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INTELLIGENCE: A CRITICAL VARIABLE FOR
LEADERSHIP EXPERIENCE

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Prepared for:

Office of Naval Research
Advanced Research Projects Agency

May 1972

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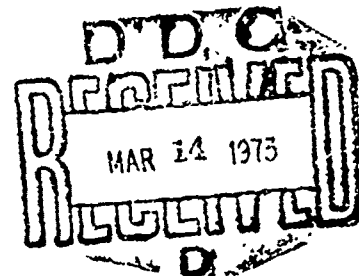
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Contract NR 177-472, N00014-67-A-0103-0012
Office of Naval Research, Department of the Navy

and

Contract NR 177-473, N00014-67-A-0103-0013
Advanced Research Projects Agency, Office of Naval Research

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UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1 ORIGINATING ACTIVITY (Corporate author) Organizational Research Department of Psychology, University of Washington Seattle, Washington 98195		2a. REPORT SECURITY CLASSIFICATION Unclassified	
		2b. GROUP	
3 REPORT TITLE Intelligence: A Critical Variable for Leadership Experience			
4 DESCRIPTIVE NOTES (Type of report and inclusive dates) Technical Report 72-34, May, 1972			
5 AUTHOR(S) (First name, middle initial, last name) Louis S. Csoka			
6 REPORT DATE May 1972		7a. TOTAL NO OF PAGES 10	7b. NO OF REFS 10
8a. CONTRACT OR GRANT NO N00014-67-A-0103-0012 N00014-67-A-0103-0013		9a. ORIGINATOR'S REPORT NUMBER(S) TR 72-34	
b. PROJECT NO 177-472			
c 177-473			
d		9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)	
10 DISTRIBUTION STATEMENT Distribution of this document is unlimited.			
11 SUPPLEMENTARY NOTES None		12 SPONSORING MILITARY ACTIVITY Office of Naval Research, Dept. of Navy and Advanced Research Projects Agency, U.S.N.	
13 ABSTRACT The relationship between a leader's intelligence and his performance has been consistently low. However, these disappointing results can be explained by the Contingency Model (Fiedler, 1967, 1971) which postulates that the leader's effectiveness depends upon his motivational style (LPC) and the favorableness of the leadership situation. The approach in this paper conceptualizes intelligence as the leader's ability to integrate his experience and thus provide him with skills to deal effectively with the technical aspects of tasks and interpersonal relationships. Four successive studies show that leader intelligence and experience interact in determining the leader's "expert" power. The results give evidence to show that the relationship of intelligence to performance depends upon the leader's motivational style, his experience, and the leader-member relations.			

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INTELLIGENCE: A CRITICAL VARIABLE FOR
LEADERSHIP EXPERIENCE¹

Louis S. Csoka

University of Washington

A leader's effectiveness has been typically determined either by his personal attributes alone or by some combination of the characteristics of the situation and personal attributes. Campbell, Dunnette, Lawler, and Weick (1970) provide convincing evidence of the limited and partial role played by the leader's personal attributes such as intelligence. The relationship between the leader's intelligence and his group's performance has been generally low and very inconsistent. Stogdill (19), in his review of personal factors associated with leadership, found a positive but rather small relationship (median of .28) between intelligence and leadership. Hollingworth (1926) found that extreme discrepancies between the intelligence of leaders and their followers militate against the successful exercise of leadership. Mann (1959) reported the typical relationship between intelligence and leadership as being between 0.10 and 0.25. This suggests that the intelligence of the leader is either an insignificant factor or, as we will postulate, that it is poorly utilized.

Recent studies by Fiedler (1971) and Csoka and Fiedler (1972) have shown that the leader's experience and training can be interpreted in light of the Contingency Model. This theory postulates that the effectiveness of the group depends on (a) the personality, or more specifically, the motivational system of the leader measured by his Least Preferred Coworker (LPC) score, and (b) the "situational favorableness" or the degree to which the situation gives the leader power and influence.

¹This study was conducted under Contract N00014-67-A-0103-0012, Office of Naval Research, Department of the Navy, and Contract N00014-67-A-0103-0013, Advanced Research Projects Agency, Office of Naval Research (Fred E. Fiedler, Principal Investigator).

