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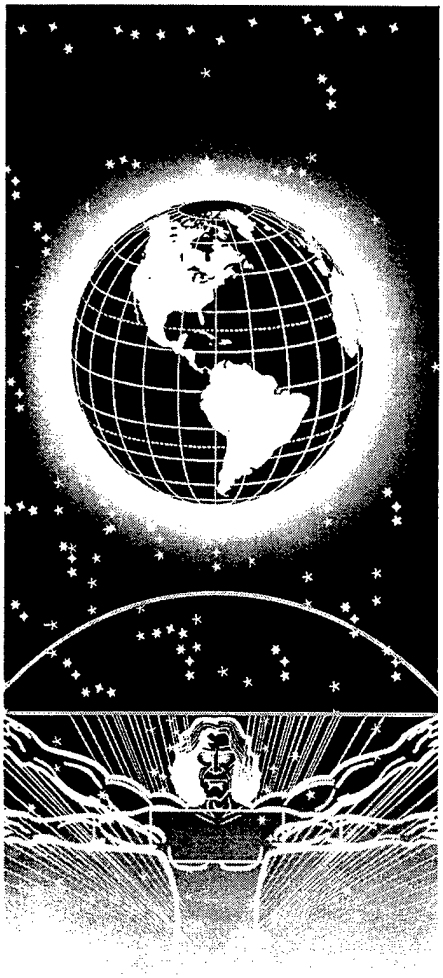

UNITED STATES AIR FORCE RESEARCH LABORATORY

EVALUATION OF CROSS-CULTURAL MODELS FOR PSYCHOLOGICAL OPERATIONS: TEST OF A DECISION MODELING APPROACH

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14. ABSTRACT

Specific research objectives were to identify sample psychological operations (PSYOP) objectives likely to be sought in traditional wartime operations and from operations other than war; for two sample objectives, to identify cultural and situational factors that would influence a likelihood that a target audience (TA) would respond as desired; to determine if a policy-capturing methodology would result in a policy model that could assess the probability of a TA responding as desired under varying conditions; and to examine the degree that relationship of factors and TA response is consistent across cultures and situations. Comparisons of relative influence of factors across/within cultures showed moderate but inconsistent agreement between subjects/cultures. In general, decision analysis procedures proved to be easily implemented. From these results, there is strong indication that relevant influencing factors can be pre-identified for specific PSYOP objectives. However, additional research over a larger number of objectives/cultures is required to see if these results are generalized to different types of operations and target audiences.

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PREFACE

This research described in this report was conducted for the Air Force Research Laboratory, Human Effectiveness Directorate, Warfighter Training Research Division (AFRL/HEA), under Work Unit 1123-A2-10, Cross-cultural Models for Psychological Operations, under Contract F41624-95-D-5030, Delivery Order 13, with Metrica Inc. The Laboratory Work Unit was Dr Samuel G. Schiflett, AFRL/HEAI, at Brooks Air Force Base, TX.

SUMMARY

An increased appreciation for the role of psychological operations (PSYOP) in the resolution of conflict has generated interest in developing a system that could help military planners estimate the probability of achieving various PSYOP objectives. Based on findings from an initial search for existing predictive models that would make use of information related to cultural traits and attitudes of potential target audiences (TA), a small feasibility study of a proposed decision support system (DSS) was initiated.

The proposed system would make use of lists of cultural and situational factors that experts had previously identified as likely to influence a target audience's response to specific PSYOP objectives. The system would also employ a decision analysis methodology to identify the decision rationale of PSYOP planners as they estimated the likelihood of obtaining a desired response from a TA under varying cultural and situational conditions. The resulting policy model would enable planners to determine the potential impact of the various cultural and situational factors on the TA's likely response, as conditions related to those factors were varied. The overall goal of the current study was to examine the potential utility of the components of such a system.

The specific objectives of this research study were (1) to identify a list of sample PSYOP objectives likely to be sought in traditional wartime operations and from operations other than war; (2) for two sample objectives, to identify the cultural and situational factors that experts agreed would influence the likelihood that the TA would respond as desired; (3) to determine whether a policy capturing methodology, used to gather subject matter experts' perceptions regarding the relationship of the factors and the likelihood of TA response, would result in a policy model that could be used to assess the probability of a TA responding as desired under varying conditions; and (4) to examine the degree that the relationship of factors and TA response is consistent across cultures and situations.

Based on input from a small group of experienced PSYOP consultants and a review of relevant PSYOP documents and literature, researchers developed a list of sample PSYOP objectives and a proposed framework for an expanded taxonomy of objectives. They also developed lists of potential influencing factors for three sample objectives. All of these initial products were reviewed and refined by current PSYOP planners and area analysts representing a small cross section of cultural expertise.

A policy capturing exercise was created for each of the three sample objectives. In these exercises, the subjects [nine of these same subject matter experts (SMEs)] first provided direct estimates of the relative influence of the factors on the specific objectives in a cultural situation with which they were familiar. These estimates were accomplished using a ranking/weighting procedure often used in a simple multi-attribute rating technique (SMART) methodology. The rankings were used to narrow the list of varied factors in the actual policy capturing procedure. In that part of the methodology, the subjects provided individual estimates of the likelihood of the TA responding as desired under a variety of situations in which the conditions of various factors were altered.

The results of this data gathering revealed that most of the policy capturing models derived from the SMEs' estimates were significant and that the combined influence of the factors accounted for a large percentage of the variance in estimates. This finding indicates that, in most of the scenarios, the SMEs employed an identifiable and consistent decision rationale that might be used to estimate their perceptions of the probability of TA response under a variety of conditions. In addition, the subjects indicated a moderate to high degree of confidence in their individual likelihood estimates for more than 75 % of their responses. The subjects' degree of confidence in their direct rankings of the factors' influence also ranged from moderate to extremely high, with greater confidence reported by the area analysts, who had much more experience anticipating the attitudes and beliefs of their specific cultures than did the PSYOP planners.

However, the policy capturing exercise also revealed that subjects would have difficulty estimating TA response when the hypothetical situations they were rating contained conditions that were highly improbable for their TA. This aspect indicates that factors with highly improbable conditions should be held constant and not varied in the set of situations of a policy capturing exercise

Comparisons of the relative influence of factors across and within cultures showed moderate but inconsistent agreement between subjects/cultures. A review of the most influential factors identified through the direct relative ranking by the subjects showed relatively low correlation and little consistency among rankings across five cultures on a surrender scenario. But stronger correlations were demonstrated among three different cultures for a refugee repatriation scenario. A comparison of rankings from those five subjects who rated the same culture and situation showed moderate correlations significant at the $p < .1$ level for six of ten comparisons on the surrender scenario.

In general, the decision analysis procedures proved to be easily implemented. The subjects reported being able to understand and implement the various procedures needed to gather both their direct ranking of factors and their estimates of TA response likelihood. The procedures were usually accomplished, initially, in less than 90 minutes, and in a shorter period of time during a second exercise.

Although these results come from a small sample of subjects and cultures, there is a strong indication that relevant influencing factors can be pre-identified for specific PSYOP objectives. Further, a policy capturing process (combined with an initial direct ranking process to narrow the number factors varied) can be used to identify the consistent decision rationale of subject matter experts regarding the likelihood of target audience response. Further indications are that these components could be used in an automated decision support system to help PSYOP planners estimate the probability of the target audience's responding as desired under various conditions. However, additional research over a larger number of objectives and cultures is required to see if these initial results are generalizable to different types of operations and target audiences.

I. INTRODUCTION

Background and Purpose of the Study

In the annals of political and military conflict, what is currently known as psychological operations (PSYOP) has played a varied and often underappreciated role for many centuries. Attempts to influence the attitudes, beliefs, and actions of both friendly and opposing nations, forces, groups or individuals so they take actions favorable to the interests of the PSYOP initiator have been evident throughout history and have been referred to in other terms, such as propaganda and psychological warfare,. Studies of PSYOP frequently cite references to these types of activities in the writings of classical strategists, such as Clausewitz and Sun Tzu; and in the actions of political and military leaders from Genghis Kahn to Thomas Paine during the American Revolution (Goldstein & Jacobowitz, 1996; McLaurin, 1982; Askenasy, 1982; Daugherty, 1954).

Although PSYOP has had a role in conflict resolution for centuries, its value has been more openly recognized in this century through applications in two world wars and numerous regional conflicts such as Korea and Southeast Asia. However, as some writers have attested, the valuable lessons learned during these experiences have frequently been ignored or lost between them, as PSYOP has tended to fall out of favor during peacetime. Consequently, despite recent advances in communications and information technology, the actual decision making methods in PSYOP campaign planning and the problems in assessing PSYOP effects are often not very different from what previous planners experienced in World War II.

Due to increased operational demands on PSYOP forces and perceived successful employment of PSYOP initiatives in Desert Storm and other recent engagements, segments of the U.S. military have developed a greater interest in including PSYOP contributions in overall military campaign planning. Despite this increased appreciation, military leaders are still faced with some historic difficulties when they would integrate PSYOP factors into their sophisticated simulation and modeling programs. It remains difficult to isolate and assess the effects of PSYOP initiatives, and much of the decision/planning process that determines PSYOP objectives and initiatives is based on qualitative, intuitive assessments by experienced PSYOP staff, rather than on readily quantifiable data.

Current methods of PSYOP campaign planning involve a review of intelligence data and detailed cultural analyses in the form of Basic PSYOP Studies (not done any more), Special PSYOP Studies (SPSs) or Special PSYOP Assessments (SPAs), and Military Capabilities Studies (MCS) to identify target audiences and vulnerabilities that can potentially be exploited to achieve PSYOP objectives. The common tool designed to assess the potential for achieving the PSYOP objective has been the Target Analysis Worksheet (TAW). But much of the quantifiable information used in this assessment is related to message production and distribution capabilities and the technical and logistical matters associated with that part of the PSYOP process. In most cases, the assessment of

the susceptibility of various target audiences (i.e., the TA's propensity or willingness to respond as desired and the likelihood that that willingness can be altered by messages or actions appealing to specific themes) is an intuitive process based on the planners' general knowledge of the TA and on their analysis of the PSYOP studies and available intelligence information. In some situations, when the pressure to produce a plan in a short period of time is intense, the TAW process is shortened, and the PSYOP team relies on past experience and methods and themes that have previously been successful.

With the introduction of computer capabilities over the last 20 years, PSYOP managers have tried to provide easier access to useful data bases and modeling systems (Katz, McLaurin & Abbott, 1996). However, the majority of PSYOP decisions are still based on the individual planner's ability to sift through mounds of information, identify potential vulnerable areas and exploitable themes, and assess the probable impact of specific messages and actions on a variety of audiences with whom the planners often have limited contact for pre-testing. For many in the PSYOP world, Katz's (1986) oft repeated sentiment that "PSYOP is an art, not a science" (p.43) has become axiomatic.

In an attempt to merge the art and science of PSYOP by exploiting expanding computer capabilities, the information operations (IO) community expressed interest in development of a model that could employ cross-cultural information to help PSYOP planners predict the likelihood of achieving PSYOP objectives. One of the first stages in the research on the development of such a capability was a 1997-98 review of cross-cultural literature and existing PSYOP capabilities to identify existing cross-cultural models that could be used for PSYOP planning (Barucky, et al, 1998)

The result of this research was the determination that no model existed (at least in the unclassified areas investigated) that employed a database of cross-cultural information that could be used for predicting PSYOP outcomes. However, the researchers did identify some models and studies (especially Azjen, 1988; George, 1979; Samli, 1994; and Rosen & Smith, 1996) that could be useful in the development of a decision support system that might help PSYOP planners consider/assess appropriate factors when they attempt to determine target audience susceptibility and the likely outcomes of various PSYOP objectives. They also found, through their review of PSYOP literature and documents, a recurrence of objectives and themes that suggested that similar factors or vulnerabilities were being targeted to achieve certain objectives across a variety of conflict scenarios involving widely differing cultures.

One prime example of this consistency in approach over time is seen in an historical review of surrender objectives and of certain factors that have been linked as influencers of the TA's willingness to surrender. The PSYOP literature cited above and the researchers' review of documents in the archives of the Special Operations Command at Ft Bragg revealed several common themes and approaches designed to induce surrender in WW II that were repeated in the Korean War. In an extensive study of surrender during the Korean War by the Johns Hopkins University Operations Research Office (1953), physical hardship, group cohesiveness, commitment to ideology, and several

other factors appeared to differentiate between those surrendering and those who continued to resist and were captured. In terms of several more recent conflicts, both PSYOP documents and observations from experienced PSYOP planners indicate that PSYOP messages continued to work on those same factors in an attempt to influence the attitude and intentions of the TA and make them more inclined to surrender.

