Change of Motivation and Attitude, Y. Amir and S. Sharan

Cultural Differences as reflected in the Rorschach Test, R. Felix

Analysis of Information Flow, Acquisition and Needs in a Developing Technology Environment, Y. Amir

Personality Integration in Israel - A Replication with Emphasis upon Religious and Secular Orientations, J.J. Frankel

Personality Integration in Israel - A Replication, J.J. Frankel

Visuomotor Maturity as a Predictor of School Achievement and Adjustment, J.J. Frankel

Psychological Correlates of Pituitary Insufficiency, J.J. Frankel

An Evaluation of the Results of Group Therapy with Adolescent Girls: Assessment of Therapeutic Effects based on Rorschach Records, Observer Evaluations and Parent-Teacher Reports, E. Shere

A Longitudinal Study of a Group of Highly Intelligent Children representing Major Ethnic Groups in Israel, R. Sobol

How the Religious and Non-religious Sections of the Israeli Jewish Population view themselves and Each Other, and the Relation between This and Leisure Time Occupation and Other Variables, Y. Rosenberg

A Hebrew Adaptation of the "16 Personality Factors Test" of R.B. Cattell, M. Gay

A Phenomenological Approach to the "Subconscious," H. Strauss

A Qualitative and Quantitative Developmental Analysis of the Responses to the Goldstein-Scheerer Cube Test and the Weigl-Goldstein, H. Strauss

Aggression and the Absence of Color Response in the Rorschach Test, A. Rabinowitz

The Relation of the Self Image with Sociability, Intelligence and Anxiety, A. Ziv

The Human Drawing Test as an Instrument for Judging Social Adaptation of Children, A. Ziv

Sex Differences in Results Obtained on an Intelligence Test Following Praise and Blame, A. Ziv

Contribution to a Cross Cultural Study of Manifest Anxiety in Children, A. Ziv

Psychological Climate in Children's Homes, A. Ziv

A School for Parents in Israel, A. Ziv

The Influence of the Role on the Judgment of Children's Behavior Problems,  
A. Ziv

Effectiveness of Group Therapy for Parents of "Problem Children," A. Ziv

#### TEL-AVIV UNIVERSITY

The Department of Psychology at Tel-Aviv University is the newest of the three departments in Israel offering a first degree in psychology. Tel-Aviv University is also the newest of the three major universities, obtaining independent status in 1962. It is comprised of ten faculties or schools, with psychology being located in the Faculty of Humanities. The attractive and modern campus is in Ramat Aviv, a suburb of Tel Aviv.

The Psychology Department has about 30 staff members of which about ten are full-time. About 70 students enter training each year for the BA degree. They are selected from among 700 applicants. The requirements for the first degree are similar to those of Hebrew University but possibly with greater emphasis on clinical, counseling and psychopathology. The research emphasis is in the area of clinical, personality, and developmental psychology, although because of the newness of the department there has not been much of a history of research. The chairman of the Department is Ronald Shoval. He formerly was the Chief Psychologist of the Israeli Defence Forces and spent a number of years studying and working in the United States where he received his PhD from the University of Kansas. He is currently doing longitudinal studies in IQ change as a function of parent-child relationship. One finding of interest is that children praised by parents that come from the Eastern or "Oriental" countries showed significant increases in IQ over time; children of "Western" parents who were criticized rather than praised also showed improved IQ's.

A very impressive new facility is being constructed for the Department. About 15,000 square feet of space is being developed exclusively for experimental use. It will occupy one floor of a large building. A great deal of thought and expense has gone into its design, and it promises to be a most modern and sophisticated research facility. Construction is well underway and it should be completed within the next six months.

Shoval's pressing problem at this time is to obtain adequately trained full-time staff. While they are planning expansions for the future, the staff has quite a challenge to meet the existing student load, especially providing thesis guidance.

#### TECHNION, ISRAEL INSTITUTE OF TECHNOLOGY, HAIFA

The Technion is the only university in Israel offering courses in engineering, architecture and the physical sciences leading to degrees at all levels. In 1968 there were 5,200 students (3,700 undergraduates, 1500 graduates). Its Research and Development Foundation is the largest applied

research center in the country. About \$2.5 million were spent on basic and applied research in 1967.

