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Prediction of success for school principal candidates by means of a decision-making test

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Abstract *In an attempt to identify the most capable candidates for selection as school principals, examines the validity of the prediction of success by means of a questionnaire. This tool measured the level of cognitive activity with respect to three diverse components of the decision-making process. A total of 99 school principals ranked by their superiors responded to the questionnaire. It was found that successful principals, in the first phase of the decision-making process, ascribed great importance to gathering information from objective sources, while the unsuccessful principals gave greater emphasis to data collection from subjective sources. In the final decision-making phase, both successful and unsuccessful principals preferred the subjective sources, although it was the former who particularly stressed the subjective aspect. Explores the reason for the change in the approaches of the two groups. Investigation of three aspects of decision-making processes characterizing the different groups, together with a locus of control test, made it possible to identify the various gradations of success of the principals with a 55 percent degree of accuracy.*

Theoretical background

The effectiveness of a school depends to a large degree on the administrative ability of its principal. The importance of this role has led to great interest in methods of identifying suitable candidates for principalship. Until the late 1970s, the selection process focused on an examination of the curriculum vitae of applicants, previous experience, and personal references. Interviews designed to reveal talents and abilities, undetected by other methods, were also conducted. Methods of screening candidates for the position of principal were enhanced with the founding of assessment centers, which employed fitness checks, personality analyses, an intelligence examination, and performance tests involving selected professional tasks.

The Principal Assessment Center of the National Association of Secondary School Principals opened its doors in 1976. Candidates were examined for aptitudes and skills in the areas of leadership qualities, interpersonal relations, intellectual independence, readiness to accept change, motivation, ability to withstand stress, competence in problem-solving and decision-making, organizational skills, decisiveness, facility of oral and written expression, and extent of the range of interests (Walden, 1985). In order to increase reliability, a number of assessors participated in the evaluation of candidates.

Gomez (1985), Hersey (1986) and Gomez and Stephenson (1987) reported a significant predictive validity for the methods of the above-mentioned assessment center. In contrast, later studies noted only limited success in the

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identification of candidates for principalship (Schmitt and Chohen, 1990). Williams and Pantili (1992) found a correlation of less than 20 percent between the NASSP assessment ratings and the job performance criteria for principals.

In view of the equivocal findings with regard to the predictive validity of the assessment center, particularly for purposes of certification and selection, the literature calls for further research on screening processes for school principals.

A characteristic which the literature has attributed to successful educational administrators is high competence in problem-solving and decision-making. The prominence of the administrator as a decision-maker is exhaustively surveyed by a number of researchers (Webster, 1994; Terry, 1995; Peterson and Beekley, 1997). Whether the principal is free to express that ability depends on the philosophy of the institution in which he/she works.

Clark (1995), noting that "the principal as all knowing patriarch and problem-solver is passé", opposed the kind of centralized administration that endows the principal with exclusive decision-making authority. In contrast to this type of management, *au courant*, autonomous school principals grant their staffs wide-ranging decision-making authority and encourage teamwork and creativity. As senior members of their faculties, principals participate in initiation of various key decisions, in allocation of resources for their implementation, in execution of plans, and in evaluation of the outcome. While these new methods are accepted in certain institutions, principals still have the last word in most schools.

It is difficult to differentiate between candidates of varying capacity for decision making. Many of the decisions in the field of education rest on value-based or probability-based judgments. Thus, differing and even opposing opinions in the context of the educational situation have legitimacy.

The accepted method of investigating the quality of the probability-based decision is to monitor the cognitive processes employed while the decision is being formulated. The basic assumption is that a carefully considered solution to a problem of probability necessitates concentration on a number of crucial components of the decision; ignoring these will damage the quality of the decision.

The literature reports normative models, which describe major components of the decision-making processes (Stanovich and West, 1998). The components reported in the various models are not uniform, reflecting differing interpretations of the central thought processes involved in making a decision. This lack of agreement hampers the use of normative models as part of the process of screening candidates for school administration.

Specific features of the decision-making process may also be examined by comparing the manner in which experts and novices make decisions (Larkin *et al.*, 1980; Rowland, 1992; Randel *et al.*, 1996; Lipshitz and Ben Shaul, 1997). The distinction between experts and novices has also been studied in the fields of teaching (Westerman, 1991; Henry, 1994; Ferry and Ross, 1998) and of educational administration (Leithwood and Stager, 1989; Allison and Nagy, 1991; Allison and Allison, 1991).