With this historical perspective, a major recommendation derived from this initial study was to investigate the potential utility of a decision support system (DSS) that linked individual PSYOP objectives to cultural and situational factors that are commonly associated with influencing the target audiences' willingness to respond in the desired manner. It was proposed that a decision analysis process which allowed planners to estimate the likely impact of each of those factors under varying conditions and to consider the current estimated status or condition of the TA in regard to each of those factors would help planners assess the current inclination of the TA toward that PSYOP objective. The ability to analyze their decision rationale regarding potential TA vulnerabilities might also help planners identify which factors, if appropriately manipulated, would be most likely to shift that inclination in the desired direction. It was also suggested that providing a more structured approach, that clarified the rationale for these qualitative assessments, would ensure that less-experienced planners gave appropriate consideration to key factors and would allow them to better assess how much change is needed in key beliefs or attitudes to significantly increase the likelihood that the TA will respond as desired.

Based on these findings, a modest feasibility study was approved to examine the utility of some of the components of such a DSS. First, the researchers wanted to determine if cultural and situational factors could be identified that experts agree are potential influencers of a target audience's propensity to respond in a desired manner to certain PSYOP objectives. Second, they wished to explore the extent that those factors and their estimated influence are consistent across several cultures. Third, they wanted to determine if a policy-capturing process could be used to reveal the decision rationale of PSYOP subject matter experts (SMEs) when they make holistic assessments of a TA's propensity for responding in the desired manner to the PSYOP objective. And specifically, if this decision analysis process for estimating the potential influence of those factors on the SMEs' assessment would result in a model with sufficient explanatory power that it could be useful in helping SMEs assess the TA's probability of responding in a desired manner under current conditions and under varied alternative conditions.

It was recognized that limits in funding and access to cross-cultural subjects would narrow the scope of the project to comparisons of factors for a small sample of PSYOP objectives across a few cultures and would require the extensive use of subject matter experts (foreign area experts and experienced PSYOP planners). These SMEs would be needed to help identify and refine the lists of PSYOP objectives and related factors and to provide assessments of the potential influence of those factors needed to develop and evaluate the policy models.

Specifically, within these parameters, the objectives of the research were to

a. Develop a list of common PSYOP objectives (between 20 and 30) related to or representative of a variety of military campaign objectives, from both wartime operations and operations other than war, and develop a potential framework for classifying those objectives that could be used in a decision support system

b. For a small sampling (two or three) of the objectives, identify a list of cultural and situational factors that experts believe will influence the likelihood that the target audience will respond as desired in the PSYOP objective. Examine the similarity of the lists of influencing factors and of the estimates of their potential influence across three different cultures.

c. For a small sampling (two or three) of the PSYOP objectives, determine the potential relationship between subject matter experts' perceptions of the status of those factors and their perceptions of the likelihood of a target audience's responding as desired. Determine whether the SMEs' perceptions, gathered in a policy-capturing methodology, result in a policy model that has sufficient explanatory power to be useful in assessing the TA's propensity to respond as desired under varying conditions.

d. Determine the extent that the relationship between the status of those factors and the likelihood of obtaining a desired PSYOP response is consistent across cultural and situational scenarios

Proposed Use of Decision Analysis Techniques in Development of a Decision Support System

In order to determine the perceived influence of the factors on a target audience's likelihood of responding as desired, researchers planned to test a decision analysis process known as "policy capturing," which would use holistic judgements to capture the decision rationale of PSYOP planners and analysts as they make intuitive estimates about the TA's potential response under varying conditions. The literature on decision analysis describes a variety of techniques for determining multi-attribute contributions to projected outcomes (Fast & Looper, 1988; Von Winterfeldt & Edwards; 1986; Keeney, 1977; Saaty, 1986). This particular approach had been initially proposed for testing because it involves the type of intuitive assessments normally made by planners in their determinations of TA vulnerability and because it is a relatively straight-forward procedure that appears understandable by those who would be asked to employ it if it proved useful as part of a decision support system.

As the study progressed, another decision analysis procedure, employing an even simpler direct-estimate approach, was also used to examine the relationship between the factors and the TA's likelihood of responding as desired. The rationale for examining this

second approach as well as a more specific description of the two methodologies is provided below.

A Policy Capturing Approach

Policy capturing is a technique for describing the manner in which "expert decision makers combine information on relevant dimensions to form an overall evaluation." (Fast & Looper, 1988) It is especially suited for reviewing the combined decision rationale of groups, such as selection boards (or, perhaps PSYOP teams), in which the scores of independent raters are aggregated to arrive at an overall score. The statistical procedures allow one to examine the contribution of individual raters' input to the overall group policy and to identify raters whose individual decision rationale differs significantly from the rationale of others.

In policy capturing, the most relevant attributes (or factors) thought to impact on the criterion to be judged are identified, and a scale of values for each attribute is determined. Then the decision-makers are presented with a number of hypothetical or actual situations or alternatives in which the conditions of the various attributes are changed. For each situation the decision-makers are asked to provide a score, based on an arbitrary scale (e.g., 0-100), indicating the extent to which that situation fulfills the requirements for the criterion. Through regression analysis of this series of holistic judgements, a pattern of reasoning (policy model) is revealed, and the relative impact of the various attributes (the predictor variables) on the raters' judgements (the dependent variable) is determined. When the impact of the attributes accounts for a large portion of the variance in raters' judgements, a significant policy model, with some predictive capacity, is demonstrated.

This predictive function emerges because, in addition to revealing the decision makers' views of the relative influence of each attribute and associated condition, the policy model can help estimate the relative probability that various combinations of conditions will lead to achievement of the criterion. By summing the beta weights for a specific combination of conditions, one could obtain the model's estimate of criterion achievement. And by substituting the beta weights from various alternative conditions, one could obtain "what if" estimates, observing the potential perceived impact of various changes on the probability levels. In an analysis of PSYOP decisions, if significant policy models can be obtained from the holistic judgements, these aspects of the policy capturing procedure could be most helpful to the intuitive assessment process of PSYOP planners.

The implementation of this technique in the PSYOP decision process is not without complications. Ideally, for example, in the presentation of alternatives, one would like a full factorial design to ensure complete, balanced representation of all possible situations (all attributes at all value levels). However, with three levels per attribute, the number of alternative situations needed for such a design is 3 to the Nth power, with N being the number of attributes being alternated in the design. Thus, a 3-level design with only 5 factors would require judgements of 243 separate situations, making the process very

laborious and time consuming. Additionally, some of the literature on policy capturing suggests limiting the number of attributes under consideration to no more than nine. (Fast & Looper, 1988; Barron and Person, 1979) The reasoning is that accounting for more than nine continually shifting attributes introduces noise that could seriously detract from the raters' ability to apply a consistent decision rationale.

To deal with these complications to the proposed policy capturing methodology, researchers working with multi-attribute utility functions have proposed limiting the number of attributes tested through some sort of initial filtering process, to identify and test only the most important. (Barron & Person, 1979) They also recommend the use of fractional factorial designs to ensure adequate and balanced representation of factors and value levels within a reasonable number of rating situations. Several sources provide samples of orthogonal factorial designs that allow the testing of up to 10 three-level factors with 36 or fewer test runs. (Gunst & Mason, 1991: Addelman, 1962) However, a potential drawback to the use of these designs is that their utility is limited primarily to identification of dominant main effects. When serious interaction exists among these factors, the main effects may be biased.

The 3 PSYOP objectives tested in this study each had at least 13 factors that were identified as potentially influencing the TA's response. To employ the policy capturing technique within a reasonable number of situations, researchers first used a ranking technique to limit the number of factors alternated to nine or less. The researchers also selected a set of fractional designs requiring 27 alternative situations. Preliminary testing of the policy capturing methodology on sample PSYOP-like judgements had shown that 30 holistic ratings of situations with 5 factors could be completed by raters in 30 to 35 minutes, a time that seemed quite acceptable to the test raters. Thus the ability to determine a group's decision rationale by assessing fewer than 30 situations would make the process more useful for PSYOP planners

Since, the preliminary ranking process used to limit the number of factors is also a major aspect of another decision analysis approach, the Simple Multi-attribute Rating Technique (SMART), the researchers determined they could gather a few additional estimates from the subjects and test this second approach as well. This additional test would enable them to compare the dominant factors identified by each approach and also to compare the two approaches' perceived utility for assisting planners in a decision support system. Thus, an analysis of the SMART process was included in the overall research effort.

Simple Multiple Attribute Rating Technique (SMART)

The Simple Multi-attribute Rating Technique (SMART) is a direct estimation procedure in which the participants provide direct ratings of values associated with each attribute and provide a rank order and relative weights to the individual attributes to construct Multi-attribute utility functions. Although this very basic approach has been adapted over the years to a variety of procedures (see Von Winterfeldt & Edwards, 1986), the

approach used in this study is similar to the early forms, relying on simple additive models.

As in the policy capturing approach, the initial steps of SMART involve identifying the relevant attributes likely to impact on the criterion and determining the scales of values for each attribute. The next steps, however, involve the direct estimations that distinguish this approach from the policy capturing method. First, the decision-makers must provide actual numerical values for the scale items, using direct ratings if the scales are discrete items or by linear approximations if the scales are continuous. A common method is to assign scores of 0 and 100 to the low and high value ends of the scale, and then scores between 0 and 100, reflecting the relative distance along the continuum, for the intermediate scale items. Figure 1 displays an example of a few of the attributes (or factors) that might influence a target audience's willingness to surrender and their associated three-level scale values.

SURRENDER OBJECTIVE

The following factors and associated conditions have been identified as potential key influencers in military troops' decisions about whether they would be willing to surrender.

Likelihood of death or injury: They believe that, if they continue to resist

0 there is an extremely low likelihood of imminent death or serious injury
60 there is a moderate likelihood of imminent death or serious injury
100 there is an extremely high likelihood of imminent death or serious injury

Commitment to military group: The degree of commitment/loyalty they have to their military group (i.e., group cohesiveness/morale) is

0 very strong
50 moderate
100 very weak

Treatment as prisoners: They believe that, as POWs,

0 they will be severely mistreated
60 they will suffer some tolerable hardships
100 they will be treated well

Figure 1. Sample of three attributes and associated values conditions for a surrender objective

The second step unique to the SMART process involves rank ordering the attributes in terms of their perceived relevance to the criterion. Often this is accomplished using a "swing weighting" method, described succinctly and clearly by Fast & Looper (1988):

> Weights in SMART are assessed by the "swing weighting" method, in which the analyst presents the decision maker with a profile of a hypothetical alternative that has the worst level on each attribute and another hypothetical alternative that has the best level on each attribute.

> The decision maker is then asked to assume that he or she is "stuck" with the worst alternative, but has an opportunity to move one (and only one) attribute level from its worst to its best level. Which attribute would be most desirable to move? In other words, which change from worst to best level would add the most overall value in terms of determining [the criterion value]? After identifying the attribute that provides this largest change or "swing," the decision maker identifies the attribute with the second largest change, the third largest, etc. This process provides a rank order of the weights in SMART. (p. 15)

Once the rank order of attributes is determined, they are then given relative weights. This third step is accomplished by considering the impact of moving the first-ranked attribute from its worst to its best value level and assigning that impact a score of 100. Then the impact of moving each lower-ranked attribute is compared to the impact of moving the first, and a score relative to that 100 score is assigned. This comparison weighting continues for all remaining factors. Fourth, once the impact of all the attributes have been weighted, the scores are "normalized," by summing the raw scores and dividing each individual score by that sum. The resulting normalized weights will sum to one. Table 1, displays two examples of the raw swing weights and normalized weights for three attributes associated with the surrender scenario in Figure 1.

SITUATION ONE					
Factors	Swing wgt	Norm wgt	Condition value		Product
Likelihood death/injury	100	0.5	Moderate	60	30
Commitment to group	60	0.3	very strong	0	0
Treatment as POW	40	0.2	Treated well	100	20
			Aggregate Score		50
SITUATION TWO					
Factors	Swing wgt	Norm wgt	Condition value		Product
Likelihood death/injury	100	0.5	Extremely high	100	50
Commitment to group	60	0.3	Moderate	50	15
Treatment as POW	40	0.2	Treated well	100	20
			Aggregate score		85

Table 1. Example showing aggregate scores derived from estimated weights/values

In a classic policy capturing approach, these four direct-estimation steps are not required, since the assignment of values to the scales and the relative weighting of the attributes are determined by the regression analysis of responses from the assessment of hypothetical

situations. Conversely, those sample assessments of the alternative situations that define the policy capturing model are not necessary in the SMART process.

Once these values and weights have been assigned, the relative aggregate scores for any combination of attribute conditions is determined by simply multiplying the value score for the identified scale condition of each attribute by the normalized weight for that attribute and then summing all those cross products for the total attributes considered. Table 1 also shows the relative aggregate scores for two sample combinations of factor conditions. Theoretically, the scores show an increase toward achievement of the criterion (surrender) in the situation in which likelihood of death or injury is extremely high rather than just moderate and the TA's commitment to their group is only moderate.