The Technion first admitted students in 1924 and it has grown steadily in the years that followed. In 1953, it began its move to the large campus at Technion City that occupies 300 forested acres on the foothills of the Carmel overlooking the city of Haifa. Twelve of the departments and faculties are housed on the new campus. There are about 44 modern buildings attractively fitted into the natural setting.

As described in ONRL-24-68, there is no department of psychology at the Technion, nor is there a section or group which is concerned primarily with the behavioral or social sciences. What is accomplished in these areas is done within several departments, but principally in the Department of Industrial and Management Engineering. (The Chairman of this Department is Dr. Avi-Itzma.) There are, however, several individuals in the various other departments who are psychologists, sociologists, and ergonomists. They divide their time between teaching introductory courses to engineering students, advanced specialized courses and doing research. There is a considerable degree of interest within the departments in behavioral sciences research, especially in human engineering. For some years consideration has been given to enlarging the training and research in human engineering and eventually to providing formal specialty training.

The report mentioned above summarized the behavioral science activities at the Technion. The section below lists the principal behavioral scientists, some of their publications and recent activities.

Dr. Yeshayahn Rim is a Senior Lecturer in Psychology in the Department of Industrial and Management Engineering. He received a PhD in Psychology from the University of London, Institute of Psychiatry in 1953. He is interested in personality, social psychology, and selection of employees. A number of his publications listed below relate personality factors to risk-taking behavior. Some of his more recent publications have been in the area of psychological factors in economic growth and various prediction studies of worker effectiveness.

"Risk-taking and Need for Achievement." Acta Psychologica XXI (1963), 108-115

"Personality and Group Decisions Involving Risk" The Psychological Record XIV (1964), 37-45 (a)

"Social Attitudes and Risk-taking." Human Relations XVII (1964), 259-265 (b)

"Intolerance of Ambiguity and Risk-taking." Revue Suisse de Psychologie et de Psychologie Appliquee XXIII (1964), 253-259

"Dominant Interests and Group Decisions Involving Risk." Archivio di Psicologia, Neurologia e Psichiatria XXVI (1965), 17-25

"Machiavellianism and Decisions Involving Risk." British Journal of Social and Clinical Psychology IV (1965)

"Dimensions of Interpersonal Behaviour and Risk-taking." Revista de Psicologia General y Aplicada (1965)

"Interpersonal Values and Risk-taking." Psychologia IX, No. 2 (1966), 120-124

Dr. Belha F. Mannheim is a senior lecturer in Sociology in the Department of Industrial and Management Engineering. She received her PhD in social psychology from the University of Illinois. She has published a book and a number of papers in industrial sociology and organizational behavior. Currently she is involved in a study to determine the motivation of workers in industries that are transitioning to more automated machinery. She is employing a case study method. Her initial findings indicate that money considerations are stressed by workers; group and human relations factors are less important, and the greater the degree of automation, the more identification there is with technical aspects of the job and the less with social aspects.

Mr. H. Gershoni is an industrial engineer in the Department of Industrial and Management Engineering interested in objectifying expected output estimates for manual tasks, incentive schemes for production workers and learning efficiency in industry. He recently completed an analysis of results of a time study in which analysts produced discrepant estimates of time to accomplish a new task. He attributed this finding as due to the analysts' failure in observing "micro-methods." Micro-methods direct attention toward specific motion patterns employed within the general procedure. When experienced time study analysts, both in the UK and Israel, employed his refined micro-method technique on a series of motion-pictures of a simple manual task, there were no significant differences in estimates among the analysts.

Among the most energetic and imaginative individuals I met at the Technion was Anthony Peranio. He is a 46-year-old American with an MA degree in Mechanical Engineering from Syracuse University in 1950, and has been at the Technion since 1955. He is a Senior Lecturer in the Faculty of Civil Engineering, Head of the Human Engineering Unit, and former Head of the Road Safety Center. The diversity of his interests are reflected by the following titles of some of his recent publications:

"Human Limitations and Highway Transportation. An Analysis using a Conceptual Model," August 1966

"Philosophy and Technique of Work Study Measurements," February 1967

"Basic Problems -- A Challenge to our Universities (The Need for Fostering Inter-disciplinary Education)," February 1967

