A SURVEY STUDY

OF THE

M. I. T. POLITICAL-MILITARY GAMING EXPERIENCE

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with

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Preface

This paper reports on an assessment of the uses and values
of the technique of the political-military exercise as conducted
since 1958 by the Center for International Studies at M.I.T. The
study was undertaken in late 1964 in conjunction with the most recent
series, comprising political-military exercises and experiments
on deterrence sponsored by Project Michelson of the U.S. Naval
Ordnance Test Station, China Lake, California.

There has been continuing interest and activity at the Center
for International Studies in exploring the political-military
exercise technique since the first such game was held here seven
years ago. As a result of this experience my colleagues and I have
formed our own opinions about its various uses and values. Hence,
we welcomed the opportunity provided by the Naval Ordnance Test
Station systematically to collect and analyze the current views
and expert judgments of those individuals who have been exposed
as players to this particular technique and thereby contributed
to its development.

In any case where an evaluation of a technique is undertaken
by the same institution that developed and sponsored it there is,
of course, a risk that the investigators' biases will tend to
produce a report favorable to the sponsor's purposes. We trust
that such effects have been minimized in this particular case
by employing investigators whose personal and professional interests
are primarily in communications and survey research rather than in
the technique of gaming itself, much less in its specific uses

for pedagogical or policy planning purposes, as it has been employed here at the Center for International Studies. The best indication that our personal biases may have had negligible effects on this final report is that many of the findings proved either unexpected in terms of our individual and collective expectations, or substantially different from these. For example, it was quite unexpectedly found that each of the major occupational groupings of respondents rated gaming as affording its highest utility for that grouping's own professional purposes; and when unfavorable or derogatory assessments of gaming were made by the respondents, these tended to be directed toward uses of gaming outside the respondents' own professional fields.

This assessment of gaming at the Center is based on the responses to personal interviews and mail questionnaires sought from all 148 previous game participants. The 82 individuals who responded were found to be highly representative of this entire group in terms of certain background characteristics, and thus we feel that it can be asserted with reasonable justification that the responses received and reported on are highly representative of the full range and variety of responses one might have expected from all 148 participants.

To the extent that this report represents a highly concentrated overview of the responses to the study, I share the authors' belief that further refinements or elaborations of specific findings, as well as additional insights into the methodological problems of gaming, might well be achieved through supplementary analysis of both the quantitative and qualitative data. These have, accor-

dingly, been processed and stored to facilitate such a possible future project.

The preliminary design and day-to-day supervision of the project were assigned to Mr. Barton Whaley. The principal effort in the detailed design and conduct of the survey, the analysis of the data, and the draft of the report was that of Mr. Richard E. Barringer.

The laborious administrative details entailed in a survey such as this requiring contact with large numbers of persons were performed efficiently by Miss Judith Tipton with the gracious assistance of Mrs. Eileen Smith. The coding of the data and much of the statistical analysis were done expertly by Mr. Paul A. Barringer. Professor Donald L. M. Blackmer, the Center's Assistant Director, and Mrs. Jean Clark, the Assistant Editor, were most helpful in reviewing the report and offering editorial suggestions.

I particularly wish to acknowledge our sincere appreciation of the generous contribution of attention and time made by the many busy government, military, academic, and private professional persons who participated in the study. Their high level of interest was indicated by the large proportion who offered themselves for a personal interview. We were, unfortunately, not able to visit many of these because of the close time schedule under which this subsidiary project was conducted.

<div align="right">

Lincoln P. Bloomfield
Director, Arms Control Project

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THE STUDY DESIGN

In the series of nine political-military exercises or "games" conducted since 1958 by Professor Lincoln P. Bloomfield and his associates at the Center for International Studies, M.I.T., one hundred and forty-eight individuals have served as senior participants.[*] In the fall of 1964, shortly before the last of these exercises, a letter was sent by Professor Bloomfield to all one hundred and thirty participants in the first eight of these games, announcing the Center's intention to review this program in terms of its impact upon the participants themselves and inviting their cooperation in this effort. Each participant was asked to indicate his willingness to answer and return a mail questionnaire, as well as his availability for a personal interview. Replies to this letter were received from one hundred and six (81.5%) individuals. Of these, one hundred and three (79.2%) expressed their willingness to participate in the program, and ninety-three (71.5%) indicated their availability for a personal interview.

Due to the tight schedule of the project, the geographic dispersion of the respondents, and the high degree of their stated willingness to subject themselves to mail questionnaires, it was decided that twenty-five personal interviews, conducted both for substantive information and as a pre-test for the mail questionnaire, would suffice for our purposes. Of the one hundred and thirty participants in the first eight exercises, fifty-six (43%) were found to be located presently in Washington; forty-five (35%),in the Boston-Cambridge area; and ten (8%) in the

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[*] For a brief account of this particular non-computerized, multi-team, role-playing type of gaming see Lincoln P. Bloomfield and Barton Whaley, "The Political-Military Exercise: A Progress Report," Orbis, Vol. 8 (1965, forthcoming).

Greater New York area. Thus, of the twenty-five personal interviews

completed, ten were conducted in Washington, eleven in the Boston-Cambridge

area, and four in New York. The persons chosen for personal interviews

were selected, within the constraints mentioned, for their diverse

professional viewpoints and their representativeness of the entire

M.I.T. "gaming population" in terms of their background characteristics

(discussed below), or for their known interest and experience in gaming

techniques.

Prior to each interview, its informality and the anonymity of

response were stressed. The interview questionnaire, consisting of

twenty open-ended and closed multiple-choice questions on the substantive

nature of the participant's gaming experience and his reactions to it,

was deliberately used as an informal "cuesheet" to provide the maximum

freedom of reminiscence and comment, while assuring that all the

experimenters' preconceived questions were answered.

Upon completion of the personal interviews, a mail questionnaire

was devised containing all of the questions asked of the personal inter-

viewees (with appropriate modifications in wording), plus several other

questions raised by the interviewees themselves or suggested by their

comments. Appended to this "long" mail questionnaire were thirteen

"rating questions" in which the respondent was asked to rate the technique

of political-military gaming for various proposed uses, in comparison

to other techniques with which he is familiar. Lastly, a section on

"hypothesized international events" was included in which the

respondent was asked to indicate, from a list of possible choices,

the more or most likely U.S. policy in such a situation and its
eventual outcome. The purpose and results of these latter two sections
will be discussed later.

The "long" mail questionnaire, including all three parts mentioned,
was sent to all those game participants who had indicated their willingness
to respond and had not been personally interviewed, and to the additional
eighteen participants in the final political-military exercise in the
series, conducted subsequent to the issue of the invitational letter.
A "supplementary" questionnaire consisting of the "rating questions" and
the "hypothesized international events" sections was also mailed at this
time to all those who had been personally interviewed, as promised them
at the conclusion of the interview.

In all, eighty-two persons responded to the study prior to its
conclusion, constituting 55.4% of the entire population of game parti-
cipants. This includes fifty-seven participants who returned the "long"
mail questionnaire, twenty-three who were personally interviewed prior
to returning the "supplementary" questionnaire, and two interviewees who
did not return the supplement (of the two, one is pro-gaming, one is anti-).

Prior to the selection of the personal interviewees, an exhaustive
listing was made of all background characteristics in terms of which it
was expected there would be significant differentiation among the game
participants. Seven such sets of characteristics were selected,
including occupation, recency of gaming participation, team role played,
etc. These characteristics, together with the cross tabulations for

the response to the study, are listed as the first seven categories in
Appendix I. The high degree to which the respondents proved represent-
ative of the entire group of game participants, in terms of these seven
variables, may be observed by comparing the percentage distributions
of the game population across these seven characteristics in Column 1
with those of the total responding population across the same seven
in Column 4 of this appendix. These cross-tabulations were subjected
to the chi-square test for significance, a statistical device for com-
paring observed frequencies of categorized data with theoretical or
expected frequencies, and expressing this comparison in terms of a
probability that any differences that exist between these frequencies
are due to chance or accident and are not significant. The probability
that the differences in percentage distributions are not significant
was found to be .962. Thus, the eighty-two respondents to the study
are believed to be highly representative of the entire gaming
population of 148; and their responses and the results of this study
to be highly significant (beyond the 4% level) in terms of that
population.