In order to change these relative aggregate scores into actual probability estimates reflecting a likelihood of the TA responding as desired, one would employ a conversion algorithm, based on obtaining likelihood scores (estimated on a 0 to 100 scale) when all factors are in the worst condition and when they are in the best condition.

II. METHODOLOGY

Use of Subject Matter Experts in the General Research Plan

To attain the research objectives and determine how PSYOP personnel could most effectively employ cultural and situational information related to specific PSYOP objectives in a decision support system, the researchers depended on the input and assessments of three groups of experts from the PSYOP community. In the first two phases, a small group of consultants (all retired military officers with extensive experience in PSYOP planning) assisted the researchers in the general planning of the project, in the development of the proposed list of PSYOP objectives, and in the identification of the proposed lists of factors that would potentially influence a target audience's response to a sample of those objectives. The proposed lists of objectives and the related influencing factors for the sample objectives were reviewed (and recommendations for refinement were made) by several members of the Air Force Air Intelligence Agency's (AIA) PSYOP directorate and also by area specialists from the Strategic Studies Detachment (SSD) of the US Army's 4th PSYOP Group (4th POG). The AIA personnel were primarily military personnel (active and reserve) with varying degrees of experience working in PSYOP planning positions in both real-world and training situations. Project participants from the 4th POG were primarily civilian foreign area analysts with years of experience doing studies and analysis of specific countries/cultures. Their collective input reflected expertise in at least four, and on one occasion as many as ten, different diverse cultures. For the third (data-gathering) phase, assessments of potential target audience responses to various hypothetical situations were collected from both AIA and 4th POG members.

Development of PSYOP Objectives List

An initial tentative list of PSYOP objectives was developed from a review of PSYOP literature, historical documents, and doctrine, and from the suggestions of experienced PSYOP planners. Of particular benefit were the general overview of PSYOP missions in support of various types of low intensity, peacetime and wartime operations outlined in FM 33-1 (1993) and AFDD 2-5.5 (1997) and the lists of PSYOP tasks provided by the Project PROSYMs reports prepared by the Special Operations Research Office of the American University (1959). The latter materials were products of a large effort in the 1959-63 era in which groups of international area experts identified the most relevant target audiences in a specific country, assessed their vulnerability across each of a large group of potential PSYOP tasks, and even devised possible "appeals" that might be particularly effective for achieving each PSYOP task, tailored to various target audiences. Even though the general framework used by each country team was similar, there was a good deal of variety in the lists prepared by some groups.

The tentative list of PSYOP objectives developed from the literature and consultant input was organized within a general framework of types of goals (cohesive, divisive, informational) and target audiences. That initial list, which dealt primarily with PSYOP goals and objectives from traditional wartime operations, was reviewed by the current PSYOP analysts and planners at AIA and 4th POG, and, at their suggestion, was expanded to include objectives relevant to a variety of Operations Other Than War (OOTW). Although there appeared to be a good deal of seeming overlap and similarity among some of the PSYOP objectives associated with these different types of operations, the SMEs indicated there are both obvious and subtle differences in the objectives of various types of operations. They also indicated that PSYOP involvement in these types of OOTW situations (e.g., counterdrug or mine awareness) had been becoming more prevalent in recent years. It must be noted that the various PSYOP documents reviewed present the various PSYOP goals and objectives from a variety of perspectives and partial organizational patterns, none of which seemed truly definitive and comprehensive. In fact the term "PSYOP objective," while clearly defined in the Army's FM 33-1 (1993), is used less explicitly by many of those actually employed in PSYOP positions. Thus, the framework developed for this project is based on a logical organizing pattern intended to help users locate objectives (specific behaviors or attitudes of the target audience) relevant to their particular situation. It is also clear that not everyone may view that pattern from the same perspective.

To study the potential for identifying and assessing the impact of factors that are likely to influence the target audience's vulnerability (willingness to respond as desired) to PSYOP objectives, two sample objectives were selected. The first objective, aimed at increasing the incidence of surrender among opposition troops, was selected because it is one of the most common objectives sought across the history of psychological operations and has a wealth of examples and documentation associated in PSYOP literature. The other objective, getting refugees to leave their temporary environment and return to their home villages, was selected because the movement or retention of refugee populations is

more often reflective of humanitarian or peacekeeping operations as opposed to wartime goals. (Although it is certainly acknowledged that refugee movement can be an important aspect in the pursuit of wartime political or military goals.) Researchers found considerably less PSYOP documentation devoted to this objective than to the more traditional wartime tactical and strategic objectives, but recent experiences in Somalia, Bosnia and Kosovo indicate that influencing refugee behavior is a growing area of PSYOP concern and involvement. In addition, both objectives reflect relatively overt behaviors that are more observable and measurable, requiring a definite decision by the TA, and are less open to interpretation.

As the project progressed toward the data-gathering phase, a third PSYOP objective was included that focused on persuading refugees to remain in their refugee situations and delay their return to their homes. This objective was included to take advantage of the very current experience of AIA and 4th POG participants returning from the conflict in Kosovo. Although the potential influencing factors are similar to those in the refugee repatriation objective, the perspective is different enough that the SMEs were comfortable considering it as a separate objective.

Development of Cultural/Situational Factors Lists

As with the development of the PSYOP objectives list, the lists of potential key influencing factors that would affect the likelihood of a target audience's responding in the desired manner were developed from a review of PSYOP documents and the recommendations of the experienced PSYOP consultants. Once again, among the three sample objectives tested, a great deal of literature and documentation pertaining to surrender was available. (Linebarger, 1954; Askenasy, 1982; Katz, 1982; Chandler, 1981) Of particular importance were the thousands of examples of leaflets and broadcast appeals employed across numerous conflicts available in the archives of the History and Museums section of the Army Special Operations Command's JFK Special Warfare Center and School. In addition, the elaborate study of Korean War surrender already cited (Johns Hopkins University Operations Research Office, 1953) provided more systematic evidence of the types of influencing factors that had been targeted in surrender appeals described in the historical documents. Although there is far less documentation regarding refugee operations in the PSYOP archives and literature, publications of the United Nations High Commission for Refugees (UNHCR) and other civilian sources (e.g., Journal of Refugee Studies, Journal of Conflict Resolution, Migration World Magazine) offered insights into factors affecting refugee behavior and repatriation (see Bibliography).

The tentative lists of potential influencing factors developed from the literature and consultants' input were reviewed by 4th POG analysts and current planners at AIA. A refined version of the lists of the factors related to the original two objectives were reviewed by 4th POG analysts as part of an initial attempt to have them gauge the relative influence of those factors in historical or current situations with which they were familiar. One analyst found some of the wording of the factors misleading or inapplicable in his

situation and suggested an additional factor be added to the lists. Most of the other analysts contacted for follow-up indicated the factors themselves were relevant and comprehensive, and they were unable to add additional factors for their situations. Based on this feedback, the factors were refined again in preparation for the test of decision analysis methodologies. As an additional outcome from this refinement process, some of the analysts indicated it was very difficult to provide meaningful responses using the initially proposed method for determining relative influence in certain hypothetical situations. Consequently, the researchers switched to the swing weighting approach as a means for identifying the most important factors to be used in the policy capturing methodology.

Determination of Potential Influence of Various Factors On Likelihood of Achieving a Desired Response

The Subjects and Scenarios

To determine if the policy capturing technique would result in the identification of significant policy models and dominant main effects, researchers administered SMART procedures and a policy capturing exercise for each of two PSYOP objectives to two groups. First, a group of four AIA planners, who had just returned from PSYOP-related duty in Kosovo, provided judgements on a hypothetical surrender scenario, estimating the likelihood of Serbian military forces being willing to surrender to NATO forces had a ground invasion been implemented. They also estimated the likelihood that Kosovo Albanian refugees would be willing to delay their return to their homes until NATO and UN forces could provide safer and more habitable conditions.

Several area analysts from the 4th POG were asked to participate if they had experience with either a surrender scenario or a refugee repatriation scenario in the country or area of their expertise. The goal was to have input (based on their specific situation) to each of the two scenarios from at least three different cultures, allowing for a cross-cultural comparison of policy models and dominant factors. Analysts provided surrender likelihood estimates from the Iran-Iraq war, the Peruvian conflict with Ecuador, the clash between Hutus and Tutsi factions in Rwanda, and a hypothetical response of the Serbian forces in Kosovo. Three analysts provided responses to a refugee repatriation scenario, estimating the willingness of refugees to leave the camps and return home, under varying hypothetical cultural and situational conditions. These groups were Rwandan Hutus, Afghans displaced from their homes and living in Pakistan, and Pundits displaced from their homes in the Kashmir region of India. A fourth analyst provided estimates of the willingness of Kosovo Albanians to delay their return home. This analyst's refugee response and his Serbian surrender response enabled researchers to compare the perspective of the 4th POG analyst to the perspectives of four AIA planners on the same scenarios. The analyst representing the Hindu/Muslim conflict in Kashmir also volunteered to provide an assessment of the likelihood that the Islamic militant forces would surrender to Indian troops.

It is important to note that, for the surrender scenario, most of the hypothesized target audiences were described as regular enlisted or conscripted soldiers. However, in the case of the Iran and Kashmir situations, the targeted military forces (Iranian Revolutionary Guard and Kashmir Islamic militants) were described as selected volunteers, possessed with a nearly fanatical devotion to the religious principles and beliefs that were, for them, at the heart of the conflict. The perceived inflexibility and sense of commitment of these "special" forces proved to be a complicating factor in the test of these methodologies. One of the analysts suggested that selection of a more normal military target audience would result in a quite different perspective, but the researchers agreed they could learn more about the strengths and limitations of the methodologies if they also included this sample of an "elite" or special military target audience. A visual summary of all these subjects and of the countries/scenarios covered in the data gathering is at Table 2.

Scenarios	ATA-A	ATA-B	ATA-C	ATA-D	Kos	Rwanda	Iran/ Afg	Kashmir	Peru
Surrender	*	*	*	*	*	*	Special	Special	*
Refugee									
Repatriation						*	*	*	
Refugee									
Delay	*	*	*	*	*				

Table 2. Subjects/cultures represented in surrender/refugee scenarios

Data Gathering Procedures: A Combined Approach

In general, for most test participants across both scenarios, the data gathering procedures combined both SMART and policy capturing techniques and were essentially the same. Researchers obtained SMART numerical values ratings for each condition for each factor, and "swing weighting" rankings and weightings of factors through individual assessments with each SME. From the top factors selected by each subject, researchers built a tailored, policy capturing package of situations that was administered to that subject to obtain estimates of the likelihood that the TA would be willing to respond as desired in the PYSOP objective. In addition, subjects were asked to provide additional input, estimating the actual true condition of the target audience on each factor and then to describe, on a five-point scale, the likelihood of that target audience moving to either of the other two conditions on each factor. The specific procedures and instruments used to gather these data are described as follows:

Determination of numerical values for conditions: These assessments were made using a listing of the potential influencing factors, complete with each of the three "conditions" that comprise the high, intermediate and low scale items for that factor. For each factor, the subjects were instructed to review the high, intermediate, and low conditions and

determine what score they would give them on a 0-100 scale in terms of the degree to which the conditions reflected the construct of that factor as it was related to the PSYOP objective. A sample of factors from one of those listings and a model of the types of numerical values given to the respective conditions is shown in Figure 1, above. Complete samples of all three factors listings are at Appendix A. For this test of the SMART methodology, rather than arbitrarily assign a score of 0 and 100 to the low and high conditions and have the subjects estimate only the value of the intermediate condition, researchers had the subjects estimate the scores for all three conditions. This change was made to alleviate some confusion among the subjects. Several had indicated that the statements describing the end points of the three-level conditions scales often did not reflect what they would consider to be the possible extremes one could expect in a total continuum of values related to that factor. They felt more capable of correctly estimating the value of the intermediate condition in relation to that overall continuum. This practice did not interfere with the determination of the relationship (linear vs. non-linear) of the three conditions.

Determination of ranking and weights of factors: The swing weighting was accomplished by first having the subjects review an hypothetical situation in which all the factors were at the best condition for having the TA willing to respond as desired. The subjects were asked to provide an estimate, on a 0-100 scale, of the likelihood of obtaining that response under those conditions. Then the subjects were given an hypothetical situation with all factors at the worst condition for having the TA respond as desired. Again they were asked to provide an estimate of the likelihood of obtaining a desired response under those worst conditions. Figure 2 provides an example of one of the forms used to gather those worst-condition estimates.

The subjects were then asked to review again the total list of factors and conditions and select the one factor, if its condition were to swing from lowest to highest, that would provide the greatest impact toward raising that worst-conditions likelihood score. The factor selected was given a "one" ranking, and the subject was then encouraged to select the factor, whose swing in condition would provide the next greatest impact. This factor was given a "two" ranking, and the subject completed the rest of the swing rating process in a similar fashion for all other factors.