Leadership training can be interpreted as improving the favorableness of the situation by increasing the power and influence of the leader. As the Contingency Model predicts, the additional power and influence is beneficial to certain leaders under some conditions and detrimental under other conditions. Specifically, task-motivated leaders perform best in very favorable and unfavorable situations while relationship-motivated leaders perform best in intermediate situations. Training leaders for jobs which fall into the favorable situation will, therefore, improve the performance of task-motivated leaders while decreasing the performance of relationship-motivated leaders (Figure 1). It would not be surprising if the leader's intelligence plays a somewhat similar role in modifying the favorableness of the situation.

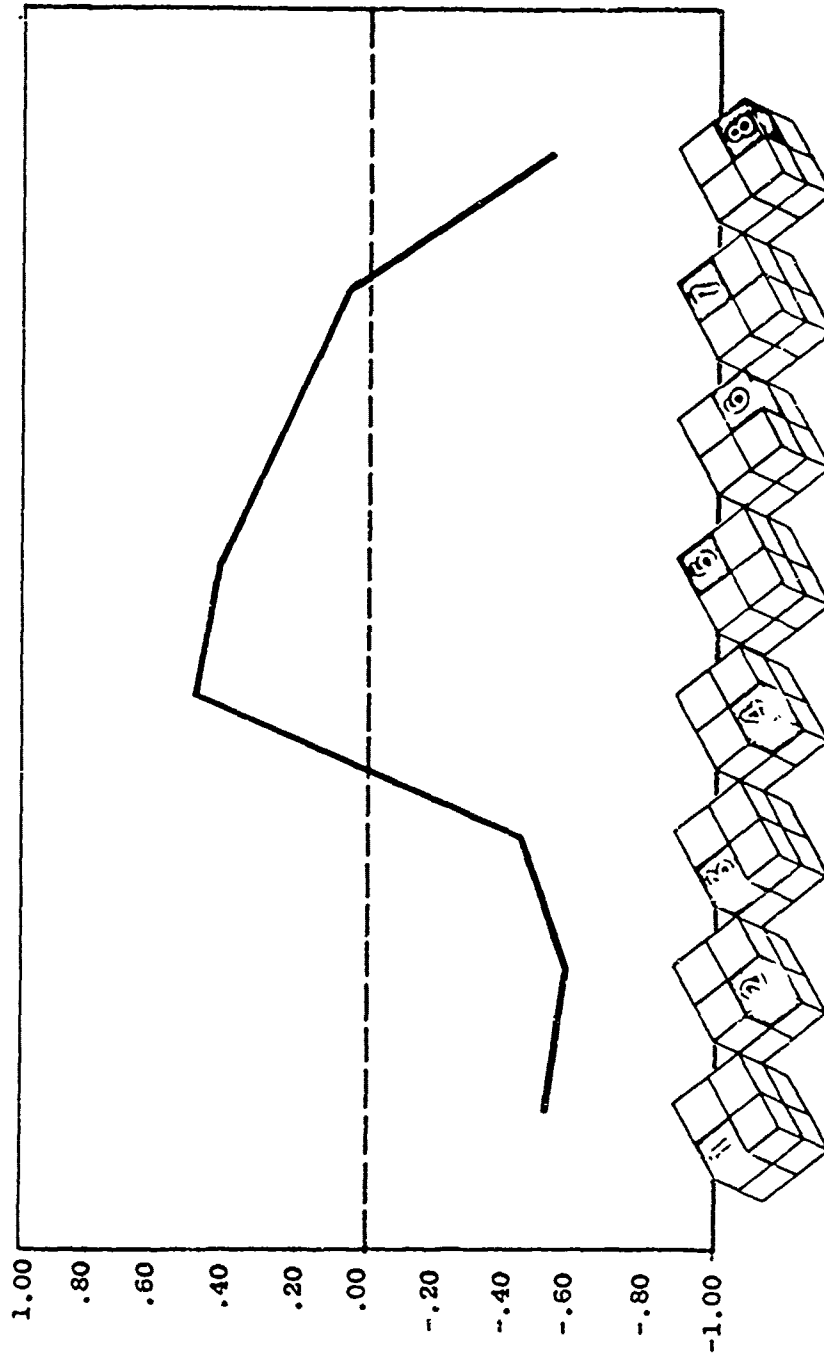
Insert Figure 1 about here

We can view experience as a barrage of cognitive information which must be properly encoded, structured, and categorized in order to make possible any utilization. This encoding and structuring requires intelligence. In effect, an interaction of intelligence and experience provides a form of on-the-job training. An intelligent leader will be able to utilize his experience more effectively than will a leader with low intelligence. For example, the remark has often been made--sometimes facetiously--that some people do not learn from their experience. An analysis relating leadership experience to performance for relatively intelligent and less intelligent leaders would permit us to infer whether the less intelligent leader is unable to integrate and, therefore, to utilize his leadership experience. In contrast, the intelligent leader might be able to make good use of his leadership experience and thereby increase his power and influence. These analyses could explain the inconsistent results in past research relating

Relation -
motivated
considerate
leader

Median Correlations Be-
tween Leader LPC
and Group Performance

Task moti-
vated
managing
leader



LEADER-MEMBER RELATIONS	GOOD	GOOD	GOOD	GOOD	POOR	POOR	POOR	POOR
TASK STRUCTURE	Hi Int.-Hi Exp.	Lo Int.-Hi Exp.	Lo Int.-Hi Exp.	Hi Int.-Hi Exp.	Lo Int.-Hi Exp.	Lo Int.-Hi Exp.	Lo Int.-Hi Exp.	Lo Int.-Hi Exp.
LEADER POSITION POWER	STRONG	WEAK	STRONG	WEAK	STRONG	WEAK	STRONG	WEAK
		Lo Exp.-Hi/Lo Int			Lo Exp.-Hi/Lo Int			

Figure 1

Schematic Representation of the Effect of Intelligence and Experience on Performance as Predicted by the Contingency Model