The questions asked of the respondents and the tabulation of
their responses are given in the remaining appendices.

Appendix II contains the questions asked in the personal interviews
and in the substantive portion of the "long" mail questionnaire, and the
quantified responses to these.

Appendix III contains the mean ratings attributed to political-

military gaming for its proposed uses in the "rating questions" section
of the "long" and "supplementary" mail questionnaires. These ratings
were made by the respondents on the following standard seven-interval
scale:

valueless :___:___:___:___:___:___:___: uniquely valuable

A score of 0 was attributed to "valueless"; 6, to "uniquely valuable";
and successive integral values between. The ratings are listed for the
total response, and for each of five occupational or "institutional"
groupings of the game participants, the differences among them being
significant.

Appendix IV contains the questions asked in the "hypothetical
international events" section of the "long" and "supplementary" mail
questionnaires, together with the responses to these. Each situation
or issue posed in this section was selected from one of the first eight
political-military exercises conducted at M.I.T. The alternative
answers listed were the actual alternatives considered in the relevant
game, including the one ultimately selected, established, or indicated.
The responses are grouped into the categories of those individuals
who participated in the relevant game, and all other respondents.

In the analysis of the responses to this study, the raw statistical
data was first examined and analyzed for significances and meaningful
correlations. The qualitative responses, constituting the greater
portion of the data, were then drawn upon extensively to give
substantive meaning and narrative illustration to the quantitative

findings. In effect, then, it is the respondents themselves who are speaking throughout, except where conclusions are explicitly drawn by the authors. The more statistically-minded, and those seeking validation of the inferences and conclusions, may avail themselves of the appendices.

It may be noted that, at the outset of this study, some apprehension was felt by the authors over the possibility of a pro-gaming respondent bias resulting both from the fact that the game participants had evinced an interest in gaming prior to their participation, and from the possible "halo effect" of their frequently expressed feelings that the M.I.T. games are an enjoyable social experience. However, the respondents' qualitative responses and their remarks about the design of the questionnaire itself indicate that, in general, they assumed a highly critical and responsible posture in forming and expressing their evaluations and opinions.

It is also to be noted that where the terms "game" or "gaming" are used, they refer to the political-military exercise as practiced at the Center for International Studies.

THE FINDINGS OF THE STUDY

Gaming as a Learning Experience

Good, bad, or indifferent as it may be in terms of one's own pro-
fessional interests, the fact is that the political-military game is a
most intense and vivid experience, seemingly for even the most sophisti-
cated of individuals; and therein lie the bases of both its controversiality
and its potential as a heuristic and pedagogical technique. Indeed,
almost two thirds (64.9%) of the respondents characterized their involve-
ment in the games as extreme or intense; and over three fourths (76%)
of those personally interviewed were able to recall at least the research
objective and specific crisis, if not the precise outcome, of the game
or games in which they had participated, even though the time lag since
the respondent's actual game participation had in some cases been up to
six years.

Any experience so intense and so vivid is bound to be a learning
experience of sorts; and any such experience not perceived as good is
apt to be perceived as "dangerous," to use the evaluation of one
respondent.* Of the eighty-two respondents, 35.1% reported having
learned something about the process of contemporary international relations,
40.2% about the foreign policy planning process, 37.8% about crisis
management and decision-making in crises, 37.8% about the technique
of gaming itself, and 13.4% about each of these four areas of interest.

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*The most often heard "danger" of gaming—the likelihood of its
constraining the imagination and flexibility of a policy planner or
decision-maker in parallel real-life situations—is discussed in the
section on "Gaming for Research and Policy Planning Purposes."

In all, fifty-seven or 69.5% of the respondents reported having "learned" from their gaming experience, indicating that the experience does indeed tend to be a learning one, at least as perceived by its participants.

But what is learned? In general, the insights and lessons provided by the gaming experience prove largely to be dependent upon the knowledge and preoccupations brought by the participant to the experience. In other words, what occurs under the stresses of gaming is not so much a process of learning as it is one of sensitizing; not so much something new that is learned as it is a reinforced and heightened awareness of things previously known. By obliging the participant to confront a problem in specifics rather than in generalizations, the gaming exper-ience stretches one's consciousness and imagination, making more salient things already known (though perhaps tucked away in some recess of the mind) and facilitating the establishment of new relations among the data bits. And because the experience is highly demanding in terms of attention and concentration, as well as being of real interest, these insights do not soon pass out of one's mind. Often, the respondents indicate, these insights are salient enough to arouse new theoretical and substantive interests. Of the personal interviewees, 40% (10) indicated having given further consideration and attention to policy problems raised in the games.

It has been suggested that maximum exploitation of gaming's "sensitizing" function might be achieved by creating a scenario design that is maximally at variance with present reality, thereby creating an environment in which present policies and their assumptions are obviously inadequate. Thus the professional game participant may be

rid of his conventional notions and free to establish new insights
into a concise problem chosen by the Control Team. However, one of
the most frequent criticisms of gaming noted by the respondents (20.3%)
is the difficulty of grasping a scenario projection several years into
the future and embarking on a game with several critical new
assumptions amidst an essentially unchanged world. Such jumps are
uncomfortable; and, more importantly, no scenario can specify all the
assumptions that may be implicit in a radically changed reality. Thus,
the participant brings to any scenario his own assumptions about
contemporary reality, and tends to use them rather than bear the
discomfort and constraint of new, unfamiliar ones. The fewer such new
assumptions the participant is asked to make and the closer the scenario
sticks to present reality, then, the better can the problem under
consideration in the game be subjected to the total consideration of
the participants.

The problem of maximizing potential insights into any specific
subject emerges as one of effectively isolating and stressing the
subject within a matrix of familiar reality and assumptions for a
group of participants otherwise highly involved. Thus, both the
subject of the game and the relevant assumptions of the participants
are subjected to stress and to gaming's "sensitizing" function.

It is perhaps because so many respondents felt they had gained
fresh insights from gaming that the technique is seen as having potential
albeit limited value in several realms, if properly modified and
judiciously applied in terms of its relevant values. As mentioned

earlier, the respondents were asked to rate the technique of gaming, in comparison to other techniques familiar to them, for thirteen proposed uses, six of which related to policy planning, four to research, and three to teaching and training. As a whole, they rated gaming first as a teaching and training technique; second, as an adjunct to policy planning; and third, as a research tool for exploring international relations and crisis management. More significantly, however, each institutional grouping of respondents except one rated the political-military gaming technique as being of maximum value within his own professional ken and purview. The order in which gaming was ranked for each of its three general areas of utility by the respondents as a whole and by their institutional groupings is given below.

Rank Ordering of Gaming for its Three General Uses

	TOTAL RESPONSE	Academic	Private	State Dept.	Def. Dept.	Indep. Agencies
For Teaching and Training	1	1	1	2	1	2
For Policy Planning	2	2	3	1	2	3
For Research	3	3	2	3	3	1

(Note: The "Independent Agencies" represented are ACDA, CIA, and USIA. The actual mean ratings may be found in Appendix III.)

These results tend to confirm our contention that what is learned from gaming depends largely upon the knowledge and preoccupations one brings to the experience. The deviance of the "Private" group from the general finding may be explained by the fact that this grouping was less

homogeneous in character than any of the others, subsuming individuals with widely varied interests from diverse functional organizations and groups. Among others, this category included a clergyman, a lawyer in private practice, officials of private foundations, and members of various private research corporations.

The results also indicate that the technique of gaming affords differing values for different purposes, each demanding modifications, adaptations, and refinements of the technique for maximum usefulness. We shall now examine these.