"A Conceptual Model for Analyzing Man, His Man-Machine Systems and His Societies," March 1967

"Simplified Technique for the Evaluation of Dental Health" (with Dr. R.P. Gibson), May 1967

"Communications Analysis using a Conceptual Model," April 1967

"Bronchial Asthma - A Single Case Biometeorological Study," April 1968

"Interaction of Technology, Health and Supports - An Analysis," September 1968

"Logic and Road Safety Research," January 1969

As a private individual Peranio is on the Executive Committee of the Public Council for the Prevention of Noise and Air Pollution. In that capacity he helped to successfully oppose proposed locations of compost factories in Haifa because of problems of air pollution. On a much more economically important issue, his group was unsuccessful in opposing the construction of a large electric generating plant in the suburbs of Tel Aviv. His public service activities have placed him in the center of a number of controversies and has probably taken up a considerable amount of his time and energies. His activities in these areas appear to be a sensitive issue with Technion officials. Nevertheless, Peranio feels very strongly that scientists should be actively involved on problems pertaining to public health. He feels that scientists are "free from pressures (of concern to politicians) and they have only one interest -- the health of the people." On the more technical side, Peranio is convinced that the lone scientist attempting to solve problems that require specific insights into many fields is an anachronism in human engineering laboratories. To him, human engineering represents a merging of the sciences with the hope that the resulting synthesis will benefit man.

Peranio's involvement in road safety research appears to be a natural outgrowth of his interest in "man-machine-society" problems. Israel is attributed to have one of the highest traffic death rates in the world. About 50% of accidents involve pedestrians, mostly the elderly and the young. A high rate of accidents (about 80%) occurs in the three largest cities, Tel Aviv, Haifa and Jerusalem. Peranio stated that one of the simplest and most effective means of reducing accidents in and around these cities would be to improve the lighting in underpasses.

The Israeli Ministry of Transport established the Road Safety Center at the Technion in 1966. The Center's staff has been working on developing a large number of research proposals. These include analysis of road safety records and international comparisons, critical area studies of Israel's road accidents, criteria for the evaluation of road safety statistics, evaluation of physical and psychological means for separating pedestrian and vehicular traffic, developing a conceptual model for describing highway transportation, relationships between accidents and violations, a survey of road safety educational techniques, techniques for improving vehicle and road safety, and a large number of others.

To carry out the research activities, the Center is staffed by professionals coming from various disciplines. However, the actual number

of people and budget is quite austere for the ambitious studies already outlined. Peranio is now developing a film on road safety in which he is attempting to show road conditions from the driver's view. He feels rapid improvements will be brought about by changing the environment, rather than the behavior of the driver. In line with most current work in this area, he feels that the traffic and safety problems must be considered in the context of a system and associated with other related systems problems.

Although, as mentioned earlier, there has been much interest in human engineering problems and a genuine desire to establish Israel's first center for research and training in this area, the actual implementation of such a plan has been disappointingly slow. Perhaps the basic reason for this is the difficulty in identifying several experienced individuals that could form a nucleus for growth. The Department of Industrial Management and Engineering has been trying to find suitable individuals for several years.

#### THE VISION RESEARCH LABORATORY, JERUSALEM

The Vision Research Laboratory is an element of the Eye Department of Hadassah University Hospital and Medical School. It is located in a research wing of the hospital. Prof. Edgar Auerbach, a physician who trained in physiology under George Wald at Harvard, has been its director since its inception in 1957. Other senior staff members are Dr. B. Kripke, a mathematician, Drs. I. Nawratzki, L. Landau, S. Merin, ophthalmologists, Dr. Goldhaber, a biophysicist, Dr. M. Feinsod, a neurosurgeon, Mrs. H. Rowe, principal assistant, and several laboratory assistants and technicians. In addition, there are eight individuals working on PhD theses or MD theses in visual research areas.

The Laboratory achieves a portion of its income by providing diagnostic tests for clinical patients with visual disorders. (Such funds help to provide some of the money required to carry out basic studies.) It has established a reputation throughout the Mediterranean basin for the excellence of its techniques in measuring the evoked potential of the retina and visual cortex along with diagnostic skills in reading these records. Individuals coming from a number of countries who have been clinically diagnosed as possibly suffering from amblyopia exanopsia (diminishment of vision from non-use, without an organic base), hemeralopia (visual impairment in seeing in bright light as against diminished light), retina pigmentosa (a progressive degeneration of the neuro-epithelium) and other visual impairments are sent to the Laboratory for confirmation of diagnosis and evaluation.