When all factors were ranked, the subjects were led through the ordered list again to provide relative weights. As described in the SMART process explanation, the factor perceived as having the greatest influence was given an arbitrary weight of 100. The subjects were then asked to compare the influence of the next ranked factor and weight it relative to the influence of that top factor. This comparison weighting continued for all factors

ENCOURAGING REFUGEE REPATRIATION OBJECTIVE

Estimate the likelihood that the refugees would be willing to leave the refugee camps or situations and return to their towns and villages if the following conditions are believed to exist. When making your estimates, assume that the hypothetical attitudes or conditions do exist as described, even though you feel there may be little likelihood that such an attitude could be attained.

1. Home town living conditions: They believe that living conditions (e.g. food, housing, infrastructure, opportunity to make a living) in their home towns or villages **will be very poor and remain so for many months**

2. Threat of continued violence in home area: They believe that the likelihood of potentially harmful attacks by soldiers, insurgents, marauders or other threatening forces at their home towns or villages **remains extremely high**

3. Refugee physical condition: The physical/emotional condition of the refugees **is very poor, and their ability to undertake a journey is very limited**

4. Hardship of return journey: They perceive that the return journey **will be extremely difficult and full of environmental hardships**

5. Threat of danger/violence on return journey: They believe that the return journey **will present an extremely high degree of dangers/risk from mines, marauders, etc**

6. Satisfaction with current refugee living conditions: They are **very comfortable/satisfied with current living conditions as refugees**

7. Quality of future refugee living conditions: They believe that **the quality of support/protection in their refugee camp or situation is very likely to improve**

8. Work opportunities in refugee area: They believe that opportunities for work and advancement in their new location **are better than in their hometowns or villages**

9. Attachment to home surroundings: The attachment to familiar, traditional, or culturally important surroundings of their hometowns or villages **is very small**

10. Concern for personal property in home area: Their concern for or perceived need to protect/reclaim their personal property in their hometowns or villages **is very small**

11. Desire to reunite with loved ones: The desire to locate or reunite with loved ones/community members **is very small**

12. Credibility of sources encouraging return: The sources (e.g., host nation, home government, international groups) encouraging their return to their home towns or villages are perceived to have **very little credibility**

13. Recommendations of refugee leaders: Those refugees in positions of power or leadership **are not supportive of returning home at the present time**

Figure 2. Sample of form capturing estimate of likelihood target audience will respond as desired under worst conditions

Determination of subjects' degree of confidence in ranking/weighting estimates: After completing the ranking and weighting process for each scenario, the subjects were asked to review the results one last time and to assess their level of confidence that their results reflected the outlook of their target audience. They responded using a five-point scale, from very low confidence, through low confidence, moderate confidence, high confidence, to very high confidence. These impressions were collected not only to try to determine if these type of SME assessments were reasonable, but also to compare the confidence levels among particular subject groups and situations and to help explain possible aberrations in other responses.

Determination of actual condition of the target audience: In the regression analysis used in the policy capturing process, the potential influencing factors not alternated in the 27 situations were held constant. In the policy capturing exercise, raters were instructed that the factors previously ranked lowest would not be shown in alternating conditions in the 27 hypothetical situations. They were to be considered as constantly in their actual condition. To determine the actual condition for each factor, raters were asked to review the set of conditions for each factor and to select the condition statement that most closely reflects the actual condition of that target audience. Because the raters may not have adequate intelligence information or knowledge about the TA's actual attitude or situation, they were also asked to indicate the confidence they have in this assessment by indicating, on a five-point scale, the likelihood that this is the actual condition. That scale and a few sample factors are illustrated in Figure 3. A full sample instrument for gathering these assessments is at Appendix B.

Estimation of the likelihood of attaining the alternate conditions: On the same form used for gathering the estimates of actual conditions, the subjects were then instructed to review each of the other two potential conditions for each factor, and to estimate, using the same five-point scale, the likelihood that the alternate condition could be attained. In the proposed use of a PSYOP decision support system, these estimates would be part of the data provided to the planners along with the impact of change scores provided by the decision analysis process.

ACTUAL TA PROFILE AND POTENTIAL FOR CHANGE

Within each factor, circle the condition that most closely reflects the true TA belief or situation, regarding repatriation, as you perceived it to be. Using the scale below indicate, first, the likelihood that the condition you selected truly reflects the actual TA condition. Put the letter of that likelihood next to the circled condition. Next, for each other hypothetical condition or belief listed below, use the same scale to estimate the likelihood that such a belief or condition could be attained. Put the likelihood letter next to each condition that is not circled.

a. extremely likely b. strong likelihood c. moderate likelihood
d. small likelihood e. extremely small likelihood

1. **Home town living conditions**: They believe that living conditions (e.g. food, housing, infrastructure, and opportunity to make a living) in their hometowns or villages

   will be very poor and remain so for many months
   will be tolerable and capable of improvement
   will soon be at least as good they were before they left

2. **Threat of continued violence in home area**: They believe that the likelihood of potentially harmful attacks by soldiers, insurgents, marauders or other threatening forces at their home towns or villages

   remains extremely high
   is still somewhat possible
   is extremely low

3. **Refugee physical condition**: The physical/emotional condition of the refugees

   is very poor, and their ability to undertake a journey is very limited
   is weakened, but they should be able to complete the journey with some difficulty
   is strong and they are quite capable of completing the journey

Figure 3. Sample of scale and form used to capture perceptions of target audience's true conditions and likelihood of attaining alternate conditions

Gathering of situation estimates for determining policy capturing model:

Based on the weighting of factors for each scenario, between six and nine factors were selected for presentation in alternating conditions in a policy capturing exercise. In the exercise, each of 27 situations was presented in a similar form, but with a different combination of values conditions across the selected set of factors. Although it has all 13 factors included, Figure 2, above, provides an example of a hypothetical situation from a refugee repatriation scenario. For each situation, the subject was asked to estimate the likelihood that the target audience would be willing to respond as desired (e. g., to surrender, or to leave the refugee camp) under the hypothetical conditions described. The likelihood assessment was made using a 0-100-point scale provided (Figure 4).

Estimating Target Audience Vulnerability

Given the conditions described in each situation, provide a percentage estimate that reflects the likelihood or probability that the average members of the refugee target audience would be willing to return to their hometowns or villages. (e.g., a 10% likelihood or a 75% likelihood)

Use any number from 1 to 100%. Although the following ranges are offered as guidelines for your estimates, for statistical purposes please provide a specific number within the range that best reflects your probability estimate. Put that number at the top of each situation sheet.

81-100%	**Extremely strong probability that the refugees would be willing to return**
61-80%	**Strong probability**
41-60%	**It's a tossup**
21-40%	**Small probability**
1-20%	**Extremely small probability that the refugees would be willing to return**

Figure 4. Rating scale used to assess target audience's willingness to respond as desired in PSYOP objectives

Determination of rater confidence in likelihood assessments: To determine whether SMEs felt comfortable making the type of holistic assessments needed for the policy capturing analysis, they were asked to rate their degree of confidence after each situation assessment. They were to use a five-point scale provided (Figure 5). These confidence ratings were to be compared to the confidence ratings reported for the SMART direct estimates of factor rank and weights.

Once you have made your estimate, also add your level of confidence in the accuracy of that estimate by putting the letter of the statement below that best describes that level

A. Very low confidence in my estimate of the TA's likelihood of responding under these conditions

B. Low confidence in my estimate of the TA's likelihood of responding under these conditions

C. Moderate confidence in my estimate of the TA's likelihood of responding under these conditions

D. High confidence in my estimate of the TA's likelihood of responding under these conditions

E. Very high confidence in my estimate of the TA's likelihood of responding under these conditions

Figure 5. Scale used to report rater's confidence in individual policy capturing assessments

Group ranking of refugee delay scenario by AIA subjects: To study the effects of certain aspects of the data collection process, the methodology described above was altered for the AIA subjects when they provided estimates of the refugee delay scenario. First, the researchers wanted to look at the impact that going through the ranking and weighting

process might have on subjects' policy capturing responses. Would it be more difficult for subjects to develop a consistent decision rationale if they were asked to make estimates for the 27 policy capturing situations without first developing a mind set about the relative importance of various factors through the ranking/weighting process?

To shed some light on this question, researchers reversed the process for the refugee delay scenario. The subjects first were introduced to the entire list of 14 factors and asked to identify actual conditions and to estimate the likelihood of attaining the two alternate conditions. However, they then were asked to review the 27 policy capturing situations, without first ranking or weighting the factors. Each situation presented alternating conditions among nine of the factors selected by the researchers. After the AIA subjects had made their individual estimates of the likelihood that the TA would respond as desired and had described their confidence level for each estimate, the researchers then led them through the SMART procedures as a group. They were asked to come up with consensus responses regarding factor scale values and factor rankings and weights.

III RESULTS

Development of the PSYOP Objectives List

The result of the PYSOP objectives development portion of the research is a preliminary taxonomy of objectives and supporting objectives organized within a general framework of types of operations. These include traditional military combat operations and 18 Operations Other Than War as defined by DOD Joint Publication 3-07 (June, 1995). Due to limited scope of this project (and availability of SME resources for review), the objectives and supporting objectives for traditional wartime/conflict operations and for four other common OOTW situations are the only ones developed for demonstration purposes. A example of several objectives from one of these areas is shown in Figure 6, and the full listing of the sample objectives for the areas developed is at Appendix C. Within each of these areas, is a list of operator-centered PSYOP objectives (shown in the example as underlined statements), framed in reference to what the PSYOP team hopes to accomplish to aid the mission in that type of operation. And underneath these objectives is one or more supporting PSYOP objectives (preceded by the PO), stated in terms of the desired attitudes or behaviors to be adopted or demonstrated by the target audience.

Also, in each of the areas, the objectives are organized primarily according to the outcomes desired from various types of general target audiences: the international audience; the host nation civilian population or indigenous local population in less friendly areas; the opposition combatant forces (military, para-military, insurgent, terrorist, criminal); the opposition leadership; and their political and military allies. It is recognized that within the civilian population, there may be dozens of potentially influential special-interest target audiences (e.g., religious leaders, trade or labor unions, intellectual elite, business leaders, rural peasants, etc); and within the military forces there may be subgroups (e.g., officers, elite forces, conscripts, para-military, ethnic groups)

with differing orientations. These special target audiences are not broken out within the general taxonomy, but a reminder to consider them could be built into a decision support system.

PSYOP Objectives: Counterinsurgency/Nation Assistance Operations

Establish credibility of US/friendly forces' as source of information

- PO: TA (HN civilian population/opposing forces) view US information as reliable
- PO: TA (HN civilian population/opposing forces) actively seek out information provided by US/friendly forces

Project a favorable image of the US/host nations' goals/actions among international audience

- PO: TA (International audience) identifies US and its leadership with positive values/consequences
- PO: TA (International audience) declares/displays support for US/host nations' goals

Gain indigenous local population support for US/host nations' leadership/goals/actions

- PO: TA (local population) identifies US/host nations' leadership with positive values/consequences
- PO: TA (local population) declares support for government leaders' actions (e.g.. population control measures or political/social/economic reforms)
- PO: TA (local population) displays positive attitudes toward US presence/goals
- PO: TA (local population) does not interfere with government forces/actions
- PO: TA (local population) follows instructions/guidance provided by government
- PO: TA (local population) provides information on insurgent forces/actions

Isolate insurgents from local popular support base

- PO: TA (local population supporters) overtly question leadership, motives, credibility of insurgents
- PO: TA (local population supporters) cease to aid members of insurgent groups

Create disunity, disaffection among insurgent forces

- PO: TA (insurgent members) overtly question insurgent leadership, goals, or operations
- PO: TA (insurgent members) question likelihood of achieving insurgent goals
- PO: TA (insurgent members) question continued involvement with insurgent activities
- PO: TA (insurgent members) decrease compliance with/effectiveness of insurgent efforts
- PO: TA (insurgent members) cease association with insurgent group/activities
- PO: TA (insurgent members) surrender to/cooperate with government forces

Figure 6. Sample of PSYOP objectives related to counterinsurgency operations

Development of Prominent Influencing Factors for Sample Objectives

As described in the methodology section, the lists of influencing factors for three sample objectives were developed through an examination of literature and documents related to the types of activities (surrender and refugee movement) desired. The tentative lists were reviewed by experienced PSYOP experts and the resulting refined lists were used in the data gathering for the test of decision analysis methods. A listing of the factors (under one sample value condition) associated with the refugee repatriation objective is shown in Figure 2, above. An example of some of the same factors and their three-level values

conditions is displayed in Figure 1. The full lists of factors/conditions are provided in Appendix A.