Gaming for Research and Policy Planning Purposes

As developed and practiced at the Center for International Studies, the technique of gaming most readily affords the values of isolating a subject, concept, or assumption for intensive study and of subjecting it to stresses of various kinds. By so doing, it has provided the participants with often unanticipated and incisive insights into the central problem posed and into peripheral matters, and has given them dramatic illustrations of often crucial (though perhaps established) theoretical and practical notions, thereby increasing the players' conscious awareness of their relevance. On the other hand, the non-reproducibility of the technique as presently practiced deprives it of merit as a systematic device for testing and establishing the general theoretical validity of these insights.

For research and policy planning purposes in general, the respondents rated the value of the technique of gaming in the following

descending order (mean ratings, out of a possible 6.0, are in parentheses):

1. for discovering <u>unanticipated</u> policy alternatives in international problem situations (4.2);

2. for discovering <u>unanticipated</u> possible outcomes of the interaction of conflicting strategies or specific crisis situations (4.1);

3. for <u>generating</u> new hypotheses about the nature of crisis management or decision-making in crisis situations (4.0);

4. for increasing the precision and effectiveness of the foreign policy planning process (3.8);

5. for <u>evaluating</u> the validity and viability of various existing U.S. policies in international crisis situations (3.8);

6. for <u>testing</u> tentative hypotheses about the nature of crisis management or decision-making in crisis situations (3.8);

7. for determining the likely <u>effects</u> of various possible U.S. policies in crisis situations (3.7);

8. for <u>generating</u> new hypotheses about the structure and process of contemporary international relations (3.6);

9. for <u>testing</u> tentative hypotheses about the structure and process of contemporary international relations (3.4);

10. for determining the probable <u>reactions of other actors</u> to various possible U.S. policy moves in specific crisis situations (3.4).

What, then, is gaming perceived by its participants as being--
and <u>not</u> being?

First, as a research tool, it was regarded not so much as a tool

for the investigation of the structure and process of international
relations as a technique for illuminating and investigating one aspect
of those relations: crisis management and decision-making in crisis
situations. Given the very structure of the political-military game
itself, this could hardly be otherwise. For, strikingly absent from
the game situation, by design, is the larger world context of real
international behavior; and always present are the intense personal
involvement of the participant and the heavy pressures to which he is
subjected. Beginning with the structured demand of the gaming technique
for decisions and actions within specified time limits, these pressures
build up in both the competitive intra-team exchange of assumptions
and proposals and in the inter-team competitive zeal to "win,"
producing a fine laboratory for the illustration and study of crisis
management techniques. The competitive pressures at both levels tend
to create very real, though subjective sanctions. As one interviewee
observed:

> You're looking at live people who are your peers coping
> with genuine problems as they might arise, and doing so
> under strong competitive and professional pressure to
> perform well. It is often a real test of oneself as a
> result.

And while no objective sanctions in terms of threats to the status or job
of the participants are applied, very few respondents indicated that
lack of such sanctions had in any way detracted from the real crisis
atmosphere of the game. This would suggest that, at least for interested
and sophisticated professionals, the absence of real sanctions does not
substantially affect the procedural aspects of the decision-making
process itself, although it may well affect the substantive nature

of these decisions (as, for example, by downgrading the role of weapons technology in decisions or by increasing risk-taking behavior).

For research purposes, then, the small-group setting inherent in gaming affords a singular opportunity for studying aspects of decision-making and communication processes in crisis situations. At the intra-team level there is the opportunity to observe the processes of situation-definition, information-search, risk-taking, group compromise, and policy formulation. Simultaneously, at the inter-team level, there are present such phenomena as bargaining, negotiation, and the communication of intent, commitment, and resolve.

However, the respondents regarded the technique more highly for generating new hypotheses than for testing tentative ones, and they indicated that a great deal more systematization and standardization is required before it can become a systematic research tool. The role of Control especially, the respondents indicated, would have to be standardized, and many replays of the same problem run in order to build up a sufficient number of cases for the kind of statistical analysis that is associated with contemporary political science research. At present the technique strikes them as too cumbersome, costly, and non-reproducible for such systematic research purposes. Standardized games, providing a standardized scenario and role for Control, played by standardized groups of individuals, would seem a first step in this direction.

Nonetheless, 41.3% (19) of those respondents who are specifically engaged in research stated that their gaming experience had been of practical value to them in doing their research. And while most felt

that this experience had been of a "general and imponderable value,"
several respondents cited tangible practical effects of the experience
on their own research. Six (7.5%) of the respondents have used the
technique themselves for research purposes, and sixteen (20.3%) have
recommended its use for this purpose.

More than a research tool, the technique of gaming was regarded by
the game participants as a heuristic and testing tool for, or as an
adjunct to, policy planning. And it was regarded not as a technique for
predicting events, reactions, or the outcomes of conflict, or for evolving
actual contingency plans as such. Rather, it was valued as a technique
for generating evaluative insights into policy problems and, especially,
for discovering unanticipated possibilities in the international arena.
It is within this realm, if the sheer amount of substantive output by
our respondents is any indication, that gaming's greatest potential
and seemingly greatest danger both reside.

Of the study respondents, 43.9% (36) felt they had learned from
gaming something about the nature and requirements of the foreign policy
planning process; of those actually engaged in policy planning, 55.9%
(19) felt the experience had been of practical value to them in their
work; and 26.6% (21) of the respondents have had the opportunity to
recommend its use for policy planning purposes. What values did these
individuals feel gaming affords the policy planning process? These are
manifold and, while often overlapping the realm of "training" (which
is discussed in the next section), all highly pertinent to the complex
and difficult task of the policy planner.

When asked what elements of gaming struck him as being particularly
unrealistic, one respondent noted that in the real world only "rarely
can one focus on one item at a time." Indeed, the degree to which, in
games, the focus of all attention is concentrated on a single critical issue
or problem is typical of only the rarest international events. Yet herein
is the source of gaming's value to the policy planner: its capacity for
subjecting to stress a variety of variables, assumptions, policies,
techniques, and instruments, and controlling that stress in the interest
of testing the subject for its validity and implications. Accordingly,
in the words of one respondent:

> The necessity under the pressure of gaming for resolving
> the conflicting tendencies and action preferences within
> one's own team forces the articulation of assumptions
> behind these preferences. To the extent that the policy
> planner is not aware of the assumptions being ground into
> policy planning, gaming helps one guard against temperamental,
> unconscious assumptions in dealing with problem situations
> which can have many chance factors in them.

In so doing, gaming stretches the limits of one's imagination, of
one's notions of the plausible and the possible, and of one's awareness
of the roles of the unanticipated and the unexpected in international
affairs.

A second important effect of this experience for the policy
planner is the exposure it provides to crisis-type behavior and the
possibility that such exposure may help to minimize its effects in the
real-life instance. For many respondents the importance of communications
was surely dramatized, and its role in inducing crisis-type behavior
noted. As one personal interviewee noted, "in the light of this
experience, President Kennedy's reported emotional detachment during

the thirty-eight divided council sessions at the time of the Cuban missile
crisis looms as a major prerequisite for a great diplomat or statesman."

In the same vein, the importance of communications between govern-
ments, and even of allowing communications in a hostile camp to go largely
un-jammed, were dramatically illustrated. Several other respondents,
reflecting upon the experience, cited a now more urgently felt need
for empirical study of the bases of reactions of people in other
societies, both by conventional research methods and by adding non-
Americans to gaming teams. One noted that while, in the games, "some
of the assumptions made about how and why people would react were
primitive, they were nonetheless made by more sophisticated individuals
than many of those making them in real life."