The procedure, in general, in taking these measures is to place the subject in an electrically shielded room. A mydriatic is dropped into both eyes. Bipolar recordings are made between the silver-disk electrodes fixed to the occipital region of the scalp. For the electroretinographic (ERG) measurements, a contact lens low-vacuum corneal electrode (Henkes) is fixed to each eye. The measurements are made by stimulating each eye separately while the other eye is occluded. In the intervals between each course of repetitive stimulation, the subject is in room light. In the electroencephalographic (EEG) the peak latency and the amplitude of the

first upward and the first downward deflections are measured in each recording. The amplitude of the first upward deflection is measured between baseline and peak, and that of the first downward deflection from the peak of the first upward deflection to the trough.

While these measures are made for diagnostic reasons in dubious cases, Auerbach and his colleagues use these data to study underlying visual mechanisms. For example, the cause of amblyopia is not fully understood. The condition is generally interpreted as a selective impairment of pattern vision while light perception remains undisturbed. However, impairment in the retina or of retinocortical impulse transmission cannot be ruled out as a primary factor. By comparing the evoked responses in the retina and occipital cortex obtained by photic stimulation of the amblyopic eye with those of the normal eye, it may be possible to show that inferior information is carried to the brain by the amblyopic eye, and this may imply a physiological cause.

A number of investigations have dealt with the visual-evoked potential in the cat's striate cortex. Some questions that had been raised in the past in these studies were: is there an algebraic summation of response which occurs in the layers of the cat's lateral geniculate body (LGB)?; what is the relation of the latent period to the stimulus strength in the retina, LGB, and the striate cortex?; does the primary response result only from impulses ascending along the direct visual pathways or do the impulses from the other hemisphere also participate? To accomplish visual research as outlined above, a number of special purpose devices have been developed in the Laboratory. The Laboratory as a whole appears to be well equipped, carefully maintained and managed.

Recent publications and papers in preparation are given below:

Auerbach, E.: "The Value of the Different Components for Clinical Electroretinography." ISCERG Sym. Ghent. Ophthalmologica, 1967

Auerbach, E.: "The Human Electroretinogram in the Light and during Dark Adaptation." Doc. Ophthal. 22, 1-71, 1967

Auerbach, E. & Rowe, H.: "The 'Good' Eye in Unilateral Retinitis Pigmentosa." Ophthalmologica, 1967

Auerbach, E.: "Electrophysiological Examinations to determine Function in Retina and Visual Cortex." E.E.N.T. Digest 29, 24, 1967

Auerbach, E., Godel, V. & Rowe, H.: "An Electrophysiological and Psychophysical Study of Two Forms of Congenital Night Blindness." Inves. Ophthal. (in press)

Nawratzki, I., Landau, L. & Auerbach, E.: "Belated Visual Maturation in a Mentally Retarded Child." Pediatric Ophthalmology (in press)

Feinsod, M. & Auerbach, E.: "Injuries to the Optic Nerve Reflected by the ERG and the VER." (in draft)

Auerbach, E. & Landau, L.: "Clinical Electrophysiological Examinations of the Visual System in Infants." (in draft)

Auerbach, E., Ehrehfeld, E. & Rowe, H.: "Partial and Complete Forms of the Laurence-Moon-Baddet-Biedel Syndrome." (in draft)

Merin, S. & Auerbach, E.: "Familial Cone-Dysfunction and the ERG." (in draft)

THE ISRAEL INSTITUTE OF APPLIED SOCIAL RESEARCH, JERUSALEM

The history and past work of Dr. Louis Guttman's well-known non-profit Institute has been described in three previous ONRL reports (Chapanis, Lanzetta, Sinaiko). An overview of the work of the Institute, as well as staff activities, and list of publications is contained within its biennial publication, "Research Report." (Address: 19 George Washington St., P.O.B. 7150, Jerusalem, Israel). During my visit, the 1967-1968 report was in preparation. The Institute's recent work can be categorized as falling into six broad areas: psychometric methodology; attitudes, values and social relations; absorption of immigrants; television programming; innovations in Arab villages; and ability and achievement testing.