intelligence and leadership effectiveness. Intelligence should be viewed as an intervening variable which modifies the leader's experience and, hence, the favorableness of the situation. Again, in terms of the Contingency Model, intelligence is an asset for leaders in some situations but a liability in others. A series of studies have been conducted to test these hypotheses.

Hypothesis. Intelligence is here viewed as enabling the leader to profit from his experience. Thus, intelligent leaders with long experience will see the task as structured while relatively less intelligent leaders with experience will see the task as unstructured. Inexperienced leaders will, of course, see the task as unstructured regardless of their intelligence. In terms of the Contingency Model, we can then predict the following relations between LPC and performance:

Octant	Group Atmosphere	Task Structure		Position Power	Predicted Relationship
		Experience	Intelligence		
I	High	High	High	High	-
III	High	Low	High/Low	High	-
V	Low	High	High	High	+
VIII	Low	Low	High/Low	Low*	-

*Leaders who have little knowledge of the task and cannot count on group support in effect have low position power (Csoka & Fiedler, 1972).

Method

Subjects. The studies were conducted with subjects in various military situations. Specifically, they were:

- (a) 55 sergeants in charge of field artillery sections
- (b) 58 navy petty officers in charge of navy aviation maintenance shops

(c) 60 unit commanders usually with the rank of captain

(d) 52 sergeants in charge of army mess units.

A series of questionnaires was administered to obtain LPC scores, the leader-member relations (Group Atmosphere Scale), leadership experience, and intelligence. It might be noted that all leaders had relatively high position power. The methods and procedures in each of the studies were almost identical. The questionnaires were administered to the subjects in one session for each study. Even though the methodology was similar, the leadership situation for each group of subjects was diverse. The studies were conducted in the subjects' natural setting with analysis focused on real-life groups. While the leaders in three groups were first-line supervisors, the company commanders were second line or third line supervisors.

The Least-Preferred Coworker (LPC) Scale. Subjects were asked to think of all men with whom they had ever worked and then to describe the one person with whom they could work least well. These descriptions were made on a standard 22-item, bi-polar adjective scale. A high score indicates a basic motivation to relate to others while a low score indicates task-motivation.