Another frequently mentioned value of the gaming experience for
the policy planner is that of having had the opportunity to work around
the periphery of a potential or incipient crisis once before, should
an analogous situation arise subsequently in real life. Thus it is
believed that the planner will acquire more of a "feel" for the timing,
logistics, political implications, and other aspects of the problem
than he would in the absence of the game experience. However, this
"familiarization" issue is also among the most common objections to
gaming among its detractors and especially among those who have not themselves
played in this type of game, being expressed in the terms that such a prior
game experience would constrict or inhibit the participant's imagination
and range of choice in the face of a real crisis situation which he
perceived as being analogous.

Several questions were designed to examine this most salient, even

poignant, issue. The respondents were asked how they felt a decision-maker's prior participation in a political-military exercise might generally tend to affect the quantity and quality of policy alternatives perceived by him, should a real crisis situation arise similar to that hypothesized in the game. While many noted that the answer to this might well depend upon the personality and abilities of the individual involved (suggesting that they were answering in terms of their own experience and expectations), the results were:

Increase the Number	76.7%	Enrich the Quality	87.5%
Leave Unaffected	19.2	Leave Unaffected	8.3
Decrease the Number	4.1	Impoverish the Quality	4.2

As a check on this response, each respondent was also asked to complete a section of fourteen "forced choice" questions on "hypothesized international events," indicating the policy choice and outcome he considered more or most likely in such an event (see Appendix IV). The hypothesized situations were chosen directly from the final reports of the first eight exercises in this series, and the alternative choices posed represent the actual alternatives considered in the games. The responses to these questions were tabulated separately for those who had participated in the relevant game and for all other respondents. The result of this tabulation is that in only one of the fourteen questions was the difference in response between the game participants and all others found to be significant beyond the 60.0% level. For the set of fourteen questions, there was found to be no significance in these differences beyond the 80.0% level. The differences in response,

then, were not significant; and this set of questions would tend to demonstrate the validity of the assertion that participation in a game neither constricts nor inhibits one's range of choice in the face of a similar crisis situation.

More than a mere "familiarization," then, the experience of gaming is in general enriching to policy planners. And that the enrichment provided by the game is not restricted simply to similar situations in real life was indicated by the personal interviewees, 60% of whom indicated that they felt their gaming experience to be applicable to more general types of crises. The response of these individuals indicated, in effect, that the gaming experience had provided them with insights which might well be extrapolated to more general classes of crises.

Generally speaking, then, gaming affords the policy planner the manifold values and effects of:

1. subjecting his assumptions, policies, and techniques to controlled stress, thereby testing their validity, viability, and implications;

2. exploring contingencies and alternatives not readily obvious and which may emerge only too late in the development of a real situation to be taken into account and compensated for;

3. illustrating the sequential unfolding of move and countermove in a longer perspective than can be achieved in the myopic setting of day-to-day events;

4. encouraging the flexibility of thought that comes of
   challenging the "givens" of one's policies, and a corres-
   pondingly greater flexibility in policy planning and operation;

5. emphasizing and delineating the human element in crisis
   management.

The one warning note that must be sounded here is that we are not
tracing cause and effect in this study. We are merely reporting on what
the individual participants in these games, highly sophisticated individuals
by any normal standard, felt that they had derived from this experience.
However, as was noted earlier, gaming is primarily a "sensitizing"
device, illuminating, intensifying, and contrasting what is brought to
the game by the individual. Thus, the experience of gaming is only
as beneficial, or as dangerous, as the raw intellectual and attitudinal
materials brought to it. So long and insofar as policy planners may be
assumed to be sophisticated and flexible individuals, then, the problem
may be assumed to resolve itself.

Gaming for Teaching and Training Purposes

Although it was in both cases advocated as a supplementary and
synthesizing technique, political-military gaming received its highest
ratings as a technique for teaching and for training. In terms of
both, gaming is of obvious value as an interest-arousing and learning-

by-doing technique; but it offers further distinct values in terms
of each.

As a training technique for professional senior-level military
and diplomatic officers, gaming was not regarded by the respondents as a
substitute for solid study of the traditional disciplines upon which each
profession is founded. It was, however, regarded by them as having
substantially unique value for:

1. forcing the individual to survey the landscape above and
   beyond his own job;

2. affording the individual the stimulus to think in terms
   of dynamic relations rather than in terms of discrete
   objects of policy with respect to the behavior of both
   the U.S. and other nations; and,

3. acquainting him with the complexities of crisis manage-
   ment and decision-making in such situations.

Foremost among these values for the professional is the fact that
gaming underscores and vivifies the relationships among the diplomatic,
political, military, sociological, and economic factors involved in any
high level policy decision. In the gaming experience the individual
is afforded the opportunity to expose himself to these differing
functional viewpoints and to familiarize himself with the varying
assumptions, prejudices, and problems of the individuals representing
them. It was generally felt by the respondents that this common
experience among diverse functional types facilitates communication
among them in real life, and provides a convenient analogue in terms

of which the participant subsequently can and does perceive the larger reality of policy problems.

The nature of these values, as well as the almost identical ratings given gaming as a training aid by the participating State Department and Defense Department personnel, indicate that the technique is of essentially similar and equal value in these regards for the training of <u>both</u> military and diplomatic personnel for policy positions.

It was further suggested by several respondents that gaming might prove an extremely valuable "testing tool," to enable senior professional personnel, acting as observers, to evaluate the potential performance of trainees and candidates for policy positions. In view of the extent to which the pressures of gaming throw light on the personality of the individual, revealing many of his strengths and weaknesses, it was believed that gaming would perhaps prove superior to the traditional "oral" examinations in assessing an individual's qualification for a given position. At the very least, it was believed that gaming should prove a worthwhile addition to the usual battery of assessment tests.

For the university student of international relations and foreign policy, especially at the graduate level, gaming was likewise recommended by the respondents as a supplement to the curriculum. The technique has already demonstrated that it adds to routine course matter the dimensions of both personal excitement and an appreciation of international rivalries as conflicts in basic assumptions, value dimensions, and real interests. As one teacher reported:

> I've had my class act as the U.S., USSR, and Egyptian
> teams in dealing with the projected deterioration of
> Libyan stability subsequent to the present King's death.
> Voluntary reading by the class clearly rose; emotional
> and intellectual understanding and discrimination rose;
> and all voted for making a game a regular feature of
> the course.

Gaming was further cited for its value to students as an aid in:

1. substantiating certain models and theories, as well as specific theoretical views about (a) the role of uncertainty, indeterminancy, and risk in international relations, and (b) compromise, bargaining, and negotiation within and among nations;

2. illustrating the complexities of diplomacy and of political-military relations in international affairs; and

3. illustrating the problems and process of policy planning and decision-making, with especial emphasis on the constraints on the freedom of action in decision-making.

The technique of gaming was also likewise highly rated and recommended as a supplementary technique for preparing university instructors and professors for teaching international relations and foreign policy, particularly as only a small proportion of teachers ever become themselves actively involved in the planning and making of foreign policy. In the words of one Ph.D. respondent, a former teacher turned policy planner:

> Gaming can give them a sense of responsibility in what
> they're talking and writing about, by providing them
> with a glimpse of what they might do if they were
> participating in reality rather than just observing it.

Fully half of the thirty-two respondents who are engaged in teaching or training felt that the gaming experience had helped them in their work. Among all respondents, eleven (13.8%) have themselves used the gaming techniques in teaching, and three (3.5%) in training professionals. Twenty-three (29.1%) and twenty-two (27.8%) have had occasion to recommend its use for teaching and training, respectively.

SUMMARY AND CONCLUSIONS

Viewed from the perspective of the reactions of the participants
to their experiences in the nine exercises conducted by the Center for
International Studies since 1958, political-military gaming emerges as
a diffuse learning experience of unique intensity and personal involve-
ment. In its capacity to exert controlled stresses upon various
isolated subjects and concepts, this particular technique generally
affords the individual participant the unanticipated and vivid insights
that arise from increased consciousness and awareness. Often, these
insights will form the bases of new and lasting interests and concerns,
testifying to the intensity of the live experience.