In most research projects, the approach used employs questionnaires or interviews on carefully designated samples. The survey technique is fully exploited as a relatively inexpensive and rapid means of obtaining quantifiable, descriptive data on a host of topics. The Institute has had in operation for the last year or so a continuing survey which can be readily adapted for a given client and for which the client pays a proportionate amount.

The following section describes an ongoing study which is being sponsored by the US Army Research and Development Group (Europe). The principal investigator is Dr. Aaron Antonovsky, a sociologist. He was assisted in one phase by Dr. J. Marcus, a psychiatrist and several psychologists. The US Army's general interest in this project is to identify characteristics that may contribute to successful leadership at the junior officer level. The interest in studying a facet of this problem in Israel is that there seems to be a consensus that the Israeli forces have good leaders, and curiously there are a disproportionate number of young men in the officer ranks who were brought up in the Kibbutzin (communal settlements). At the time of the initiation of the study, Kibbutz officers were felt to more often make good officers. While people who live in the Kibbutzin constitute only 4% of the population, they provide 25% of the officers (who, as described in a later section, are selected competitively). During the Six-Day War, casualties of officers from Kibbutzin were around 25% of the total. A particular focus of this study, then, is to determine what relationship the unique kibbutz experience in early socialization, in adolescent interactions, etc. has to successful army leadership.

The study defines three types of variables. The dependent variables or criterion measures are defined as those which measure the degree to which the officer is able to motivate and direct his men. The predictor variables are measures of officer activities which are believed to be positively related to the criteria. Three groups of activity or predictor measures are hypothesized as being related to motivation: officer activities which attempt to get the subordinate to want to perform his job because the job is inherently rewarding; officer activities which are focused on rewards deriving directly from the group; and officer activities which are focused on obtaining troop conformity through use of direct sanctions. In all, nine activities or predictors are developed to predict motivational aspects of subordinates. In addition, four leadership activities are hypothesized to be related to direction of troops: coordination, decision-making, teaching, and transmission link in military chain.

Perhaps the most interesting question raised relates to the theoretical framework of the study in which the "why" of leadership is explored. An extensive list of background variables called in this study "conditioning" variables was formulated and each was hypothesized to be related to a given leadership activity. For example, the higher the officer is on past experience in caretaking, the more he will be engaged in caretaking activities.

Conditioning variables presumed to be subject to modification in the course of participation in Officer's Candidate School (OCS) were administered during the opening weeks of the OCS. Those conditioning variables which are believed to be more stable were administered after about three months of training. The predictor variables or leadership activities would be obtained after one year of service as an officer. Essentially, the predictor measures are multi-choice items completed by immediate superiors of sample members. The dependent or criterion measures are essentially ratings obtained from the subjects themselves, their immediate superiors, peers, and a sample of their subordinates.

In more conventional terminology employed in prediction research, I would characterize the study as employing a number of personality and background measures to predict success in training and on the job. Two types of criterion measures are employed: those that describe the subjects directly (leadership activities) and those that describe his performance through an assessment of his subordinates' behavior. It is planned to relate both types of criterion measures to one another and to the personality and background measures.

Two matched groups constituted the total sample: a Kibbutz group comprised of individuals who essentially spent their entire lives in a Kibbutz, and a group that spent no time or less than a year in a Kibbutz. Matching was based on ethnic origin, schooling, and specific branch of service. Comparisons are to be made between the two groups on both predictor and criterion measures. The total sample size was about 170 men.

At the time of my visit, a substantial amount of the basic data had been collected and the data were being statistically processed. Results should be forthcoming in the near future on this quite topical prediction problem.

Several days after visiting the Institute, the writer happened to spend a day in a Kibbutz, Bror Chail, about six miles from Gaza. The Kibbutz was founded in 1948 and now has 400 families, 80% of whom emigrated from Brazil. The community's income comes from cotton, orange and lemon groves, and the operation of a very modern vegetable dehydration plant which is in use 24 hours a day and employs several hundred workers from a neighboring town. Last year was the first that the Kibbutz earned a profit. The adults called their community a "children's paradise." In connection with the leadership study described above, it is interesting to note that the boys between the ages of 15-17 with whom I spoke expressed a desire to become pilots during their military service. Even the most casual visitor could not help but notice the vitality and fitness of these youths as contrasted to those in the neighboring town. The Kibbutz families readily stated that their type of life is suitable only for those individuals with the appropriate "mentality" and disposition. It seems that a critical phase in the long-term viability of a Kibbutz such as this is now approaching. Will their children, some of whom are reaching marriageable age, elect to continue their lives in the Kibbutz as adults?