Group Atmosphere Scale (GA). This score is obtained by asking individuals to describe on a 10-item, bi-polar scale, the atmosphere of their work group. The score reflects the degree to which the leader feels that the group is loyal and supportive of him (McNamara, 1968). The cutting score of high versus low GA was based on Posthuma's (1970) finding for real-life groups which showed a median GA score of .655.

Intelligence. A shortened version of the Henmon-Nelson Mental Ability test was administered. The 42-item measure contained both verbal and quantitative items and had a split-half reliability of 0.98 and 0.76 (N=20), respectively. This score is highly related to the AGCT scores used by the services to measure intelligence.

Situational Favorableness. Situational favorableness is typically measured on the basis of three dimensions: leader-member relations, task structure, and position power. Each of these dimensions can be scaled, and groups are classified into the upper or lower half on each dimension. The three-dimensional system results in a continuum of eight octants scaling the situational favorableness from very favorable to unfavorable (see Figure 1). The present studies predict that experience and intelligence interact in affecting the leader's understanding of and ability to handle the task (Csoka & Fiedler, 1972). Thus, the intelligence and experience interaction modify the task structure dimension.

Performance measures. Two to three superiors rated each leader's performance with all interrater agreements above .85. In all studies the rating scales were developed in collaboration with the parent organizations of the subjects.

Results

Table 1 shows the results of the four studies. All correlations are

Insert Table 1 about here

in the predicted direction, and 16 of the 26 correlations reach significance. The results clearly show that the degree to which experience improves the

TABLE 1

Correlations between LPC and Performance

Leader-Member Relations	Good				Poor			
	High		Low		High		Low	
Experience	High	Low	High	Low	High	Low	High	Low
Intelligence	High	Low	High	Low	High	Low	High	Low
Octant	I	III		V	VIII			
Field Artillery Section Chiefs	-.31 N=7	-.81* N=7	-.42 N=6	#	.47 N=7	-.01 N=8	-.37 N=7	-.53 N=10
Navy Maintenance ¹ Supervisors	-.33 N=10	-.20 N=6	-.56* N=6	-.35 N=6	#	-.60* N=11	-.25 N=9	#
Training Company ¹ Commanders	-.69** N=10	-.53 N=6	-.70* N=6	-.56* N=8	.61* N=8	-.58 N=7	-.70** N=10	-.76* N=5
Army Unit Mess ¹ Sergeants	-.57* N=10	-.50 N=3	-.86** N=9	-.58* N=12	.83* N=5	#	-.54 N=4	#

*p < .05

**p < .01

#Insufficient N's

¹One-tailed tests

favorableness of the situation is contingent upon the intelligence of the leader. When the subjects have low intelligence, they do not gain from their experience; and they perform as if the task were unstructured. In fact, the less intelligent leaders, under conditions which can be predicted from the Contingency Model, received higher performance ratings than did the more intelligent leaders: Low LPC leaders with low Group Atmosphere and low intelligence (Octant VIII) had mean ratings which were higher than the more intelligent in the same condition (Octant V).

Discussion

We have known for some time that leader intelligence does not uniformly increase leadership effectiveness. The present studies enable us to specify the conditions under which intelligence is related to performance. The results clearly show that leader intelligence and leader performance were related only in interaction with leadership experience. We conceptualized intelligence as the ability to integrate one's experience. We found that leaders with high intelligence were able to use their experience in structuring the task. However, when high intelligence leaders had very little experience, their intelligence was not beneficial. The less intelligent leaders could not use their experience and the inexperienced leaders could not use their intelligence in better directing the group.

In accordance with our findings, the interactional effects of the leader's motivational style (LPC), experience, and leader-member relations show that high leader intelligence is beneficial to performance only for low LPC leaders in favorable situations and high LPC leaders in situations of intermediate favorableness. The findings also show that the less intelligent

leaders actually perform better in some conditions than do the more intelligent leaders, suggesting a more effective utilization of individuals whose mental abilities would otherwise not make them eligible for leadership positions. The four studies in this paper help to shed light on the complex relationship between leader intelligence and leader effectiveness. The generalizability of these findings may be limited due to the similarity of the sample of subjects--all came from armed forces units. Future research should focus on diversification of subjects and the use of numerous different intelligence measures.

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