The concepts "expert" and "novice" are not synonymous with "success" and "failure" in the work of the principal. There are recognized authorities in the field of educational administration who lack leadership talent and organizational ability. In contrast, there are those with little formal training or experience in administration, who make up in charisma and in leadership and organizational ability what they lack academically. The lack of congruence between concepts of expertise and success as a principal contravenes the possible use of criteria of expertise in assessment centers.

An additional step toward mapping the differences between the decisions made by successful and unsuccessful principals was taken with the development of a scale to measure the level of cognitive activity in decision-making (Klein, 1993). The scale makes it possible to compare the decision-making patterns of all individuals, regardless of the level of expertise. It takes into account three differing but interdependent cognitive aspects of the decision:

(1) The process, focusing on three phases of decision-making:
   - definition and investigation of the problem;
   - formulation of alternative solutions; and
   - selection of one alternative as the final conclusion.

(2) The classification and separate analysis of objective and subjective components of the decision.

(3) The assessment of the importance of the problem and the intensity with which it is to be dealt, based on the degree of the decision-maker's personal commitment to it.

The more importance the decision-maker ascribes to each of these three aspects, the higher the quality of the decision in the opinion of the researchers. A high level of cognitive activity on the first aspect of the decision is characterized by the formulation of a solution in a hierarchic order of stages, as described above in the three bulleted points under (1). A low level of cognitive activity is characterized by a superficial survey of the various phases, by performance of the stages in a different order, or by the elimination of one or both of the early phases.

Characteristic of high cognitive activity in the second aspect is the ability to make a clear distinction between the factual, objective components of the decision and the impressionistic, subjective ones. A blurring of the borders between the two indicates a low level of cognitive activity.

In the third aspect of decision-making, high cognitive activity is typified by the systematic, cautious exercise of judgment in the process of formulating a decision for which the individual feels a personal commitment. More haphazard judgment is characteristic of decisions taken with little personal commitment.

If there are indeed differences in the quality of the decision-making process followed by various principals, it may be assumed that they will find

expression in differential abilities in some or all of the above-mentioned three aspects. Clarification of this matter may contribute to the identification of candidates for administrative positions with decision-making abilities similar to those that characterize successful principals.

The aims of this study are:

- to investigate the decision-making patterns unique to principals functioning at various levels of success;
- to examine the possibility of utilization of this information as a practical tool for selection of qualified candidates for administrative positions in the schools.

Method

Subjects

The subjects were 99 elementary and junior high school principals, randomly sampled from a single district of the Israeli Ministry of Education and Culture. Three groups of subjects were statistically represented: highly successful, moderately successful, and unsuccessful principals. All of them were subordinate to the regulations of the Ministry of Education and Culture and to ministry supervisors with respect to major issues such as determination of general educational policy, staff changes, and budget. Despite the general limitations, there has been a tendency in the last decades on the part of the Ministry of Education to increase the degree of local school autonomy.

The dependent variable: success in management

Evaluation of a principal can be performed accurately only by an individual who is familiar with the directives of the Ministry of Education and thoroughly acquainted with the specific school and the environment in which it functions. Supervisors, who are appointed by the Ministry of Education as general inspectors and guides or as specialists in particular fields, are uniquely suited for assessment of the principals in their regions. Evaluation centers and researchers are also assisted in this capacity by school supervisors (Ehinger and Guier, 1985).

Of the two supervisors who evaluated the work of each subject, one was the general supervisor of the school, whose opinion was based on regular visits to the institution. The second evaluator, who was also associated with the school in some advisory or regulatory capacity, made several visits. An appraisal was submitted after meetings with the principal, examination of school documents, investigation of staff stability, and interviews with teachers and parents.

The principals were rated at three levels:

(1) highly successful;

(2) moderately successful; and

(3) unsuccessful.

The supervisors based their appraisal of the performance of the principals on the criteria established in a publication of the Public Relations Center of the Ministry of Education in 1969. The list, periodically updated since then, covers 24 aspects of the principal's work, including pedagogic and administrative functions, public relations, and personal traits and skills (Klein, 1999).