Comparisons of Perceived Impact of Influencing Factors Across Cultures

A Surrender Scenario

To investigate the similarity of perceptions regarding the relative influence of various factors among subjects who assessed a similar scenario in different cultures, researchers examined both the rank orders of the SMART procedure and the list of significant factors derived from the beta weights obtained in the policy capturing models. Figure 7 compares the relative SMART influence rankings for a surrender scenario from five different cultures/situations.. It is evident from the large disparities in the surrender rankings that the influence of the various factors on the surrender scenario are perceived to be quite different across the different cultures and situations. There is some similarity evident between the projected rankings for the Serbian and Peruvian forces', and some similarity between the rankings for the Iranian and Kashmir Islamic forces. These visual comparisons are reinforced by the display of Pearson correlation coefficients in Table 3 (because of tied ranks, the Pearson is more appropriate than the Spearman rank-order statistic). Of the ten potential individual cross-cultural comparisons, only the Serbian-Peruvian correlations (r=.49) and the Iranian-Kashmir correlations (r=.51) are moderate, with both significant at the $p < .1$ level.

	Factor Influence Rankings (1=greatest, 14=least)				
FACTOR	Serb	Peru	Rwanda	Iran	Kashmir
1 Battlewearines	1	1.5	14	8	7.5
2 Impact on personal/family	12	10.5	8.5	6	14
3 Attitude toward leadership	8	6.5	1	3.5	5.5
4 Likelihood of death/injury	2	1.5	8.5	14	13
5 Commitment to mil group	6	6.5	6	3.5	4
6 Risk completing surrender	11	9	11	12.5	12
7 Treatment as POW	13	13.5	11	10.5	9.5
8 Chances for mil success	4	13.5	6	5	9.5
9 Alternatives to surrender	10	12	3.5	7	11
10 Endure physical hardship	3	4	13	9	7.5
11 Attitude about surrender	9	10.5	11	2	2.5
12 Commitment to cause	7	6.5	2	1	1
13 Attitude about enemy	14	3	3.5	10.5	2.5
14 Unit discipline/control	5	6.5	6	12.5	5.5

Figure 7. Relative influence rankings among factors affecting surrender: Comparison across cultures

Cultures Compared		SERB	PERU	RWANDA	IRAN	KASHMIR
SERB						
	Pearson r	———	**0.49**	-0.25	-0.02	0
	Significance		**0.078**	0.387	0.94	1
PERU						
	Pearson r	0.49	———	-0.08	-0.29	0.24
	Significance	0.078		0.777	0.321	0.4
RWANDA						
	Pearson r	-0.25	-0.08	———	0.35	0.34
	Significance	0.387	0.777		0.215	0.227
IRAN						
	Pearson r	-0.02	-0.29	0.35	———	**0.51**
	Significance	0.94	0.321	0.215		**0.064**
KASHMIR						
	Pearson r	0	0.24	0.34	0.51	———
	Significance	1	0.4	0.227	0.064	

Table 3. Summary of Pearson correlations between cross-cultural subjects' rank orders of surrender factors

A Refugee Repatriation Scenario

Figure 8 compares the SMART influence rankings for a refugee repatriation scenario in three different cultures. This comparison reflects a somewhat greater degree of similarity across the cultures than did the surrender scenario rankings. In fact, the threat of violence at home and on the return journey are ranked one and two for all three cultures. As seen in Table 4, two of the three comparisons had somewhat higher correlations ($r=.65$ and $r=.71$), with both significant well below the $p < .05$ level.

	Factor Influence Rankings (1=greatest, 13=least)		
FACTOR	Rwanda	Afghan	Kashmir
Home town conditions	4	7	6
Threat of violence at home	1	1	1
Refugee physical condition	9	5	9
Hardship of return journey	10	3	13
Threat of violence on journey	2	2	2
Satisfaction with refugee life	11	12	10
Quality of future refugee life	13	13	11
Work opportunities as refugee	12	11	8
Attachment to home area	5	4	3
Concern for property at home	6	10	4
Need to reunite with loved ones	3	6	12
Credibility of return appeals	8	9	7
Refugee leader recommendation	7	8	5

Figure 8. Relative influence rankings among factors affecting refugee repatriation: Comparison across cultures

	Cultures Compared		
SUBJECTS	RWANDA	AFGHAN	KASHMIR
RWA			
Pearson r	———	**0.71**	**0.65**
Significance		**0.006**	**0.016**
AFG			
Pearson r	0.71	———	0.4
Significance	0.006		0.181
KASHMIR			
Pearson r	0.65	0.4	———
Significance	0.016	0.181	

Table 4. Summary of Pearson correlations between cross-cultural subjects' rank orders of refugee repatriation factors

Comparison of Perceived Impact of Influencing Factors Across Raters of A Single Culture and Situation

A Surrender Scenario

To investigate the similarity of perceptions regarding the relative influence of various factors among subjects who assessed the same target audience and situation, researchers again examined both the rank orders from the SMART procedure and the significant factors identified in the policy capturing models. As one might expect, there were greater similarities among factor influence rankings of the same TA, than there were among the rankings for TAs from different cultures and situations. For example, Figure 9 shows that battlewearines and likelihood of death or injury were rated near the top by 4 of 5 subjects, while attitude toward the enemy and attitude toward own leadership were ranked consistently near the bottom. As shown in Table 5, six of ten comparisons between subjects indicate moderate or higher correlations (r= .51 to .87), with significance at the level of $p < .1$ or better.

		Factor Influence Rankings (1=greatest, 14=least)				
	FACTOR	AIA-A	AIA-B	AIA-C	AIA-D	SPOG
1	Battlewearines	1	2.5	3	6	1
2	Impact on personal/family	4.5	8	9	2	12
3	Attitude toward leadership	13.5	14	11.5	14	8
4	Likelihood of death/injury	4.5	2.5	1	12	2
5	Commitment to mil group	2.5	6.5	6.5	4.5	6
6	Risk completing surrender	9.5	12	11.5	9	11
7	Treatment as POW	9.5	9.5	11.5	11	13
8	Chances for mil success	6	13	11.5	9	4
9	Alternatives to surrender	12	5	6.5	9	10
10	Endure physical hardship	7	1	3	7	3
11	Attitude about surrender	9.5	4	6.5	3	9
12	Commitment to cause	2.5	9.5	6.5	1	7
13	Attitude about enemy	13.5	11	14	13	14
14	Unit discipline/control	9.5	6.5	3	4.5	5

Figure 9. Relative influence rankings among factors affecting Serbian surrender: Comparison among raters

Subjects Compared					
SUBJECTS	**AIA-A**	**AIA-B**	**AIA-C**	**AIA-D**	**4-POG**
AIA-A					
Person r	———	0.4	**0.52**	**0.59**	**0.59**
Significance ($p < .1$)		0.16	**0.055**	**0.026**	**0.027**
AIA-B					
Person r	0.4	———	**0.87**	0.33	**0.51**
Significance	0.16		**0.001**	0.252	**0.6**
AIA-C					
Person r	0.52	.87	———	0.39	**0.76**
Significance	0.055	0.001		0.171	**0.002**
AIA-D					
Person r	0.59	0.33	,39	———	0.15
Significance	0.026	0.252	0.171		0.619
4-POG					
Person r	0.59	0.76	0.76	0.15	——
Significance	0.027	0.06	0.002	0.619	

Table 5. Summary of Pearson correlations between AIA subjects' rank orders of Serbian surrender factors

A Refugee Delay Scenario

A final, especially interesting comparison of factor rankings was made by correlating the factor rankings of the Kosovo Albanian refugee delay scenario provided by a single 4th POG analyst with the consensus rankings for the same scenario provided by the AIA planners. The resulting correlation coefficient (r=.23) reflected a very weak, non-significant relationship. As shown in Table 5 above, the correlations between this 4th POG analyst and the individual AIA planners on the Serbian surrender scenario had been much stronger. And, as the analyst and the AIA members had all just returned from a deployment to that area, one might have expected a similar compatibility on the refugee scenario. However, it was evident during the give and take of the AIA group swing weighting process that the resulting consensus rankings might not reflect the perceived order of all the group members and that the comparison to the rankings of the 4th POG analyst might show very little similarity. This group ranking process was heavily influenced by the views of one participant who had previously spent several days interviewing Kosovo refugees. Despite some clear differences of opinion voiced by the other AIA participants, the one participant convinced the others of the credibility of his views. This group interaction and the development of a consensus perspective have been known to bring both strengths (e.g., consideration of a wider variety of perspectives) and weaknesses (e.g., potential for dominance) to the decision making process. And although

it is difficult to tell which rank ordering more realistically reflects the TA perspective, the test of the group process in this scenario provided some excellent insight into its potential use in the two decision analysis approaches.

Comparison of Significant Factors from Policy Capturing Models

Another means of examining the similarity among perceptions of factor influence is to view the dominant factors identified within the various policy capturing models. Tables 7-10 below each display, for a specific scenario, the matrix of factors and subjects or cultures for which policy models were developed. Factors which were identified as having a substantial influence on the likelihood estimates of the raters (contribution to explained variance significant at $p < .1$) have their significance levels displayed. In Table 9, one can see that there are four factors which a majority of the subjects, all rating the same surrender scenario, perceived as significant. In Table 10, there is only one factor which more than two of the subjects, representing the perspective of different cultures, identify as having a significant influence. The refugee delay scenario in Table 11 again shows the models developed by subjects rating the same situation. There are four factors which a majority identify as significant, and one of these is seen as significant in all five models. However, in Table 12, subjects rating the refugee repatriation scenario in their respective cultures actually showed a greater degree of similarity. They all identified relatively fewer significant factors, and at least two out of three raters agreed on three of the factors, and on one of those, all found it significant.

Ability to Model the Decision Rationale Using A Policy Capturing Methodology

Perhaps the key research question in this study was whether the policy capturing methodology would result in models with sufficient explanatory power to be useful in estimating TA response probabilities. As previously described above, this methodology was employed to capture the decision rationale of the PSYOP planners as they estimated their TA's likelihood of responding as desired in numerous varying situations. If the holistic judgement process used reflects a consistent decision pattern, the regression analysis will identify a significant policy model in which the weights of the various factors explain a large portion of the variance in the likelihood estimates. Conversely, non-significant policy models with low variance scores (r2) would indicate an inconsistent pattern in the decision makers' assessments of the influence of the various factors. This inconsistency would indicate a weak ability to predict the decision makers' likelihood estimates under differing conditions. The following paragraphs summarize the results from analysis of these responses.

Assessments of a Serb Surrender Scenario

As indicated in the methodology section, four AIA planners and one of the 4th POG analysts provided estimates regarding the likelihood of Serbian force surrenders in a hypothetical Kosovo scenario. Analysis of these ratings reveal (Table 6) that four of the five raters' responses resulted in an identifiable policy model in which the combined

influence of all the factors accounts for a large portion of the variance among the likelihood estimates (r^2 between 0.74 and 0.91). The table also shows that these four AIA models are significant at the level of $p < .1$. In addition, Table 7 shows that all four of the significant Serbian surrender models identify at least four significant factors, This pattern is an indicator of a large degree of consistency in the decision rationale of the individual raters.

SCENARIOS	AIA-A	AIA-B	AIA-C	AIA-D	Kosovo	Rwanda	Iran/Afg	Kashmir	Peru
Surrender									
R^2	0.74	0.83	0.89	0.87	0.91	0.95	0.94	0.7	0.78
Significance	0.07	0.04	0.3	0.003	0.003	0.001	0.001	0.27	0.1
Refugee Repat.									
R^2						0.78	0.93	0.83	
Significance						0.03	0.001	0.01	
Refugee Delay									
R^2	0.88	0.87	0.68	0.8	0.96				
Significance	0.04	0.055	0.55	0.2	0.001				

Table 6. Amount of variance explained (r^2) and significance level of policy models

Significant Factors in Serb Surrender Models ($p < .1$)

		SUBJECTS				
	FACTOR	AIA-A	AIA-B	AIA-C	AIA-D	POG
1	Battlewearines	0.1	0.06	0.02	0.06	0.01
2	Impact on personal/family					
3	Attitude toward leadership					0.01
4	Likelihood of death/injury	0.01				0.01
5	Commitment to mil group		0.01		0.01	
6	Risk completing surrender					
7	Treatment as POW					
8	Chances for mil success	0.01				0.06
9	Alternatives to surrender					
10	Endure physical hardship		0.01	0.04	0.03	0.06
11	Attitude about surrender					
12	Commitment to cause	0.05			0.01	0.02
13	Attitude about enemy					
14	Unit discipline/control		0.06		0.01	0.01

Table 7. Significant factors identified in hypothetical Serbian surrender policy models

Assessments of Other Surrender Scenarios

4th POG analysts' assessments of likelihood of surrender among four other specific target audiences in different cultural contexts revealed similar results in the development of significant policy models. Table 6 shows that three of the four analysts responses resulted in models significant at the level of $p < .1$, in which the influence of factors accounts for a large portion of the variance (r2 between 0.78 and 0.95). And, for each of those models, Table 8 shows the identification of at least four or more significant factors. However, the results for two of the four models (the model for Iran and the non-significant model from the Kashmir situation) must be qualified because of the extreme difficulty those analysts had making meaningful assessments on this scenario. The special nature (extreme religious fanaticism) of those two target audiences made it difficult for the analysts to hypothesize conditions on some factors that were highly unlikely to be encountered among that group (e.g., very weak commitment to a religious or ideological cause) Therefore, the inclusion of some of those improbable conditions among the alternative situations made the rating of those alternatives merely speculative, rather than an exercise based on knowledge of the target audience.