In closing this section on the Institute, a few additional general items are noted. Prof. Guttman has found it difficult to attract bright young people into survey work and faces a continuing problem of staffing. Many of the senior staff hold part-time teaching positions in the various Israeli universities. The Institute acts as a host to visitors from abroad who use its facilities to conduct research into aspects of Israeli society. During a given year there are generally several Institute staff members who are studying or lecturing in the United States.

#### THE NATIONAL INSTITUTE FOR RESEARCH IN THE BEHAVIORAL SCIENCES, JERUSALEM

My visit to this Institute was very brief and I was unable to discuss any of the specific research programs in any depth. ONRL-24-68 provides an overview of the Institute's history and objectives and the background of its director, Dr. Chanan Rapaport. The major activities of the Institute are in planning and carrying out research projects, surveys, studies and experiments in the field of human behavior with special emphasis on children and youth; advising and counseling government agencies; and stimulating activities in the fields of mental health, community development, social welfare and education. The following list of recently completed and ongoing projects is intended to provide an indication of activities along with the names of the investigators.

"Bases for Intellectual Advancement of Culturally Disadvantaged Children,"  
M. Smilansky and S. Smilansky

"Experiments in Cultural Enrichment and Preparation for Secondary Education of Gifted Pupils in Schools for Disadvantaged Children, M. Smilansky, B. Burg and T. Krieger

"Identification and Intellectual Advancement of Gifted Culturally Disadvantaged Youth in Post-Elementary Education, M. Smilansky, D. Nevo and S. Marbach

"A Demonstration Program of Pre-School Activities to Promote Scholastic Success for Culturally Disadvantaged Children," S. Smilansky

"Experiments of the Effect of Certain Conditions on the Learning Processes of Culturally Deprived Children," S. Smilansky

"Current Issues in Counseling and Guidance," M. Froimson

"A Battery of Tests on General Educational Development for Post-Elementary School," J. Bentwich, J. Levin and D. Ormian

"Community Action Programs for the Control and Prevention of Delinquency," M. Amir

"Vocational Training and Industrial Needs - Report on a Pilot Study in the Metal Work Industry," R. Doron and A. Lederer

"The Development, Use and Evaluation of Self Instructional Programs in Israel," P.I. Jacobs

"Sex Offences against Minors in Israel," M. Amir

"A Survey of Applied Research Topics in Sports," Y. Lazovsky

"Investigation of Selection Procedures for Candidates to Residential Centers for Culturally Disadvantaged High School Students," Y. Levin and D. Nevo

"Report of the Commission on Violent Behavior in Government Social Welfare Offices," M. Amir

"Patterns of Action for a Demonstration Program in Beith Shemesh and Netivot," J. Hodara

"Culturally Disadvantaged Children in Israel and other Countries - A Survey of the Bibliography," I. Rapaport and S. Kaniel

"The Intellectual Development of Kibbutz-Born Children of 'Oriental' (Middle Eastern and North African) Origin," M. Smilansky and S. Smilansky

"Child Delinquency: Delinquent Behavior of Children below the Age of Criminal Responsibility (Age Nine)," M. Amir and D. Max

"The Effect of Sociodramatic Play on Culturally Disadvantaged Children," S. Smilansky

"Follow-up of Graduates of Two-Year Vocational Schools," D. Levin and N. Doron

"Vocational Schools: Relation of Curricula to Needs in the Fields of the Electrical and Electronic Industries," E. Nitzan

"Youngsters (age 14-17) in the Development Towns," M. Cialik

"Israeli Volunteers: Their Values and Absorption into the Israeli Society," J. Hodara and M. Cialik

"A Summary and Analysis of the Results of Final Examinations in Vocational Schools 1965/6-1966/7," J. Iam