What is actually learned, however, is primarily a function of the
knowledgeability, preoccupations, and imagination of the individual
participant himself. Thus gaming provides many vivid illustrations
of and insights into any or all of the manifold aspects of international
political and military processes, depending upon the sensitivities of
the participant. The extent to which such is the case is reflected in
the fact that each of the major institutional grouping of respondents
rated gaming as being of principal value for its own primary purposes.
Thus, the academics rated it highest for teaching; the State Department
personnel, for policy planning purposes; the Defense Department personnel,
for training purposes; and the independent government agencies personnel,
for research purposes.

This also illustrates the fact that gaming affords differing
values for each of these purposes, necessitating tradeoffs and

modifications within the gaming technique to adapt it most effectively
to its various heuristic, pedagogical, and testing purposes. Though
it is a general-purpose tool, gaming is not maximally effective for
all its possible purposes in the same structural format without at
least some alterations in format or presentation.

In general, the technique of gaming as presently employed is
regarded as having far greater value for generating insights and
hypotheses than it has for testing these. A great deal of study and
systematization of the myriad variables in the technique, especially
the insufficiently understood role of Control, is required before the
problems of its non-reproducibility can be resolved. A singularly
promising prospect of gaming for basic research, however, is provided
by its inherent structure as a laboratory for the study of small-
group interaction and communication.

Within the policy planning realm, gaming's capacity for subjecting
systems, assumptions, and policies to controlled stresses, as maintained
by an alert Control Team, affords a unique testing and heuristic value.
It has been demonstrated that, for the policy planner, the experience of
so subjecting himself, his assumptions, his proposals, and his tech-
nologies is an enriching experience, pushing back the boundaries
of his imagination and preconceptions and leaving him a more flexible
and aware individual.

As a learning-by-doing device, gaming is most highly rated by the
participants as a supplementary technique both for training professional
military and diplomatic officers and for teaching students of international
relations. For the professional, gaming affords the especial value of

exposing him to functional viewpoints and responsibilities different from his own, thus enlarging his understanding of policy problems and facilitating his communications across functional boundaries. It has also been suggested that, given the revealing stresses to which the game participant is subjected, gaming might well be employed as a supplementary "testing tool" for the evaluation of candidates for policy positions.

For the student of international relations, gaming has been found not only to arouse interest in substantive subject matter but to provide vivid illustrations of certain selected theoretical notions and models in that field. It has also been used effectively to demonstrate the problems of policy planning and constraints on decision-making.

One negative comment frequently made by respondents on the use of gaming for teaching and training is the disproportionate investment of both time and money, compared with more traditional techniques, required to conduct a game. Given the enthusiasm for gaming's value in these regards, and the subsequent research values that might be afforded a central evaluating agency in terms of systematizing the technique, it would seem well worth the effort at this juncture to program a standardized instructional gaming device that would allow game sponsors flexibility in scenario construction and subject stress.

The many uses to which gaming is now being put attest to the breadth of its applicability as a heuristic, pedagogical, and testing tool. Among the current or recent uses to which it has been put are: in communications research, to examine organizational decision-making; in policy planning, to test and determine force structures, weapons systems, and command and control communication systems; in the training of

professionals, to illustrate escalation potential in conflict areas and the local commander's role in combatting and containing such situations; and in teaching students, to dramatize the roles of risk, uncertainty, and indeterminancy in international relations.

Political-military gaming has thus proven its relevance and value in several areas of contemporary practical and intellectual concern. It would seem that the next task is to examine closely the variables and factors of which it is composed and systematically to construct at least a partially reproducible technique. In so doing, gaming's present utility cannot be diminished; its applicability can only be broadened further throughout the policy sciences.

APPENDICES

APPENDIX I

Participant Characteristics and Response

Note:

    Col. 1 indicates the number and percentage of all participants satisfying each of the specified characteristics.

    Col. 2 indicates the number and percentage of all participants personally interviewed, for each of the characteristics.

    Col. 3 indicates the number and percentage of all participants who responded to the mail questionnaire, for each of the characteristics.

    Col. 4 indicates the number and percentage of all participants who took part in the study (by interview and/or questionnaire), for each of the characteristics.

    Parentheses indicate percentages; all are additive vertically.

    N for each individual column is as listed in the column heading at the top of the page, unless otherwise indicated at the bottom of an individual column.

	1	2	3	4
	No.Game Part'pts (N=148)	No.Pers. Interv's (n=25)	No.Mail Questn' (n=80)	TOTAL RESP. (N=82)

1. Functional Classification of Primary Occupation

Policy/Staff	53 (35.8)	4 (16.0)	26 (32.5)	27 (32.9)
Research/Teaching	95 (64.2)	21 (84.0)	54 (67.5)	55 (67.1)

2. Institutional Classification of Occupation

Academic	48 (32.4)	12 (48.0)	29 (36.3)	30 (36.6)
Academic-student	9 (6.1)	0 0.0)	4 (5.0)	4 (4.9)
Private	22 (14.9)	7 (28.0)	12 (15.0)	12 (14.6)
Presidential Staff	1 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)
State Department	11 (7.4)	0 (0.0)	4 (5.0)	4 (4.9)
State Policy Planning Staff	5 (3.4)	1 (4.0)	1 (1.3)	2 (2.4)
State - US Mission to UN	2 (1.4)	0 (0.0)	0 (0.0)	0 (0.0)
Defense Dept. - Civilian	2 (1.4)	0 (0.0)	1 (1.3)	1 (1.2)
Defense - Army	7 (4.7)	0 (0.0)	4 (5.0)	4 (4.9)
Defense - Navy	20 (13.5)	0 (0.0)	13 (16.3)	13 (15.9)
Defense - Air For	9 (6.1)	2 (8.0)	6 (7.5)	6 (7.3)
ACDA	6 (4.1)	0 (0.0)	1 (1.3)	1 (1.2)
USIA	2 (1.4)	1 (4.0)	2 (2.5)	2 (2.4)
CIA	4 (2.7)	2 (8.0)	3 (3.8)	3 (3.7)

	1	2	3	4
	No.Game Part'pts (N=148)	No.Pers. Interv's (n=25)	No.Mail Questn' (n=80)	TOTAL RESP. (N=82)

3. Number of Games Played

	1	2	3	4
One Game	122 (82.4)	14 (56.0)	63 (78.7)	64 (78.0)
Two Games	18 (12.2)	7 (28.0)	10 (12.5)	11 (13.4)
Three Games	4 (2.7)	2 (8.0)	4 (5.0)	4 (4.9)
Four Games	3 (2.0)	1 (4.0)	2 (2.5)	2 (2.4)
Five Games	1 (0.7)	1 (4.0)	1 (1.3)	1 (1.2)

4. Game(s) Played

	1	2	3	4
POLEX I	16 (8.6)	8 (18.6)	9 (8.3)	10 (9.0)
POLEX II	22 (11.8)	7 (16.3)	12 (11.1)	13 (11.7)
POLEX-DAIS I	21 (11.2)	5 (11.6)	15 (13.9)	15 (13.5)
POLEX-DAIS II	20 (10.7)	3 (7.0)	10 (9.3)	10 (9.0)
POLEX-DAIS III	24 (12.8)	2 (4.7)	8 (7.4)	8 (7.2)
POLEX-DAIS IV	22 (11.8)	7 (16.3)	17 (15.7)	17 (15.3)
DETEX I	18 (9.6)	3 (7.0)	9 (8.3)	9 (8.1)
DETEX II	21 (11.2)	6 (14.0)	13 (12.0)	14 (12.6)
DETEX III	23 (12.3)	2 (4.7)	15 (13.9)	15 (13.5)
	N = 187	n = 43	n = 108	N = 111

5. Re-Invited to Play After First Game ?

	1	2	3	4
Not Applicable*	18 (12.2)	1 (4.0)	12 (15.0)	12 (14.7)
Yes	36 (24.3)	13 (52.0)	20 (25.0)	21 (25.6)
No	94 (63.5)	11 (44.0)	48 (60.0)	49 (59.7)