Significant Factors in Other Surrender Models ($p < .1$)

		CULTURES			
FACTOR		Peru	Rwanda	Iran	Kashmir
1	Battlewearines	0.02			0.03
2	Impact on personal/family				
3	Attitude toward leadership				
4	Likelihood of death/injury	0.01	0.01		
5	Commitment to mil group		0.02	0.01	
6	Risk completing surrender				
7	Treatment as POW				
8	Chances for mil success		0.01	0.01	
9	Alternatives to surrender		0.02	0.07	
10	Endure physical hardship				
11	Attitude about surrender			0.01	
12	Commitment to cause	0.09		0.01	0.02
13	Attitude about enemy		0.01		
14	Unit discipline/control	0.01	0.01		

Table 8. Significant factors identified in surrender policy models from four different cultures/situations

Assessments of Albanian Refugee Delay Scenario

As they did in the surrender scenario, four AIA subjects and one 4th POG analyst provided assessments of the same refugee scenario (the likelihood that Albanian refugees would delay their return to their home areas). Three of the subjects' responses resulted in decision models that were significant at the level of $p < .1$ and whose factors' influence resulted in an r2 of 0.87 to 0.96 (see Table 6). And, as shown in Table 9, each of those three models reveals at least three significant factors.

Significant Factors in Refugee Delay Models (p<.1)

	SUBJECTS				
FACTOR	AIA-A	AIA-B	AIA-C	AIA-D	4 POG
Home town condition	0.02	0.02	0.09	0.05	0.05
Impact of delay	0.06		0.01		
Threat of violence at home	0.01			0.03	0.01
Refugee physical condition	0.04	0.04			0.02
Hardship of return journey	*	*	*	*	*
Threat of violence on journey					0.07
Satisfaction with refugee life	*	*	*	*	*
Quality of future refugee life	*	*	*	*	*
Work opportunities as refugee					
Attachment to home area					0.07
Concern for property at home	0.01			0.07	0.01
Need to reunite with loved ones	*	*	*	*	*
Credibility of return appeals		0.01			
Refugee leader recommendation	*	*	*	*	*
* factors held constant by researcher					

Table 9. Significant factors identified in Albanian refugee delay policy models

In addition, researchers focused on models from the AIA subjects to see the effect the lack of a preliminary ranking/weighting process in this scenario may have had on the subjects' ability to develop a policy capturing model. The researchers compared the significance levels and percent of variance accounted for in the AIA decision models from this refugee delay scenario with the same aspects of their models from the surrender scenario. For three of the four AIA subjects, the data displayed in Table 6 shows little difference in levels of significance achieved between the two scenarios' models. For subject AIA-D, there is a considerable difference between the level of significance of the refugee scenario model ($p < .2$) and the level of significance of the surrender scenario model ($p < .003$) These data also show relatively small, inconsistent differences in the percent of variance accounted for by the models from the two different scenarios.

Assessments of Refugee Repatriation Scenarios Among Three Cultures

The three 4th POG analysts providing estimates of refugees' willingness to leave their refugee situation and return home considered target audiences in Rwanda, Afghanistan, and Kashmir respectively. All three sets of responses resulted in policy models significant at the level of $p < .1$ (Table 6), with factors accounting for a large portion of the variance (r2 of 0.78 to 0.93) in likelihood estimates. As shown in Table 10, The models achieve these levels while identifying relatively fewer significant factors (just three or four) than were identified by many of the models in other scenarios. This is an indication that the subjects focused on just a few very powerful influencers in making their estimates. Because the religious fanaticism of the target audience did not play as important a role in the projected behavior for these groups, as it had in the surrender

scenario, the analysts responding to the Afghan and Kashmir situations encountered much less difficulty in assessing the likelihood of response under the varying conditions.

Significant Factors in Refugee Repatriation Models (p<.1)

	CULTURES		
FACTOR	Rwanda	Afghan	Kashmir
Home town conditions			
Threat of violence at home	0.01	0.01	0.01
Refugee physical condition			
Hardship of return journey		0.05	
Threat of violence on journey	0.05		0.05
Satisfaction with refugee life			
Quality of future refugee life			
Work opportunities as refugee			
Attachment to home area		0.02	0.04
Concern for property at home			
Need to reunite with loved ones		0.01	
Credibility of return appeals			
Refugee leader recommendation	0.01		

Table 10. Significant factors identified in refugee repatriation policy models from three different cultures/situations

Assessments Using Pooled Modeling Results

In addition to the analysis of the individual decision models, researchers looked at the pooled decision model for the AIA subjects' surrender scenario. The overall model was significant at the level of $p < .001$, although the amount of variance accounted for ($r2=.56$) was quite a bit lower than for the individual AIA subjects' models. Table 11 displays the significant factors and shows that a greater number of factors come into consideration than in most of the individual models. This pooling allows potential decision makers to see the effect of bringing together several cases in which a factor may have been just below an agreed-upon significance level. In this combined perspective, a factor that might have been ignored (e.g., attitude about surrender) may actually prove to have a greater relative impact on the TA response than some factors appearing to have a significant influence in individual models. If subjects are accounted for in the model, the pooled results also allow decision makers to see if there are significant differences in the members' decision rationale and to discuss or discount the views of an outlying rater. This pooled modeling process potentially adds to the ability of a team of PSYOP planners to arrive at a consensus decision, relying more on statistical results and less on potential dominance and persuasiveness of a particular team member.

Significant Factors in Serb Surrender Models (p < .1)

		SUBJECTS				
	FACTOR	AIA-A	AIA-B	AIA-C	AIA-D	Pooled
1	Battlewearines	0.1	0.06	0.02	0.06	**0.001**
2	Impact on personal/family					
3	Attitude toward leadership					
4	Likelihood of death/injury	0.01				**0.01**
5	Commitment to mil group		0.01		0.01	**0.001**
6	Risk completing surrender					
7	Treatment as POW					
8	Chances for mil success	0.01				**0.02**
9	Alternatives to surrender					**0.03**
10	Endure physical hardship		0.01	0.04	0.03	**0.001**
11	Attitude about surrender					**0.05**
12	Commitment to cause	0.05			0.01	**0.003**
13	Attitude about enemy					
14	Unit discipline/control		0.06		0.01	**0.001**

Table 11. Comparison of significant factors identified in individual and pooled policy models: A surrender scenario

Potential Utility of Two Decision Analysis Methods

In determining the potential feasibility of employing either of the decision analysis methods in a decision support system, consideration was given to both credibility among users and ease of use. One dimension of credibility, when one is dependent on SME assessments, is the degree of confidence users have in their ability to make accurate intuitive judgements within the decision making process. Likewise, a system that is extremely time consuming or difficult to master may be resisted or bypassed in the time-sensitive environment of PSYOP campaign planning. The feedback from the data gathering exercises provided insights in both of these areas.

Confidence Levels in Assessments

Confidence in SMART ranking/weighting procedure: The assessments of the confidence they had in the ranking and weighting of factors was provided by the SMEs, using the five-point scale described in the methodology section of this report. As demonstrated in Table 12, all subjects expressed at least a moderate degree of confidence that their rankings accurately reflected the perspective of their target audience. Moreover, in 11 of 17 scenarios, the SMEs expressed a high to extremely high degree of confidence. As might be expected, the greatest confidence was reported by the analysts, who have much more experience studying and interpreting the behavior of their specific cultural groups than do the PSYOP planners. The analysts reported at least a high degree of confidence in all of their estimates.

	SUBJECTS' CULTURES								
Scenarios	**AIA-A**	**AIA-B**	**AIA-C**	**AIA-D**	**Kos**	**Rwanda**	**Iran/Afg**	**Kashmir**	**Peru**
Surrender	Mod/ High	Mod/ High	Mod	High	High	High/ Ext	High	High	High
Refugee Repatriation						High	High/ Ext	High	
Refugee Delay	Mod	High	Mod	Mod	High				

Table 12. Subjects' reported levels of confidence in accuracy of their ranking and weighting of factors

Confidence in individual estimates of target audience's likelihood of responding as desired: Tables 13 and 14 show the summaries of confidence levels reported by each subject in their estimates of TA response to the individual situations employed in the policy capturing exercises. It is evident from Table 13 that the AIA subjects expressed at least moderate confidence in 89% of their assessments in the surrender scenario and in 88% of their assessments in the refugee delay scenario. This similarity in AIA confidence ratings from the two scenarios is another indication that the lack of a preliminary ranking process in the refugee scenario may have had little effect on the subjects' ability to develop a policy capturing model.

Surrender Situations					
Confidence Level	**AIA-A**	**AIA-B**	**AIA-C**	**AIA-D**	**Total / %**
Very High	1	1	2	1	5 / 5%
High	4	14	7	7	32 / 30%
Moderate	20	12	18	9	59 / 54%
Low	2	0	0	8	10 / 9%
Very Low	0	0	0	2	2 / 2%
Total Ratings	27	27	27	27	108 / 100%

Refugee Situations					
Confidence Level	**AIA-A**	**AIA-B**	**AIA-C**	**AIA-D**	**Total / %**
Very High	0	1	0	0	1 / 1%
High	0	21	1	10	32 / 30%
Moderate	20	5	26	11	62 / 57%
Low	7	0	0	5	12 / 11%
Very Low	0	0	0	1	1 / 1%
Total Ratings	27	27	27	27	108 / 100%

Table 13. AIA subjects' reported levels of confidence in their individual estimates of target audience's likely response

As seen in Table 14, overall, the 4th POG analysts reported at least moderate confidence in 72% of their judgements in the various surrender scenarios. This somewhat lower number reflects the problem reported by the two analysts who had extreme difficulty assessing situations in which unrealistic or improbable conditions were hypothesized.

Alternately, in their refugee scenarios, 97% of the analysts reported at least a moderate degree of confidence in their individual judgements, and 66% reported a high or very high degree of confidence in those estimates.

Surrender Situations						
Confidence Level	**Peru**	**Kosovo**	**Rwanda**	**Iran**	**Kashmir**	**Total / %**
Very High	0	1	1	1	1	4 / 3%
High	7	14	8	7	0	36 / 27%
Moderate	16	12	16	11	2	57 / 42%
Low	3	0	2	0	1	6 / 4%
Very Low	1	0	0	8*	23*	32 / 24%
Total Ratings	27	27	27	27	27	135 / 100%

Refugee Situations					
Confidence Level	**Kosovo**	**Rwanda**	**Afghan**	**Kashmir**	**Total / %**
Very High	3	4	1	3	11 / 10%
High	13	11	23	14	61 / 56%
Moderate	11	10	3	9	33 / 31%
Low	0	2	0	0	2 / 2%
Very Low	0	0	0	1	1 / 1%
Total Ratings	27	27	27	27	108 / 100%

* Two subjects expressed no confidence in some of these ratings

Table 14. 4th POG subjects' reported levels of confidence in their individual estimates of target audience's likely response

Time and Difficulty in Learning/Using Procedures

Implementation time: When administering the SMART and policy capturing procedures, researchers were careful to note the times subjects took to complete the various activities. The difficulties and concerns encountered by the subjects were also noted. Of nine subjects who went through the SMART process, eight completed all of the activities related to their first scenario in between 70 and 90 minutes. This included introduction of the task and providing numerical values for the three conditions for each factor (@ 30 min), completing the ranking and weighting of factors (@ 25-35 min), and estimation of the TA's true condition on each factor and the likelihood of attaining alternate conditions (@ 20-30 min). The subject who encountered the greatest difficulty with the improbability of changes in certain factors in the surrender scenario took approximately 150 minutes to complete all of the SMART procedures for the first scenario.

In all cases, however, it took considerably less time for the elicitation of data on a second scenario, due in a large part to greater familiarity with the process. Three of the four subjects completed the second scenario in a time between 45 and 60 minutes. The subject who had some difficulty with the SMART process on the first scenario completed the second scenario in approximately 100 minutes.

Once all of the preliminary information was gathered, the administration of the policy capturing exercise (collection of likelihood estimates and confidence ratings) took between 25 and 35 minutes for seven of the nine subjects. The collection of estimates for a second scenario took a few minutes less. As mentioned previously, two subjects had great difficulty providing meaningful estimates for alternative situations that seemed improbable for their target audience. These subjects took 50 and 75 minutes on that surrender scenario, but were able to complete the second scenario in 25 and 40 minutes respectively.