Success of principals, as defined by this standard, encompasses a large range of activities and attitudes. Administrators are expected to work with school personnel in an atmosphere of cooperation in all aspects of planning and implementation of educational objectives, in the study program and in extra-curricular activities. They should show initiative and encourage staff members to develop innovative techniques and to explore alternative methods. Principals should be involved in class affairs, and conduct a regular follow-up of achievement. They must be active in guidance of teachers, and willing and capable of addressing the problems of pupils. They should maintain good relations with parents and the community in general, and promote their participation and backing in school concerns. Other criteria on the list deal with purely administrative matters and personal traits of the principal. A person who does not carry out these functions is considered unsuccessful.

The supervisors rated the principals with respect to each of the 24 criteria, by means of a seven-point scale, in which "1" indicated the lowest assessment and "7" the highest.

The study included only those active principals about whom the evaluators concurred. A total of 48 principals, awarded scores of 6 or 7, were considered highly successful, while 30 others, with ratings of 4 or 5, were classified as moderately successful. A total of 21 principals, judged as functioning at the level of 2 or 3, were termed unsuccessful, although the supervisors did not suggest immediate dismissal. There were no subjects with a mark of 1. Individuals in that category did not remain in administrative positions.

The calculated internal reliability of the questionnaire was $\alpha = 0.86$.

Independent variables: the cognitive scale of decision-making

Cognitive activity (Klein, 1993: Klein and Wasserstein, 2000) was examined by means of a questionnaire, based on details of two events, briefly described in the Appendix. Subjects who responded to the questionnaire were asked to analyze the events in writing, to make a decision, and to report in great detail on the considerations that guided them in reaching the decision. In order to eliminate the possibility that the specific occupations of certain respondents might influence their answers, events involving school curricula and the interrelationship between school and community were chosen. The set of concepts included in the events is well known to every school graduate.

One of the two events (see the Appendix) was designed to intensify the subject's personal commitment to the decision. This was the result of two factors:

(1) The event described a claim by parents of poor achievement in school subjects considered to be of prime importance, success in which – or lack thereof – affected the future of the students.

(2) The manner of delivery of a letter from the parents' committee and its extremely confrontational tone were unpleasant for the subjects, who were asked to respond as if they were the principal described in the story.

The second event was intended to arouse in the subject a lower level of commitment by virtue of its focus on the matter of the students' general cultural background, rather than their achievement in key subjects. Awareness of the importance of general culture in the schools is growing. Nevertheless, most of the educational effort is concentrated on those subjects considered vital to the preparation of the student for the practical demands of life. Furthermore, the wording of the questions limited the sense of involvement in the event. The subjects were not asked to identify with the particular principal, but only to suggest what they would do in a situation of a poor general cultural level in their schools.

The criteria for checking the subjects' responses in the each of the two events addressed the three phases of decision-making, as well as distinguishing between its objective and subjective aspects. The following are some examples of criteria which examined the decision-making process in the first event.

(1) The stage of definition of the problem and information gathering:

- *Objective aspect*. The person analyzing the event was required to compare the results of valid tests, designed to give an objective picture of scholastic achievement in the school, with the norms determined by the Ministry of Education for each grade.
- *Subjective aspect*. The subject was expected to suggest consultations with parents, teachers, and other interested or involved persons regarding the level of achievement in the school.

(1) The stage of formulation of alternatives:

- *Objective aspect*. The subject was required to examine reliable professional sources of information on the options available for solution of the postulated problem.
- *Subjective aspect*. The person analyzing the event was expected to ascertain the opinions of parents, teachers, and other interested or involved persons regarding recommended means of improving the level of studies.

(3) The stage of the final conclusion:

- *Objective aspect*. The subject was expected to use the information gathered to determine the relative probability of success of each of

the alternative proposals drawn up in the second phase, and then to select the most favorable solution.

- *Subjective aspect.* The subject was required to consult with involved individuals with respect to the most feasible alternative.

As a rating scale for each required activity, a continuum of five possible answers was designed:

(1) The analyst of the event was strongly opposed to the criterion. Example: The analyst was opposed to consulting with parents on the subject of school achievement.

(2) The analyst of the event was somewhat opposed to the criterion.

(3) The analyst of the event did not relate to the criterion, either positively or negatively.

(4) The analyst of the event considered the criterion somewhat important.

(5) The analyst of the event considered the criterion very important.