	1 No.Game Part'pts (N=148)	2 No.Pers. Interv's (n=25)	3 No.Mail Questn' (n=80)	4 TOTAL RESP. (N=82)
6. **Basis of Invitation to Game(s)**				
Generalist	29 (19.6)	5 (20.0)	15 (18.8)	15 (18.3)
Area Expert	60 (40.5)	10 (40.0)	32 (40.0)	34 (41.5)
Weapon System Expert	59 (39.9)	10 (40.0)	33 (41.2)	33 (40.2)
7. **Team Role(s) Played in Game(s)**				
Control	45 (26.9)	7 (21.9)	24 (25.8)	24 (25.3)
U.S.	47 (28.1)	12 (37.5)	30 (32.3)	30 (31.6)
U.S.S.R.	29 (17.4)	6 (18.8)	18 (19.4)	19 (20.0)
West Europe	1 (0.6)	0 (0.0)	1 (1.1)	1 (1.1)
Great Britain	4 (2.4)	0 (0.0)	2 (2.2)	2 (2.1)
West Germany	5 (3.0)	0 (0.0)	3 (3.2)	3 (3.2)
Scandinavia	1 (0.6)	1 (3.1)	1 (1.1)	1 (1.1)
Yugoslavia	1 (0.6)	0 (0.0)	1 (1.1)	1 (1.1)
Middle East	3 (1.8)	2 (3.3)	1 (1.1)	2 (2.1)
Israel	2 (1.2)	1 (3.1)	1 (1.1)	1 (1.1)
U.A.R.	2 (1.2)	0 (0.0)	1 (1.1)	1 (1.1)
Asia-Africa	1 (0.6)	1 (3.1)	1 (1.1)	1 (1.1)
China	9 (5.4)	2 (3.3)	3 (3.2)	3 (3.2)
Venezuela	3 (1.8)	0 (0.0)	3 (3.2)	3 (3.2)
United Nations	14 (8.4)	0 (0.0)	3 (3.2)	3 (3.2)
	N = 167	n = 32	n = 93	N = 95

	1	2	3	4
	No.Game Part'pts (N=148)	No.Pers. Interv's (n=25)	No.Mail Questn' (n=80)	TOTAL RESP. (N=82)

8. Willingness to Participate in Study Indicated ?

Not Applicable*	18 -	1 (4.0)	12 (15.0)	12 (14.6)
Yes	103 (79.2)	24 (96.0)	66 (82.5)	68 (82.9)
No	3 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)
No Response	24 (18.5)	0 (0.0)	2 (2.5)	2 (2.5)

N = 130

9. Availability for Interview Indicated ?

Not Applicable*	18 -	1 (4.0)	12 (15.0)	12 (14.6)
Yes	93 (71.5)	24 (96.0)	61 (76.3)	63 (76.8)
No	4 (3.1)	0 (0.0)	0 (0.0)	0 (0.0)
Overseas	9 (6.9)	0 (0.0)	5 (6.2)	5 (6.1)
No Response	24 (18.5)	0 (0.0)	2 (2.5)	2 (2.5)

N = 130

10. Personal Interview ?

Yes	25 (16.9)	- -	23 (28.8)	25 (30.5)
No	123 (83.1)	- -	57 (71.2)	57 (69.5)

11. Mail Questionnaire Returned ?

None Sent	23 (15.5)	0 (0.0)	-	0 (0.0)
Yes	80 (54.1)	23 (92.0)	-	80 (97.5)
No	45 (30.4)	2 (8.0)	-	2 (2.5)

* The "Not Applicable" categories include those game participants who participated only in the last exercise of the current series, DETEX III, which was conducted after the invitational letters for this study were sent out to all past participants. DETEX III participants are included in this study, however.

The chi-square test for significance was applied to the "total response" distributions of characteristics 1-7, the basic participant characteristic scheme designed prior to the administration of interviews and questionnaires as an exhaustive listing of all regards in which it was believed there would be significant differentiation among the participants. The chi-square value and probability were found to be 3.94 and .962, respectively. Thus, the 82 respondents in the study are believed to be highly representative of the entire gaming population of 148; and the responses and the results of this study, to be highly significant statistically, beyond the 4% level.

APPENDIX II

Responses to
Questions Pertaining to Participant's
Gaming Experience and Its Effects

Note:

Part A contains those questions asked only of personal interviewees.

Part B contains those questions asked in the long mail questionnaire, including the remainder of the questions asked of the personal interviewees.

Closed, at the end of a question, indicates that the question was posed as a "closed question," with a stipulated multiple choice response format.

Open, at the end of a question, indicates that it was posed as an "open-ended" question affording the respondent complete freedom of response. The responses have been categorized and quantified as indicated.

N, the number of respondents, is indicated at the end of each question.

Parentheses indicated percentages.

PART A.

A-1. Do you recall any of the specifics of the (last) game in which you participated? (closed; n = 25)

  10   - Good Recall
  (40.0)
  9   - Fair Recall
  (36.0)
  6   - Poor Recall
  (24.0)

A-2. Can you recall any particularly striking thing you learned from that game about policy? (open; n = 25)

  18   - Yes
  (72.0)
  0   - Emphasized previous knowledge
  (0.0)
  7   - No
  (28.0)

A-3. Have you given any further consideration to the policy problems raised by this game? (open; n = 25)

  10   - Yes
  (40.0)
  15   - No
  (60.0)

A-4. Can you specify any general type of crisis to which you feel this particular gaming experience might well apply? (open; n = 25)

  15   - Yes
  (60.0)
  10   - No
  (40.0)

PART B.

B-1. In your own words, how would you characterize the degree of your own personal involvement in the game(s) in which you have participated? (closed; n = 77)

  50   - Extreme, intense
  (64.9)
  23   - Moderate, fair
  (29.9)
  4   - Low
  (5.2)

B-2. What elements or aspects of the game(s) would you say, account for whatever degree of involvement you may have felt? (open; n = 76)

27 (35.5)	-	A personal or professional interest in the specific problem gamed, or in the game outcome.
22 (28.9)	-	The quality or realism of the scenario design; and/or aspects of the management of the game by Control.
18 (23.7)	-	The assumption of and commitment to one's assigned role in the game.
21 (27.6)	-	The competitive inter-team pressures of the problem as gamed.
20 (26.3)	-	The demands and/or pressures of problem confrontation and resolution at the intra-team level.
17 (22.4)	-	The calibre, contributions, and/or commitment of one's co-participants in the game.
11 (14.5)	-	The conscious pleasure or "fun" of playing in a formalized "game," as such; and/or, of being isolated from one's everyday concerns at MIT's Endicott House.
13 (17.1)	-	Other

B-3. Has it been your experience in gaming that there is generally a team that "wins" the game, so to speak? (closed; n = 76)

27 (35.5)	-	Yes
49 (64.5)	-	No

B-4. How about international politics in general? Would you characterize it as essentially a "zero-sum" game, in which one side's gain generally represents the other's loss? (closed; n = 76)

10 (13.2)	-	Yes
66 (86.8)	-	No

B-5. In carrying out the role(s) assigned you in the game(s) you have played, did you find that you acted any more or less <u>aggressively</u> than you would normally have expected to? (closed; n = 79)

    25   - More
    (31.6)
    10   - Less
    (12.7)
    44   - No more, no less
    (55.7)

B-6. Again, did you find in the game situation that you were any more or less <u>willing to take risks</u> than you would normally have expected to be? (closed; n = 77)

    25   - More
    (32.5)
    9   - Less
    (11.7)
    43   - No more, no less
    (55.8)

B-7a. (no corresponding question on Personal Interview)
    Can you cite any particularly striking thing or things which you feel you have learned from your gaming experience about the process of contemporary international relations? (open; n = 57)