"Patterns of Community Development - First Stage," Mrs. Tamar Horowith and B. Genser

"An Enrolment Projection of Elementary School Pupils in Israel for the Years 1962/1973," J. Iam

"Census of Teachers in High Schools," J. Iam

"Concentration and Segregation of Geostatistical Distributions. New Methods and Exemplary Illustrations," J. Iam

"A Summary and Analysis of the Results of Final Examinations in Vocational Schools 1967-8," J. Iam

"A Comparison between the Results of the Final Examinations in Vocational Schools in the Years 1962/7," J. Iam

"Conformity and Non-Conformity to Religious Standards in Adolescent Girls," S. Rakover, Y. Yanon and R. Arad

"Irregular Attendance in Elementary Schools," M. Amir and D. Max

"Preparatory Programs of Youth Aliyah: An Evaluation of the Educational Activities," C. Rapaport and R. Arad

"Patterns of Youth Culture in an Urban Center," M. Chen

"A Follow-up of Graduates of Three-Four Year Vocational Schools (1962-64)," I. Guttman, R. Doron and S. Arad

"Vocational Schools: Relation of Curricula to Needs in the Fields of Commerce, Banking and Management," E. Nitzan

#### MILITARY PSYCHOLOGY

During this visit to Israel, I also spent some time with the Israeli Defence Forces. I visited the Army's Computer Center and the Defence Forces Classification Center in the suburbs of Tel Aviv. (See also Chapanis and Rasmussen.)

Israel's active Army consists of about 50,000 men, but it can rapidly muster 225,000 reservists into the field. A central doctrine of Israeli Army tactics is that officers lead their units into battle. Consequently, the casualty rate among officers is extremely high. (Twenty-five percent of Israeli deaths during the 1967 Arab-Israeli War were officers.) All

officers are selected from the ranks through carefully developed and validated selection procedures. These procedures are of particular importance since the Israelis do not have the equivalent of our military academies.

The Chief Psychologist of the Israeli Defence Forces is Lt. Col. Mordecai Eran, who served as an infantry officer during the Israeli War of Independence and remained in the Army as a regular officer. He completed graduate training at the University of California, Berkeley, where he received his PhD majoring in industrial psychology several years before the Six-Day War of 1967. Eran is responsible for the assignment and technical quality of work of all psychologists in the Army. He also coordinates psychological research among the services and is currently acting head of the Army's Psychological Research Section.

Before entering the Army, each registrant at the age of 17, undergoes psychological evaluation resulting in a "Quality Index" (QI). This index is comprised of a general intelligence measure, knowledge of Hebrew, educational level and a structured interview rating. During the third and eighth week of basic training, each man receives a sociometric rating of leadership from members of his platoon. The third-week rating is combined with his QI to provide an overall quality rating. After six months of service a soldier may be recommended for officer training by his unit commander. The commander bases his recommendation on the soldier's overall quality rating, peer ratings, and observations of actual performance.

A candidate for officer training is then sent to the Officer Assessment Center for a three-day period. The first day is devoted to detailed psychological testing, including a number of projective techniques and depth interviewing. The candidate is then assigned to a group of eight candidates who are exposed as a team to two days of situational field problems. There are about 45 situations in which the team is observed by highly qualified evaluators -- an experienced field officer with the rank of major and a psychologist. The field problems are patterned after those employed by the British War Office Selection Board and the American OSS during WWII. The objective is to assess each candidate in terms of practical intelligence, leadership attributes, stability and attitudes. The same field problems have been used for many years with slight alterations. The two evaluators assign a rating between 1 to 9 to each candidate. A passing score is 6. The rating takes into consideration a soldier's entire record as well as his performance at the Assessment Center. Between 30-40% of the applicants fail to obtain a passing score.

In order to make the evaluations as objective and reliable as possible, the Classification Center maintains careful records on the performance of the evaluators or raters so that variability among them is not a significant factor. Validity on the Assessment Center selection procedures for the restricted group finally sent to officer training is around 0.3 to 0.4 which is impressive considering the previous high degree of screening. The officer selection procedure employed at the Center is strongly supported and endorsed throughout the military service. I got the impression that because of its great face or apparent validity, the procedure would continue, even if it has little or no empirical validity.