In evaluation of the responses, a score of 5 was defined as representative of cognitive activity on a very high level, whereas a score of 1 indicated very limited ability. Most of the subjects who opposed the use of criteria explained that they lacked confidence in the relevance of these guidelines and preferred to base their decisions on personal experience. Failure to recognize the value of the broader concepts that were prescribed, or to relate to any other comprehensive set of criteria, is evidence of poor reasoning skills.

It should be stressed that the scores were determined by the assessors. The subjects submitted their responses in a free essay fashion on blank paper.

Controlled variable: locus of control at work

This factor was found to differentiate between successful and unsuccessful principals (Klein and Wasserstein, 2000). It was therefore included in the research as a controlled variable.

Findings

The hypotheses were tested in two steps. In step 1, differences between successful and unsuccessful principals were examined with respect to the three aspects of the decision-making process.

Results are reported in Table I, part I, for the event with a high level of personal commitment (items 1a, 2a, 3a, 4a, 5a, 6a), and by way of comparison, the findings for the event with a low level of personal commitment (items 1b, 2b, 3b, 4b, 5b, 6b).

In Step 2, a regression analysis was conducted to determine the relative contribution of decision-making patterns in each of the three above-mentioned components to the explained variance between principals characterized by various degrees of success. The stage of formulation of alternatives was not considered in this study, because of the similarity of the response of all classes

Locus of control and level of cognitive activity in decision making	I Calculation of differences between groups A Highly successful Mean	A Highly successful SD	B Moderately successful Mean	B Moderately successful SD	C Unsuccessful Mean	C Unsuccessful SD	F	Differences according to Duncan test
Locus of control at work	2.12	0.36	1.99	0.26	1.95	0.29	3.17*	A > C
Phase I. Definition of problem and compilation of information								
High personal commitment (Event 1)								
1a Administration of objective tests to determine students' level of achievement	4.78	0.42	4.72	0.45	4.37	1.08	6.12**	A, B > C
2a Consultation with teachers, other professionals in the field of education, parents, and other interested individuals	3.63	1.01	4.39	0.84	4.46	1.09	9.62***	B, C > A
Low personal commitment event (Event II)								
1b Administration of objective tests to determine students' level of achievement	4.56	0.85	4.33	0.89	4.33	1.19	0.48	
2b Consultation with teachers, other professionals in the field of education, parents and other interested individuals	3.29	1.31	4.35	0.92	4.42	1.09	4.16***	B, C > A
Phase II. Establishment of alternatives								
High personal commitment (Event 1)								
3a Examination of courses of action recommended in the literature involved	3.25	1.22	3.67	1.07	3.92	1.23	0.21	
4a Consultation with interested and invled persons, such as parents and teachers, on choice of courses of action	4.22	1.05	4.33	0.76	4.54	0.71	0.59	
Low personal commitment (Event II)								
3b Examination of courses of action recommended in professional literature	3.50	1.35	3.78	0.99	4.17	0.75	7.39**	C > A, B

(continued)

Table I.
Differences in decision-making patterns among school principals of varying degrees of success

Locus of control and level of cognitive activity in decision making	I Calculation of differences between groups A Highly successful Mean	SD	B Moderately successful Mean	SD	C Unsuccessful Mean	SD	F	Differences according to Duncan test
4b Consultation with interested and involved persons, suchas parents and teachers, on choice of courses of action	4.11	0.75	4.33	0.83	4.50	0.71	0.46	
Phase III/ Final conclusion								
High personal commitment (Event I)								
5a Choosing course of action with empirically proven advantages	3.00	1.25	3.65	0.77	3.83	1.12	4.06**	B, C > A
6a Consultation with interested and involved persons with regard to choice of action	4.44	0.70	4.65	0.49	4.79	0.71	4.98**	B, C > A
Low personal commitment (Event II)								
5a Choosing course of action with empirically proven advantages	2.38	1.35	3.53	1.21	3.83	1.12	15.16***	C > B > A
6a Consultation with interested and involved persons with egard to choice of action	4.22	0.64	4.44	0.69	4.54	0.71	0.26*	

(continued)

Table I.