    20   - Yes
    (35.1)
    1   - Emphasis of previous knowledge
    (1.8)
    24   - No
    (42.1)
    12   - No Response
    (21.0)

B-7b. Can you cite any particularly striking thing or things which you feel you have learned from your gaming experience about the nature and requirements of the foreign policy planning process? (open; n = 82)

    33   - Yes
    (40.2)
    3   - Emphasis of previous knowledge
    (3.7)
    31   - No
    (37.8)
    15   - No Response
    (18.3)

B-7c. Can you cite any particularly striking thing or things which you feel you have learned from your gaming experience about the problems of crisis management and decision-making in crisis situations? (open; n = 82)

    31   - Yes
    (37.8)
    5   - Emphasis of previous knowledge
    (6.1)
    31   - No
    (37.8)
    15   - No Response
    (18.3)

B-7d. Can you cite any particularly striking thing or things which you feel you have learned from your gaming experience about the technique of gaming itself? (open; n = 82)

    31   - Yes - positive or neutral affect
    (37.8)
    1   - Yes - negative affect
    (1.2)
    38   - No
    (46.3)
    12   - No Response
    (14.7)

B-8a. How do you feel a decision-maker's prior participation in a political-military game might generally tend to affect the number of policy alternatives perceived by him, should there arise a real crisis situation similar to that hypothesized in the game? (closed; n = 73)

    56   - Increase
    (76.7)
    14   - Leave unaffected
    (19.2)
    3   - Decrease
    (4.1)

B-8b. (no corresponding question on Personal Interview)
How do you feel a decision-maker's prior participation in a political-military game might generally tend to affect the quality of policy alternatives perceived by him, should there arise a real crisis situation similar to that hypothesized in the game? (closed; n = 48)

    42   - Enrich
    (87.5)
    4   - Leave unaffected
    (8.3)
    2   - Impoverish
    (4.2)

B-9. What would you say were the major elements of <u>unreality</u> of the game(s) in which you have participated? (open; n = 74)

15
(20.3)
- The assumptions and/or projections of the game scenario, as imposed on the players.

38
(51.4)
- The efforts, actions, and/or techniques of Control in guiding the game's development, including its internal time resolution.

12
(16.2)
- The selection of participant personnel by the game sponsors; and/or the artificiality or inappropriateness of role assignments.

19
(25.7)
- The blurring or simplification of the real world complex, or the absence of the "large picture" of reality.

14
(18.9)
- Aspects of the communications process between teams (i.e., nations).

8
(10.8)
- Aspects of game intelligence procedures.

17
(23.0)
- Aspects of the decision-making process or problem resolution in crisis situation.

10
(13.5)
- Other

B-10. Again, what would you say were the particularly <u>realistic</u> elements of the game(s) in which you have participated? (open; n = 62)

4
(6.5)
- The selection of personnel by the game sponsors; and/ or their role assignments.

16
(25.8)
- The initial game scenario situation.

8
(12.9)
- Aspects of the actions of Control in guiding the game's development, including its internal time resolution.

6
(9.7)
- The emotional involvement by the individual participants in the game crisis problem, and/or the emotional identification of teams with their real-life counterparts in the face of such a problem.

14
(22.6)
- Aspects of the communications process between teams, and/or of intelligence procedures.

18
(29.0)
- Aspects of the decision-making process or problem resolution in crisis situations.

20 - Aspects of the interplay of "live" strategies
(32.3) in the international arena, including the limits
 of influence appertaining in foreign policy, and the
 formulated policies of the nations involved.

2 - Other
(3.2)

B-11a. If you are, or have been engaged in <u>research</u> activities, can you
cite any instances in which your gaming experience has been of practical
value to you in this field? (open; n = 46)

19 - Yes
(41.3)
27 - No
(58.7)

B-11b. (no corresponding question on Personal Interview)
If you are, or have been engaged in <u>teaching or training</u> activities,
can you cite any instances in which your gaming experience has been of
practical value to you in these fields? (open; n = 32)

16 - Yes
(50.0)
16 - No
(50.0)

B-12. If you are, or have been engaged in <u>policy</u> planning, formulation, or
implementation, can you cite any instances in which your gaming experience
has been of practical value to you in these activities? (open; n = 34)

19 - Yes
(55.9)
15 - No
(44.1)

B-13. Have you personally ever conducted or sponsored any political-military
games of the MIT type? (closed; n = 80)

11 - Yes, for teaching
(13.8)
3 - Yes, for training
(3.5)
6 - Yes, for research
(7.5)
4 - Yes, for policy planning
(5.0)
0 - Yes, for other purposes
(0.0)
60 - No
(75.0)

B-14. Have you ever recommended the use of political-military gaming, or played a part in stimulating its use? (closed; n = 79)

23 (29.1)	-	Yes, for teaching
22 (27.8)	-	Yes, for training
16 (20.3)	-	Yes, for research
21 (26.6)	-	Yes, for policy planning
3 (3.8)	-	Yes, for other purposes
26 (32.9)	-	No

APPENDIX III

Mean Ratings of the Technique of Political-
Military Gaming for Various Proposed Uses

Note:

 Col. 1 indicates aggregate mean rating by all respondents.

 Cols. 2-6 indicate mean ratings by institutional groupings, based on the professional occupation of the respondent at the time of his (most recent) game participation.

 PART A includes the ratings for each specific proposed use of gaming.

 PART B includes the ratings for the cumulative sets of questions dealing with the proposed uses of gaming for (1) policy planning, (2) research, and (3) training.

 All mean ratings indicated are out of the maximum possible score of six (6).

	1	2	3	4	5	6
A. Compared with other techniques with which you are familiar, how would you rate political-military gaming of the MIT type as:	AGG $\overline{X}$	Aca-demic $\overline{x}$	Pri-vate $\overline{x}$	State Dept. $\overline{x}$	Def. Dept. $\overline{x}$	Indep. Agencies* $\overline{x}$
1) a technique for increasing the precision and effectiveness of the foreign policy planning process?	3.8	3.5	3.3	4.5	4.1	4.0
2) a technique for evaluating the validity and viability of various existing U.S. policies in international crisis situations.	3.8	3.6	3.3	4.3	4.2	4.0
3) a technique for discovering unanticipated U.S. policy alternatives in present or possible international problem situations?	4.2	3.8	3.6	4.0	4.9	4.8
4) a technique for determining the likely effects of various possible U.S. policies in crisis situations?	3.7	3.6	2.7	4.5	4.0	4.2
5) a technique for determining the probable reactions of other actors on the international stage to various possible U.S. policy moves in specific crisis situations?	3.4	3.4	2.4	4.3	3.6	3.3
6) a technique for discovering unanticipated possible outcomes of the interaction of conflicting strategies in specific crisis situations?	4.1	4.0	3.5	4.7	4.5	4.2
7) a technique for testing tentative hypotheses about the structure and process of contemporary international relations?	3.4	3.1	3.2	3.3	3.4	4.3
8) a technique for testing tentative hypotheses about the nature of crisis management or decision-making in crisis situations?	3.8	3.5	4.0	4.0	4.1	4.0

*consists of ACDA, CIA, USIA.

	1	2	3	4	5	6
	AGG $\overline{X}$	Aca-demic $\overline{x}$	Pri-vate $\overline{x}$	State Dept. $\overline{x}$	Def. Dept. $\overline{x}$	Indep. Agencies $\overline{x}$
9) a technique for generating new hypotheses about the structure and process of contemporary international relations?	3.6	3.6	3.3	3.0	3.8	4.2
10) a technique for generating new hypotheses about the nature of crisis management or decision-making in crisis situations?	4.0	3.8	4.1	4.0	4.0	4.5
11) a technique for training diplomatic and military officers for policy positions?	4.3	4.3	4.3	4.5	4.3	4.5
12) a technique for preparing university instructors and professors for teaching international relations and foreign policy	4.0	4.0	4.3	3.7	4.0	4.0
13) a technique for teaching university students of international relations and foreign policy	4.3	4.3	4.0	3.3	4.4	4.2
	N=80	n=33	n=12	n=5	n=24	n=6

B. Cumulative Ratings

FOR POLICY PLANNING (Q. 1-6)	3.8	3.7	3.1	4.4	4.21	4.1
FOR RESEARCH (Q. 7-10)	3.7	3.5	3.7	3.6	3.8	4.3
FOR TEACHING AND TRAINING (Q. 11-13)	4.2	4.2	4.2	3.8	4.23	4.2

APPENDIX IV

Responses to Questions About
Hypothesized International Events

Note:

Col. 1 indicates the total response for each answer to the questions, and their percentage distributions.