Ease of use: In addition to assessment of time required to implement the various aspects of the two decision analysis procedures, the researchers also addressed the issue of the subjects' ability to learn and use those procedures. Both personal observation and feedback from subjects indicated that the swing weighting and ranking process used to obtain SMART estimates and the assessment of hypothetical situations used to obtain policy capturing estimates were understandable and credible aspects of a decision analysis system. Except for the instances in which subjects were asked to estimate outcomes in improbable situations, most participants seemed to catch on to, and expressed little concern about, both processes. However, subjects seemed to encounter more difficulty in their estimation of the numerical weights for the three values associated with each factor. In some cases this occurred because the wording of a condition conflicted with the low or high position of that condition in its potential impact on the PSYOP response. For example, the degree of control or discipline existing in a unit is one of the factors that would influence a person's willingness to surrender. Very strong control would decrease the likelihood of surrender, while weak control would increase the likelihood. When putting numerical values on the respective conditions, some subjects were confused about which ends to place the low and high values. Should the high value reflect the greater amount of control and smaller likelihood of surrender or should it reflect the greater likelihood of surrender associated with a smaller amount of control. This type of confusion highlighted the need for extreme care in the wording of the conditions.

Finally, when asked which of the two decision analysis methods they preferred or found more credible, the subjects were mixed in their responses. Three said they preferred the policy capturing method because it seemed quick and easy and they felt confident about their estimations of TA response on the various situations. Two subjects preferred the SMART procedure because they could understand the simple and direct estimation of relative influence in the ranking process; whereas the use of regression analysis to translate a series of likelihood estimates into a decision policy seemed much less transparent. Four respondents indicated either method had pros and cons and that either seemed to be a credible means of identifying their decision rationale.

IV. CONCLUSIONS AND RECOMMENDATIONS

It was evident to the research team from the outset that the scope of the project, based on funding and reliance on SME input, would make it difficult to explore a variety of questions regarding the feasibility of employing the proposed decision analysis process in a decision support system and still generalize from the results. However, despite the limited scope of objectives and cultures tested, the results provide indications that such a process could indeed be the basis of a useful system to help PSYOP planners estimate the probability of achieving PSYOP objectives. As a result of this research effort, a number of lessons were learned regarding the strengths, weaknesses, and requirements associated with the development and implementation of a decision support system that would rely on assessment of previously identified cultural and situational factors. The following paragraphs summarize what has been learned from the tests of the decision analysis methodologies and from the entire data-gathering experience.

Development of a Useful List of PSYOP Objectives

Through the use of historical PSYOP documents and experienced SMEs, researchers found it is reasonable to be able to develop a useful, comprehensive list of PSYOP objectives that could function as a starting point in a decision support system. However, if the objectives are to be analyzed to determine the principal influencing factors, they must be specific enough so that differences in factor descriptions attributable to specific target audiences or types of operation are accounted for. This means that, rather than a few dozen "generalized" objectives, as proposed at the outset of this project, many more specific objectives would need to be broken out. The result is likely to be a larger list and perhaps more difficulty building the framework for organizing such a list. There are clearly different and often overlapping ways of categorizing types of PSYOP activities. The framework proposed from this project seems reasonable, but may not match the perception of all in the PSYOP community regarding the best way to categorize. The more important point may be to worry less about capturing every potential objective and to concentrate, initially, on identifying the objectives most relevant to repeated, current operational demands. As the utility of a proposed decision support system is validated and the system is improved, then the objectives list could be expanded to include additional areas.

Development of Lists of Potential Influencing Factors

Based on the limited sample of objectives completed for this study, it appears to be quite possible to identify and gain agreement on the cultural and situational factors most likely to influence a target audience's willingness to respond. If carefully crafted, the lists of factors may be well received by the potential PSYOP users and can even lend credibility to the decision analysis effort. However, this process may be the most difficult, time consuming, and yet most essential part in the development of the decision support system. It requires considerable front-end work to identify the potential factors and may entail searching beyond the PSYOP community and literature to tap the knowledge base

of resources familiar with the specific type of attitude or behavior desired in the objective (e.g., refugee movement). It is essential (and can be difficult) to determine the appropriate level of generality or inclusiveness for the concepts being described so the number of factors remains workable. (For example, there was some disagreement about making "desire to reunite with loved ones" a separate factor from the "attachment to home surroundings" as an influencer of refugee willingness to return home). And, in the selection of values levels for each factor, selecting the appropriate wording to reflect the high and low ends of the factor concept is a challenge. Although the factor lists were thought to be effective by the test subjects, the test experience revealed some room for improvement. It remains to be seen whether influencing factors lists would be more difficult to develop for other types of objectives, describing less overt specific behaviors than surrender or refugee repatriation.

Use of Decision Analysis Techniques to Determine Relative Impact of Influencing Factors

It is apparent that both the SMART and policy capturing methodologies resulted in the identification of the decision makers' perceptions of relative influence of the factors. The fairly straight-forward ranking and weighting process of the SMART technique was well understood by the subjects. They all reported moderate to high confidence in their results, although somewhat lower confidence in the ranking process was reported by the AIA members who have less experience with a culture than the 4th POG analysts. Although the participants experienced a bit more confusion in determining the numerical values of the factor conditions, the simple additive means for determining aggregate scores for any combination of conditions in a hypothetical situation appeared to be readily understandable.

In most cases, the policy capturing methodology proved very capable of providing a view of the subject's decision rationale and of the relative influence of the dominant factors. Overall, the test of the methodology on 17 different scenarios/subjects resulted in 14 policy models in which the factor conditions explained a large percentage of the variance in the estimations of TA response (r2 of 0.75 or greater). Fourteen of the models were significant at $p < .1$, with ten of those significant at $p < .05$. And significant dominant factors were identified in each model. The number of comparisons is small, but there was little difference in the significance levels of the models between the AIA or 4th POG groups. As this process was aimed at identifying dominant factors, it assumed relatively little interaction among factors. A key unanswered question was whether interaction effects could be appropriately dealt with, given the limited number of situations proposed in the fractional factorial design employed. This is another area to address in an expanded study.

Although it is a bit more complex, the policy capturing methodology proved reasonably easy to employ with these subjects. Because of the limits on the number of factors to be considered in the presentation of alternative situations, this methodology recommends a preliminary filtering to nine or fewer factors. The swing weighting process appears to be

an effective way to accomplish this. Discussions with the subjects revealed no differences in their preferences nor in their ability to arrive at a significant decision model, whether they dealt with 6, 7, 8, or 9 factors. Difficulties in making likelihood of response estimations for situations in which improbable conditions are presented proved to be an important aspect, which indicates a need to hold constant those factors identified as unchangeable. This aspect also reinforces the need to collect estimates about the likelihood of changing the TA's condition. As with the SMART technique, subjects expressed moderate to high confidence in their individual estimates of the TA's likelihood of responding. The regression analysis process and the beta weights produced are not easily understood by the subjects and would be hidden in a decision support system, but these results are capable of providing an overall probability estimate for any given or hypothetical situation. Finally, the ability to develop pooled models adds a dimension for systematically reviewing differences in perspective among PSYOP team members and for arriving at a consensus with less influence from the personal persuasive power of single members.

Similarity of Dominant Influencing Factors Across Cultures

The attempt to determine similarity of factor influence across cultures provided mixed evidence. The comparisons of the factors' perceived relative influence produced few significant correlations among the overall rankings of surrender factors. However, both the initial SMART rankings and some of the policy capturing models showed some consistency in identification of a few of the most dominant factors. Greater consistency was displayed among the three raters of the refugee repatriation scenario than among the raters of the surrender scenario. The lack of significant correlations among the surrender rankings may have been driven by the disparity in the types of military forces that made up the various target audiences. In fact, the moderate significant correlation of the rankings for the two special groups of elite forces and a lack of significant correlation between their rankings and those for the regular forces of other nations is a small indicator of the importance of discriminating among different subgroups within the military forces of a nation. It also may indicate that shared overriding traits, such as religious fanaticism or extreme devotion to a cause, can result in greater commonality in relative influence of factors across national groups than may exist between different military subgroups within a single nation. This would be an essential element for future study.

Similarity of Dominant Influencing Factors Among Raters of the Same Situation

A greater number of significant, but moderate correlations among overall influence rankings indicates some agreement of perceptions among subjects assessing the same situation. The review of actual SMART rank orders and the comparison of significant factors identified in the policy models would indicate that the different subjects may tend to agree on some of the most dominant factors and on the least dominant factors, but they disagree or are uncertain of the placement of the factors in the "gray area." In addition, there are several instances of three or four subjects being in relative agreement about a

factor's ranking, while the other subject ranks that factor much higher or lower. These results provide a good example of the disparity in perspective that often occurs between members of a PSYOP team who come together with very different background and levels of experience. This type of disparity is what would be discussed in an initial group ranking process that ought to be employed with either methodology.

In addition, the pooled model derived from the policy capturing methodology allows for a presentation of the statistically optimal consensus and the identification of significantly disparate raters. Under either methodology, however, the systematic identification and comparison of the planners' decision rationale could help facilitate a more logical group solution. The disparate rater may come to alter his/her perspective based on the information shared by others, or, as was the case in the group ranking of the AIA refugee scenario, he or she may have unique experience or knowledge that could add to the others' perspectives.

Potential for Use in an Automated Decision Support System

In addition to testing the feasibility of developing credible factors lists and employing an appropriate decision analysis methodology, the research team also completed some preliminary programming for a conceptual demonstration of the actual operation of these components in a decision support system. Initially, a simple program was prepared for transferring the results of the factor ranking process into a series of varying situations (consistent with various preset factorial designs) ready for rating in the policy capturing process. Later, a conceptual demonstration of the components of an automated DSS was prepared for review by AIA PSYOP staff. The demonstration displayed 1) the proposed means for selecting objectives of interest and reviewing factor lists and related information, 2) the prompts and responses required for accomplishing the SMART or policy capturing steps, and 3) the options for displaying the results of the analyses so planners could make probability estimates of the target audience responding as desired and identify the factors most likely to effect a change in those probabilities. The AIA PSYOP reviewers expressed their belief in the potential utility of such a DSS if the results of further testing confirmed the initial study results on a broader scale.

Recommendation for Further Study

Based on this research experience, the research team feels that the prospects for employing a decision analysis methodology and already identified cultural and situational factors to help planners estimate probabilities of obtaining a desired PSYOP response seem brighter and more achievable. A great deal was learned about the mind set and needs of the PSYOP planners, the effort and expertise required to build an objectives and related factors data base, and the potential utility and limitations of the two decision analysis methodologies tested. However, the limitations in the scope of this study demand an expansion and broadening of the research before more definitive decisions about implementation could be made. The development of influencing factors lists for a greater variety of objectives should be undertaken to determine the ability to provide this

service for different types of strategic and tactical, wartime and non-wartime PSYOP operations. A larger number of cultures and target audiences within cultures needs to be tested to identify patterns and problems that may be associated with specific groups. A prototype of the automated decision support system software needs to be developed and tested for ease of use and user credibility.

As was emphasized by many of the PSYOP participants, a workable decision support system should provide the ability to identify the decision rationale of PSYOP planners as they make their intuitive judgements, assisting them in more fully understanding the potential changes in TA response resulting from possible alterations in attitudes and conditions associated with the factors they deem most important. It would be designed as a decision tool, not a solution provider, that could help them quantify, more accurately, the probabilities of attaining PSYOP objectives. In addition, the patterns that emerge across a broad range of decision analyses, covering numerous objectives, cultures and target audiences, could provide some insights or confirm some intuitive "truths" that would be extremely beneficial to less experienced PSYOP planners.

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APPENDIX A LISTS OF INFLUENCING FACTORS FOR THREE SAMPLE PSYOP OBJECTIVES

APPENDIX A1: SURRENDER OBJECTIVE

The following factors and associated conditions have been identified as potential key influencers in military troops' decisions about whether they would be willing to surrender.