Locus of control and level of cognitive activity in decision making	Step No.	II Calculation of regression High personal commitment event β	Low personal commitment event β	Interaction between the two events β
Locus of control at work	1	0.25**	0.28**	
				0.27***
Phase I. Definition of problem and compilation of information				
High personal commitment (Event 1)				
1a Administration of objective tests to determine students' level of achievement	2	0.29***	–	0.25**
2a Consultation with teachers, other professionals in the field of education, parents, and other interested individuals	2	–0.23*	–	–0.21
Low personal commitment event (Event II)				
1b Administration of objective tests to determine students' level of achievement	2	–	0.13	0.12
2b Consultation with teachers, other professionals in the field of education, parents and other interested individuals	2	–	–0.30***	–0.30***
Phase II. Establishment of alternatives				
High personal commitment (Event 1)				
3a Examination of courses of action recommended in the literature involved	2	0.06	–	–
4a Consultation with interested and involved persons, such as parents and teachers, on choice of courses of action	2	0.04	–	–
Low personal commitment (Event II)				
3b Examination of courses of action recommended in professional literature	2	–	–0.02	–

(*continued*)

Table I.

Table I.

Locus of control and level of cognitive activity in decision making	Step No.	II Calculation of regression: High personal commitment event β	II Calculation of regression: Low personal commitment event β	Interaction between the two events β
4b Consultation with interested and involved persons, such as parents and teachers, on choice of courses of action	2	–	0.19	–
Phase III/ Final conclusion				
High personal commitment (Event I)				
5a Choosing course of action with empirically proven advantages	2	0.27**	–	0.23
6a Consultation with interested and involved persons with regard to choice of action	2	0.15	–	0.18*
Low personal commitment (Event II)				
5a Choosing course of action with empirically proven advantages	2	–	0.42**	0.33***
6a Consultation with interested and involved persons with regard to choice of action	2	–	–0.17	0.19*
	R^2	0.33%	0.36%	0.49%
	F	6.91***	7.69***	10.25***

Notes: *$P < 0.05$; **$P < 0.01$; ***$P < 0.01$; cognitive activity: 1 = low level cognitive activity; 5 = high level cognitive activity

of principals found in step 1. Locus of control was included as a controlled factor.

Table I, part II presents three separate calculations of regression. One tested the contribution of decision-making ability, in the event that generated strong commitment, to the explained variance between successful principals and others. A similar analysis was made concerning the decision pattern in the event eliciting low commitment. The third procedure sought clarification of the question by examination of the combined contribution of decision-making patterns in situations of high and low commitment.

An examination of the averages of the components of the decisions, displayed in the first two pages of the table, led to a number of conclusions:

(1) *General observation.* The differences between administrators characterized by various degrees of success were seen primarily in the stages of definition of the problem and of the final conclusion.

(2) *The stage of definition of the problem.* In both events, the successful principals ascribed greater importance to the objective component, although they related to the subjective factor as well.

The unsuccessful principals, while recognizing the need for acquisition of objective information, showed a slight preference for the subjective approach.

The response of the moderately successful subjects was similar to the successful ones with respect to the objective component of the first, high commitment event. In all other cases, they resembled the unsuccessful principals.

(3) *The stage of establishment of alternatives.* All of the principals tended to rely more on the subjective component.

The successful administrators showed less interest in the objective component than the other groups. This difference was significant in comparison to the disposition of the unsuccessful group toward the objective component of the low-commitment event. No other significant difference between the classes of principals emerged in the study of responses to this stage.

(4) *The stage of the final conclusion.* There was a clear continuation of the decline in the importance accorded to the objective component. All of the principals gave the subjective element more weight. Notwithstanding this tendency, the unsuccessful principals tended to attribute greater importance to the objective component than did their successful counterparts.

(5) *A comparison of the two events.* The findings showed a slight tendency towards a differential response to different levels of commitment by the successful and the average principals. No difference was found in the approach of the unsuccessful principals to the two events.

The results of the regression analysis, displayed in the third and fourth pages of the table, revealed the following findings:

- The level of cognitive activity for a low-commitment decision explained 36 percent of the difference in degree of success of the principal. There was a similar finding (33 percent) for a high-commitment decision.
- When the interaction between the cognitive levels for low and high commitment decisions was examined, the explained variance increased to 49 percent. This result indicated that the populations, for whom cognitive activity in the two types of decisions are determinants of success, partially overlap.

In order to examine the significance of the findings in greater detail, the specific factors distinguishing between the different levels of success as a principal were examined. By means of a test for discriminating functions, two such differentiating functions were discerned. The differences detected in the first function are significant. Results are shown in Table II.