Col. 2 indicates the number and percentage distribution of responses by those respondents who participated in that game in which this event, outcome, or conclusion occurred.

Col. 3 indicates the number and percentage distribution of responses by all other respondents.

Parentheses indicate percentages. All are additive vertically.

* (asterisk) indicates the event, outcome, or conclusion which actually occurred in that game.

X^2 and P, in columns 4 and 5, indicate the chi-square significance test value and probability. P indicates the probability that differences in responses (between specific game participants and non-participants) are due to chance, are not significant. Thus, the probability that the differences are significant is 1-P.

For the entire set of 14 questions, X^2 = 21.02

P = 81.2

	1	2	3	4	5.
	Total Resp.	Game Part.	Other	x^2	P

1) a. In the event of the death of Poland's Gomulka and a subsequent armed struggle for power between liberal-nationalist and the Stalinist wings of the Polish Communist Party, would there be likely to materialize a direct clash between Soviet and U.S. power?

Yes	5 (7.4)	0 (0.0)	5 (8.1)		
*No	63 (92.6)	6 (100)	57 (91.9)		
	N=68	n=6	n=62	0.0	1.00

    b. During such a dispute, U.S. policy

would be designed to draw Poland out of the Soviet bloc.	29 (43.9)	2 (40.0)	27 (44.3)		
*would not be designed to draw Poland out of the Soviet bloc.	37 (56.1)	3 (60.0)	34 (55.7)		
	N=66	n=5	n=61	0.0	1.00

2) a. In the event of an armed revolt in Iran and the outbreak of widespread civil war against the Shah's regime, is direct military intervention by the forces of both the United States and the Soviet Union likely to eventuate?

*Yes	12 (17.6)	0 (0.0)	12 (20.0)		
No	56 (82.4)	8 (100)	48 (80.0)		
	N=68	n=8	n=60	1.25	.75

    b. In the case of such an event, official U.S. policy would be:

in support of the Shah's regime.	37 (64.9)	5 (83.3)	32 (62.7)		
in support of the rebels.	0 (0.0)	0 (0.0)	0 (0.0)		

	1	2	3	4	5
	Total Resp.	Game Part.	Other	x^2	P

*in support of negotiation between the factions for a coalition government.

	15 (26.3)	1 (16.7)	14 (27.5)		

none of the above.

	5 (8.8)	0 (0.0)	5 (9.8)		
	N=57	n=6	n=51	0.86	0.99

3) a. In the event of an indirect and successful campaign of aggression and subversion against a deteriorating Burmese government by the Communist Chinese, and the subsequent intervention of a U.N. military force, would you consider a temporary Sino-Soviet rapprochement a likely eventuality?

*Yes

No

	22 (32.4)	6 (42.9)	16 (29.6)		
	46 (67.6)	8 (57.1)	38 (70.4)		
	N=68	n=14	n=54	0.64	0.89

b. Prior to United Nations intervention in such a matter, the U.S. government would have:

assumed a "hands off policy.

intervened unilaterally.

supported U.N. intervention.

*intervened unilaterally while awaiting UN action.

done none of the above.

	2 (3.2)	0 (0.0)	2 (3.9)		
	1 (1.6)	0 (0.0)	1 (2.0)		
	47 (75.8)	9 (81.8)	38 (74.5)		
	11 (17.7)	2 (18.2)	9 (17.6)		
	1 (1.6)	0 (0.0)	1 (2.0)		
	N=62	n=11	n=51	0.0	1.00

	1	2	3	4	5
	Total Resp.	Game Part.	Other	x^2	P

4) a. In the event of an outbreak of open and widespread civil war between the Portuguese settlers and the native nationalists of Angola, would there be likely to ensue an explosive chain reaction of colonial, racist, and ideological elements throughout all of Black Africa?

*Yes	42 (60.0)	8 (100)	34 (54.8)		
No	28 (40.0)	0 (0.0)	28 (45.2)		
	N=70	n=8	n=62	5.41	0.15

b. In the case of such an event, the U.S. government would, at least verbally, support:

the Portuguese settlers.	5 (7.4)	0 (0.0)	5 (8.1)		
the native Angolan nationalists.	19 (27.9)	3 (50.0)	16 (25.8)		
*neither of the warring factions.	44 (64.7)	3 (50.0)	41 (66.1)		
	N=68	n=6	n=62	1.46	0.92

5) a. In the event of renewed open hostilities between Israel and the United Arab Republic, and the failure of the Soviet Union to lend the UAR the support it sought, would the UAR be likely to seek such support from the Communist Chinese?

*Yes	57 (83.8)	7 (100)	50 (81.7)		
No	11 (16.2)	0 (0.0)	11 (18.3)		
	N=68	n=7	n=61	1.28	0.73

	1	2	3	4	5
	Total Resp.	Game Part.	Other	X^2	P

b. In the case of such an event, the U.S. government would:

	Total Resp.	Game Part.	Other
take unilateral action on behalf of Israel.	1 (1.6)	0 (0.0)	1 (1.8)
seek to resolve the dispute through the United Nations.	37 (58.7)	2 (28.6)	35 (62.5)
*take unilateral action on Israel's behalf while seeking a resolution under UN auspices.	18 (28.6)	5 (71.4)	13 (23.2)
do none of the above.	7 (11.1)	0 (0.0)	7 (12.5)
	N=63	n=7	n=56

7.35   0.40

6) a. In the event of an invasion of South Vietnam by North Vietnam, a successful counterattack by the South, and subsequent Communist Chinese intervention in the conflict, is it likely that the United States and Communist China would become involved in a major military confrontation in Vietnam?

	Total Resp.	Game Part.	Other
*Yes	63 (88.7)	7 (87.5)	56 (88.9)
No	8 (11.3)	1 (12.5)	7 (11.1)
	N=71	n=8	n=63

0.0   1.00

b. In the case of such an event, the U.S. government would:

	Total Resp.	Game Part.	Other
take no direct military action to counter the Chinese intervention.	0 (0.0)	0 (0.0)	0 (0.0)
use tactical nuclear weapons against the intervening Chinese troops.	8 (11.8)	0 (0.0)	8 (13.3)
*counter the Chinese intervention with conventional arms only.	58 (85.3)	8 (0.0)	50 (83.5)

	1	2	3	4	5
	Total Resp.	Game Part.	Other	x^2	P

do ncne of the above.	2 (2.9)	0 (0.0)	2 (3.3)		
	N=70	n=80	n=62	1.31	0.99

7) In a world in the advanced stages of a general and complete disarmament process, would you conceive it as necessary that the proposed United Nations International Military Force have a nuclear capability (under suitable controls) if it is to do its various jobs?

*Yes	30 (44.8)	4 (28.6)	26 (49.1)		
No	37 (55.2)	10 (71.4)	27 (50.9)		
	N=67	n=14	n=53	1.46	0.70

8) In times of international crisis, which of the following characteristics of command and control communications systems would you consider to be more important to the Presidential decision-maker?

Security of communications to and from control points.	12 (19.7)	2 (20.0)	10 (19.6)		
*Rapidity of communications to and from control points.	49 (80.3)	8 (80.0)	41 (80.4)		
	N=61	n=10	n=51	0.0	1.00