The Officer Selection Program is augmented by a unique recruiting program. The Army has established two military boarding schools affiliated with the "best" high school in Tel Aviv and the "best" in Haifa. Students at the age of 14 may volunteer for a pre-military training program at which time they are subjected to a rigorous screening procedure. If accepted for the program, they live at the boarding school, attend regular high-school classes in the mornings, and receive military training in the afternoons. They are completely subsidized during their four years of high-school training. Upon completion of high school, they are obligated to serve three years of military service, in addition to national compulsory military service of two-and-a-half to three years.

The backbone of Israel's military strength lies in the quality of its enlisted personnel. Nearly 100% of the medically fit males are inducted into military service at the age of 18. A boy must serve a period of 2½ years (currently extended by Executive Order to three years). Unmarried girls are inducted for a period of 20 months. Motivation to enter the military service is extraordinarily high. When a boy is rejected for military service because of some physical impairment, it is quite common for him and/or his parents to "appeal" the decision.

Upon completion of compulsory service, the male draftee must serve in the reserve until he is 49 years; the female until 30. The reserve soldier spends a month or more on active duty each year.

As mentioned earlier, prior to entry into actual service, each registrant is psychologically screened and receives a "Quality Index." Upon entering the service, he takes additional classification tests to determine eligibility for specific training programs. Selected individuals also undergo special testing for such jobs as pilots, carpenters, mechanics, etc. Since there is actual information available on all individuals nearly one year prior to active service, careful manpower planning can be accomplished. Within the Computer Center, an allocation model is employed to assist in optimally allocating the potentially available personnel resources according to requirements and priorities.

During basic training and throughout active service sociometric ratings are obtained on each soldier. In addition, a morale questionnaire is administered from time to time. The sociometric ratings are used to assist in selecting non-commissioned officers; indices of morale are primarily employed by commanders.

A number of uniformed psychologists are assigned to units in the field as consultants to the commanders. Initially it was hoped that these psychologists could assist in field research projects as well as perform applied functions. However, experience to date indicates that they spend most of their time assisting in assignment of new individuals within the units, selection of non-commissioned officers, leadership training, and unobtrusive group sessions for problem cases. This program has proven to be very popular with field commanders.

The Israeli Defence Forces maintain close relationships with the universities and research centers. Many military studies in the behavioral sciences are actually being conducted by civilians who have had prior experience in the services as both enlisted men and officers (since all officers come from the ranks), and a number have had actual combat experience. Increasingly, the military seems to be relying on these scientists for answers to its applied problems because of a shortage of uniformed psychologists. In recent years, a number of senior uniformed psychologists have left the services, generally to take university positions. Nevertheless, there is a strong motivation to work on military problems in the universities because of the universal concern over defense matters. The remaining uniformed psychologists nearly all have part-time teaching positions in the universities.

Although the total number involved in military psychology is small, their impact has been quite significant. The senior people associated with the program, either in uniform or at the university, are of exceptionally high quality. Most have received their doctorates from American universities. The junior military psychologists, completing their compulsory service as reserve officers, have also received a high level of technical training. Until this date, the prime concern of the military psychologists has been to put into effective, systematic use well-established techniques, rather than to develop dramatically new concepts or approaches. Their research projects can be characterized as short-term studies, with clearly definable applied purposes. In Israel, where acceptance is based upon merit and achievement, military psychology is both appreciated and supported.

#### FINAL STATEMENT

The writer (as were the previous liaison scientists) was greatly impressed with the enormous growth and quality of the behavioral sciences in Israel during the last decade. All indications are that there is a strong desire for continued development in this area. There is a great reliance on social science research among officials as a cost-effective means of choosing alternatives and indicating future problem areas. Since the country is very small and research projects are funded on a relatively modest scale, there are several important areas in psychology that have little or no activity, such as human engineering or ergonomics, real-time man-computer studies, physiological and sensory psychology (excepting vision), etc. Ongoing research often can be characterized as being much more than the usual competent, journey-man, replicative variety. A very serious problem now confronting Israeli scientists is the reduction in available foreign funds upon which they were heavily dependent. Unless Israeli government funds are increased to make up for this deficit, the immediate prospects will not be as bright.

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14 KEY WORDS	LINK A		LINK B		LINK C	
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