In order to clarify the actual relation of the two functions to the events studied, an additional test was conducted. The aim of this study was to identify items included in each of the functions, and to determine what these items had in common. Items are considered related to a function when there is a relatively high correlation between them and the function. Table III describes these correlations.

Function 1, whose results were statistically significant, included most of the items related to the last stage in the decision-making process, the final

Table II.
The discriminating function

Function	Percentage of variance	Canonical correlation	Wilks' Lambda	Chi-square
1	95.1	0.66	0.54	56.60*
2	4.9	0.19	0.96	3.64

Note: $^{*}P < 0.001$

Table III.
Structure matrix

Function 1	Function 2	Parameter	Commitment	Preference
0.45	0.24	Stage of conclusion	Low	Objective
0.43	0.21	Stage of conclusion	High	Subjective
0.38	0.32	Locus of control		
0.34	0.03	Stage of conclusion	High	Objective
0.32	0.29	Stage of definition of problem	High	Subjective
0.26	0.55	Stage of definition of problem	High	Objective
0.25	0.49	Stage of definition of problem	Low	Objective
0.16	0.31	Stage of conclusion	Low	Subjective
0.03	0.21	Stage of definition of problem	Low	Subjective

conclusion, as well as the locus of control score. In contrast, most of the items related to the problem-defining stage showed a high correlation with the second function.

The findings indicated that the distinction between the principals at different levels of success rested primarily on the profile of their differential approach to the stage of conclusion, since only the first function was found to be significant.

In order to clarify the practical significance of the findings, an attempt was made to use the responses to the questionnaire and the information gleaned from the analysis of the discriminating function to predict the success of the principals. The theoretical results were compared with the degree of actual success of the subjects as reported by the supervisors. In Table IV the two columns at the right present the factual data regarding the number of successful and unsuccessful principals. The three columns to the left show the results of the prediction of success by means of the discriminating function.

With regard to the principals defined by the inspectors as unsuccessful, a correlation of 71.4 percent was obtained between the prediction and the actuality. Success was not predicted for even one of this group. The correlation between the opinion of the inspectors and the theoretical analysis for the moderately successful and the successful principals was 46.7 percent and 54.2 percent respectively. A total of 12.5 percent of the very capable principals were classified by the predictive tool as individuals with poor administrative potential.

Discussion

The present study, a continuation of the work of Lunenburg (1990), examined certain traits of the individual that are associated with success in school administration. Since all the principals studied came from the public school sector, it is necessary to limit our conclusions to that type of institution.

The Israeli school system is in the midst of a transition from strong centralization to considerable local autonomy. The findings of this study are probably applicable to other regions in which the same processes are taking place. This theory should be examined.

Predicted results based on discriminating function			Actual level of performance	
Successful	Average	Unsuccessful	*N*	
0	6	15	21	Unsuccessful
0%	28.6%	71.4%		
8	14	8	30	Moderately successful
26.7%	46.7%	26.7%		
26	16	6	48	Successful
54.2%	33.3%	12.5%		

Note: Percentage of "grouped" cases correctly classified 55.56%

Table IV.
Prediction of the potential for success in school administration

In ordinary day-to-day activity, no difference can be discerned between the decision-making patterns of principals functioning at varying levels of success. Many of those decisions focus on issues of probability and values, in which contradictory solutions are legitimate. In deciding whether tests should be administered on the honor system, principals must weigh the chances of success of the system, according to the predominant atmosphere in each specific school. The type of action taken with troublesome students depends on the philosophy of the individual principal with respect to discipline.

The study partially bore out the reports of Webster (1994), Terry (1995), and Peterson and Beekley (1997) regarding the existence of differences in the decisions made by principals functioning at different levels of success. Characteristic profiles in three separate aspects of decision-making were revealed among principals whose performance was rated as very good, fair, or poor.

The successful principals drew conclusions only after gathering of objective information. They also sought information from sources with a subjective orientation, thus broadening their perspective, but they accorded less importance to the latter sources.

At this same preliminary stage, the unsuccessful principals ascribed importance to both the objective and the subjective approaches, with a slight advantage to the latter. Reliance on the opinions of co-workers heightened their confidence in the accuracy of their decision.

The preference of successful principals for objective information is explained in the literature by assumption of superior intelligence (Dover and Ben Peretz, 1992). According to this view, very bright people lack the appropriate abilities for coping with subjective sources. They are more comfortable dealing with absolute values than with conjectures and intuitive approaches.

The present work does not substantiate this claim. It is true that successful principals initiated the procedure by acquisition of hard facts. However, they changed their emphasis when making the transition to the later phases of decision-making. After providing themselves with a sound factual basis for a decision, they were able to demonstrate a positive attitude toward cooperation with colleagues and other involved individuals in the later stages of the process.

Unsuccessful principals attached more importance to the subjective aspects of the decision in the second and third stages than the first. At the same time, they showed a greater willingness to deal with the objective challenges than did the successful principals at those stages. However, this was not the result of improved cognitive activity among the unsuccessful subjects, but rather of a marked decrease among the successful principals in the importance ascribed to objective sources.

The successful principals arrived at the stage of the final conclusion confident that they had adequate command of objective sources of information. Thus it was possible for them at this time to examine the subjective aspects

more thoroughly. When the unsuccessful principals reached the same stage, they felt that they lacked the concrete information necessary for them to consolidate their positions. Accordingly, they did not abandon the pursuit of objective information to the degree that their more successful colleagues did.

The successful and the unsuccessful principals were similar in the manner in which they formulated alternatives. Neither group considered a systematic, objective approach at this stage to be very important. This finding is consistent with the report of Simon (1982) that most people function poorly when establishing and comparing alternatives during decision-making. It is now clear that successful principals are not immune to this phenomenon, termed "bounded rationality" by Simon.

The tools we have described were relatively successful at identifying the unsuccessful principals, and to a lesser extent, the successful ones. Since the moderately successful administrators did not occupy a position at the halfway point between the two extremes of the continuum, it was difficult to recognize them. This class of principals resembled their more successful peers in some respects, and the unsuccessful ones in others.

It may seem paradoxical that elucidation of the stages of the decision-making process should lead to evidence that the final conclusion is the factor that makes differentiation between the classes of principals possible. However, perusal of the data presented in this paper will show that the information with respect to the conclusion would have little value without understanding of the manner in which the subjects reached this stage.

There are practical implications to the findings that have accumulated. They indicate that it is possible to simplify part of the process of screening candidates for the position of school principal. The combined use of the decision-making test together with the locus of control test should aid identification of those candidates with poor potential for administrative positions. It remains to develop more accurate tests to distinguish between those who possess high administrative ability and others of average ability.

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Appendix

Two hypothetical events served as the basis for the questionnaire which was used in this study. A condensed version of the events follows.

Event No. 1 – high commitment

Within a few months after assumption of the principalship of the Sunrise School, Mr Dan Cohen found a letter on his desk from the chairman of the parents' committee. According to the chairman, the level of English and mathematics education in the school was unsatisfactory, and he was expected to allocate one-quarter of the total teaching hours in the following school term to intensified, computer-assisted studies in these subjects. The message reminded him of the parents' right to determine the content of one-quarter of the school program. The letter went on to declare that he would have to make staff changes and to curtail studies in some other subjects. The note ended with a suggestion for coverage of the costs, an offer to help raise funds, and a repetition of the parents' right to exert influence on school planning.

Dan Cohen had to decide what steps he should take in light of this development.

Subjects were asked to explain in detail how they, in Dan Cohen's place, would react to the letter.

Event No. 2 – low commitment

The principal of a high school, distressed at the generally low cultural level of his students, sent letters to department heads describing the situation and announcing details of a drive for cultural enrichment in which the whole staff would be involved. The traditional preparatory sessions, which were held before the beginning of each school year, would be devoted this time to planning the project, most of it to be integrated in the regular classroom studies. There would be additional activities in the institution after study hours, or outside the school. Teachers who had to put in extra hours would be compensated.

The heads of the major departments would be responsible for incorporation of elements of the project in the study programs of staff members in their groups. Teachers unassociated with departments would plan their contribution to the effort independently.

The principal explained that other projects which had been scheduled for the same period would be delayed until the successful implementation of the cultural enrichment program. He asked that staff members who needed further explanation leave him a note, to which he would respond promptly.

Subjects were asked what they thought about the nature of the decision to implement a cultural enrichment program. Thereafter, they were asked what steps they would take if they, as principals, considered their schools below par culturally.