1. **Battlewearines**s: The extent of remaining tolerance, no matter how much they have already endured, for continued intense/stressful battlefield conditions (i.e., fire/casualties taken) reflects

   little battlewearines (ability to endure considerable additional battlefield stresses and function effectively)
   moderate battlewearines (tolerance for additional battlefield stresses is weakened, but group still able to function)
   great battlewearines (ability to function is impaired or close to breaking)

2. **Impact of surrender on personal or family's lives:** They believe that their surrender action

   would have a negative impact on their lives and their families' personal lives
   would have no impact on their lives and their families' personal lives or overall effects
   would balance out
   would ultimately result in their lives and their families' lives being better

3. **Attitude toward civilian/military leadership:** They have

   great respect for and great loyalty to their military or civilian leadership
   mixed feelings about, and are only moderately loyal to, their military or civilian leadership
   little respect for and little loyalty to their military or civilian leadership

4. **Likelihood of death or injury**: They believe that, if they continue to resist

   there is an extremely low likelihood of imminent death or serious injury
   there is a moderate likelihood of imminent death or serious injury
   there is an extremely high likelihood of imminent death or serious injury

5. **Commitment to military group**: The degree of commitment/loyalty they have to their military group (i.e., group cohesiveness/morale) is

   very strong
   moderate
   very weak

6. **Difficulty/risk in completing the surrender action:** They believe

   completing the surrender action successfully will be very difficult/risky
   completing the surrender action successfully will be somewhat difficult/risky
   completing the surrender action successfully will entail very little difficulty/low risk

7. **Treatment as prisoners**: They believe that, as POWs,

   they will be severely mistreated
   they will suffer some tolerable hardships
   they will be treated well

8. **Belief about chances for military success**: Their attitude about their military situation reflects

   great optimism about their chances for success
   uncertainty about their chances for success
   great pessimism about their chances for success

9. **Availability of alternatives to surrender:** They believe there is

   great likelihood that they will have alternatives to surrender (escape or rescue)
   moderate likelihood that they will have alternatives to surrender (escape or rescue)
   little likelihood that they will have alternatives to surrender (escape or rescue)

10. **Ability to endure additional physical hardship**: Their current attitude about their physical conditions/tolerance for additional hardship reflects

    little dissatisfaction and an ability to endure greater hardships
    moderate dissatisfaction and some tolerance for additional hardship
    very great dissatisfaction and little tolerance left for additional hardships

11. **Attitudes about act of surrender**: Their people/society views the act of surrender as

    an extremely shameful and undesirable act
    a somewhat shameful and undesirable act
    an understandable part of warfare; with no shame attached

12. **Commitment to a cause**: The degree of commitment/loyalty they have to an ideology and/or group cause (e.g. religious, political, military, ethnic/tribal) for which they are fighting is

very strong
moderate
very weak

13. **Attitude about the enemy**: Their attitude toward opposing enemy forces is described as

    intense hatred/distrust
    moderate dislike
    having some respect

14. **Control and discipline within their unit**: The degree of perceived internal control/coercion/discipline enforced in the unit is :

    very strong
    moderate
    weak/seriously degraded

APPENDIX A2: DELAYING REFUGEE MOVEMENT OBJECTIVE

The following factors and associated conditions have been identified as potential key influencers of whether the refugees would be willing to remain at the refugee camps or situations and delay their return to their towns and villages.

1. **Home town living conditions**: They believe that living conditions (e.g. food, housing, infrastructure, opportunity to make a living) in their home towns or villages

   will soon be at least as good as they were before they left
   will be tolerable and capable of improvement
   will be very poor and remain so for many months

2. **Effect of delay on recovery time**: They believe that delaying their return, so an aid system can be set up, will result in

   a longer recovery time to normal conditions once they return
   no difference in the recovery time to normal conditions once they return
   a shorter recovery time to normal conditions once they return

3. **Threat of continued violence in home area**: They believe that the likelihood of potentially harmful attacks by soldiers, insurgents, marauders or other threatening forces at their home towns or villages

   is extremely low
   is still somewhat possible
   is extremely high

4. **Refugee physical condition**: The physical/emotional condition of the refugees

   is strong and they are quite capable of completing the journey
   is weakened, but they should be able to complete the journey with some difficulty
   is very poor, and their ability to undertake a journey is very limited

5. **Hardship of return journey**: They perceive that the return journey

   will offer very little difficulty, with very few environmental hardships
   will be moderately difficult and they will encounter some environmental hardships
   will be extremely difficult and full of environmental hardships

6. **Threat of danger/violence on return journey**: They believe that the return journey

   will present an extremely small degree of dangers/risk from mines, marauders, etc
   will present a moderate degree of danger/risk from mines, marauders, etc
   will present an extremely high degree of danger/risk from mines, marauders, etc

7. **Satisfaction with current refugee living conditions:** They are

   very uncomfortable/dissatisfied with current living conditions as refugees
   not very comfortable but are tolerating their current refugee living conditions
   very comfortable/satisfied with their current refugee living conditions

8. **Quality of future refugee living conditions:** They believe that

   the quality of support/protection in their refugee camp or situation is very likely to decrease
   the future quality of support/protection in their refugee camp or situation is uncertain
   the quality of support/protection in their refugee camp or situation is very likely to improve

9. **Work opportunities in refugee area**: They believe that opportunities for work and advancement in their new location

   are not as good as in their home towns or villages
   are unknown or about the same as in their home towns or villages
   are better than in their home towns or villages

10. **Attachment to home surroundings**: The attachment to familiar, traditional, or culturally important surroundings of their home towns or villages

    is very great
    is moderate
    is very small

11. **Concern for personal property in home area**: Their concern for or perceived need to protect/reclaim their personal property in their home towns or villages

    is very large
    is moderate
    is very small

12. **Desire to reunite with loved ones**: The desire to locate or reunite with loved ones/community members

    is very large
    is moderate
    is very small

13. **Credibility of sources encouraging delay**: The sources (e.g., host nation, home government, international groups) encouraging them to delay the return to their home towns or villages are perceived to have

    very little credibility
    some moderate credibility
    great credibility

14. **Recommendations of refugee leaders**: Those refugees in positions of power or leadership

    are very supportive of returning home at the present time
    reflect uncertainty about returning home at the present time
    are not supportive about returning home at the present time

APPENDIX A3: ENCOURAGING REFUGEE REPATRIATION OBJECTIVE

The following factors and associated conditions have been identified as potential key influencers of whether the refugees would be willing to leave the refugee camps and return to their towns and villages.

1. **Home town living conditions:** They believe that living conditions (e.g. food, housing, infrastructure, opportunity to make a living) in their home towns or villages

   will be very poor and remain so for many months
   will be tolerable and capable of improvement
   will soon be at least as good they were before they left

2. **Threat of continued violence in home area:** They believe that the likelihood of potentially harmful attacks by soldiers, insurgents, marauders or other threatening forces at their home towns or villages

   remains extremely high
   is still somewhat possible
   is extremely low

3. **Refugee physical condition:** The physical/emotional condition of the refugees

   is very poor, and their ability to undertake a journey is very limited
   is weakened, but they should be able to complete the journey with some difficulty
   is strong and they are quite capable of completing the journey

4. **Hardship of return journey:** They perceive that the return journey

   will be extremely difficult and full of environmental hardships
   will be moderately difficult and they will encounter some environmental hardships
   will offer very little difficulty, with very few environmental hardships

5. **Threat of danger/violence on return journey:** They believe that the return journey

   will present an extremely high degree of dangers/risk from mines, marauders, etc
   will present a moderate degree of danger/risk from mines, marauders, etc
   will present an extremely small degree of danger/risk from mines, marauders, etc

6. **Satisfaction with current refugee living conditions:** They are

   very comfortable/satisfied with current living conditions as refugees
   not very comfortable but are tolerating their current refugee living conditions
   very uncomfortable/dissatisfied with their current refugee living conditions

7. **Quality of future refugee living conditions:** They believe that

   the quality of support/protection in their refugee camp or situation is very likely to improve
   the future quality of support/protection in their refugee camp or situation is uncertain
   the quality of support/protection in their refugee camp or situation is very likely to decrease

8. **Work opportunities in refugee area:** They believe that opportunities for work and advancement in their new location

   are better than in their home towns or villages
   are unknown or about the same as in their home towns or villages
   are not as good as in their home towns or villages

9. **Attachment to home surroundings:** The attachment to familiar, traditional, or culturally important surroundings of their home towns or villages

   is very small
   is moderate
   is very great

10 **Concern for personal property in home area:** Their concern for or perceived need to protect/reclaim their personal property in their home towns or villages

   is very small
   is moderate
   is very large

11. **Desire to reunite with loved ones:** The desire to locate or reunite with loved ones/community members

   is very small
   is moderate
   is very large

12. **Credibility of sources encouraging return:** The sources (e.g., host nation, home government, international groups) encouraging their return to their home towns or villages are perceived to have

   very little credibility
   some moderate credibility
   great credibility

13. **Recommendations of refugee leaders:** Those refugees in positions of power or leadership

are not supportive of returning home at the present time
reflect uncertainty about returning home at the present time
are very supportive about returning home at the present time

APPENDIX B FORM FOR COLLECTING DATA ON ACTUAL TARGET AUDIENCE CONDITIONS AND POTENTIAL FOR CHANGE

ACTUAL TA PROFILE AND POTENTIAL FOR CHANGE

Within each factor, circle the condition that most closely reflects the true TA belief or situation, regarding repatriation, as you perceived it to be. Using the scale below indicate, first, the likelihood that the condition you selected truly reflects the actual TA condition. Put the letter of that likelihood next to the circled condition. Next, for each other hypothetical condition or belief listed below, use the same scale to estimate the likelihood that such a belief or condition could be attained. Put the likelihood letter next to each condition that is not circled.

a. extremely likely b. strong likelihood c. moderate likelihood
d. small likelihood e. extremely small likelihood

1. **Home town living conditions:** They believe that living conditions (e.g. food, housing, infrastructure, opportunity to make a living) in their home towns or villages

   will be very poor and remain so for many months
   will be tolerable and capable of improvement
   will soon be at least as good they were before they left

2. **Threat of continued violence in home area:** They believe that the likelihood of potentially harmful attacks by soldiers, insurgents, marauders or other threatening forces at their home towns or villages

   remains extremely high
   is still somewhat possible
   is extremely low

3. **Refugee physical condition:** The physical/emotional condition of the refugees

   is very poor, and their ability to undertake a journey is very limited
   is weakened, but they should be able to complete the journey with some difficulty
   is strong and they are quite capable of completing the journey

4. **Hardship of return journey**: They perceive that the return journey

   will be extremely difficult and full of environmental hardships
   will be moderately difficult and they will encounter some environmental hardships
   will offer very little difficulty, with very few environmental hardships

5. **Threat of danger/violence on return journey:** They believe that the return journey

   will present an extremely high degree of dangers/risk from mines, marauders, etc
   will present a moderate degree of danger/risk from mines, marauders, etc
   will present an extremely small degree of danger/risk from mines, marauders, etc

6. **Satisfaction with current refugee living conditions:** They are

   very comfortable/satisfied with current living conditions as refugees
   not very comfortable but are tolerating their current refugee living conditions
   very uncomfortable/dissatisfied with their current refugee living conditions

7. **Quality of future refugee living conditions:** They believe that

   the quality of support/protection in their refugee camp or situation is very likely to improve
   the future quality of support/protection in their refugee camp or situation is uncertain
   the quality of support/protection in their refugee camp or situation is very likely to decrease

8. **Work opportunities in refugee area:** They believe that opportunities for work and advancement in their new location

   are better than in their home towns or villages
   are unknown or about the same as in their home towns or villages
   are not as good as in their home towns or villages

9. **Attachment to home surroundings:** The attachment to familiar, traditional, or culturally important surroundings of their home towns or villages

   is very small
   is moderate
   is very great

10. **Concern for personal property in home area:** Their concern for or perceived need to protect/reclaim their personal property in their home towns or villages

    is very small
    is moderate
    is very large

11. **Desire to reunite with loved ones:** The desire to locate or reunite with loved ones/community members

    is very small

is moderate
is very large

12. **Credibility of sources encouraging return:** The sources (e.g., host nation, home government, international groups) encouraging their return to their home towns or villages are perceived to have

    very little credibility
    some moderate credibility
    great credibility

13. **Recommendations of refugee leaders:** Those refugees in positions of power or leadership

    are not supportive of returning home at the present time
    reflect uncertainty about returning home at the present time
    are very supportive about returning home at the present time

APPENDIX C SAMPLE TAXONOMY OF PSYCHOLOGICAL OBJECTIVES FOR TRADITIONAL WARTIME OPERATIONS AND FOUR TYPES OF OPERATIONS OTHER THAN WAR (OOTW)

Following is a sample listing of generally recognized, though not necessarily doctrinal, PSYOP objectives, relevant to traditional wartime conflict and to four Operations Other Than War (OOTW),. The underlined statements are operator-centered objectives framed in reference to what the PSYOP team hopes to accomplish to aid the mission. The items beneath them (preceded by the PO) are PSYOP objectives stated in terms of the desired attitudes or behaviors to be adopted or demonstrated by the target audience (TA). There is great similarity among many of the listed objectives, with many varying primarily in context or target audience. This is due to the fact that certain behaviors are supportive of US goals in a variety of situations. In general, within each type of operation, the objectives are organized by the type of target audience that we wish to influence: the international audience; the local/civilian population (either hostile, neutral, or friendly); the actual forces (military, insurgent, terrorist etc.) that might be opposing US interests; the opposition leadership; and the military or political allies that might make up an opposition group.

The listing of POs in these first five types of operations are more fully developed. Following these objectives are a list of other types of OOTW that would demonstrate the other areas in which objectives could be developed and included in an overall framework of PSYOP objectives suitable for use in a proposed decision support system.

PSYOP Objectives Common to Traditional Wartime/Conflict Operations

Establish credibility of US/friendly forces as source of information

PO: TA (HN civilian population/opposing forces) view US information as reliable

PO: TA (HN civilian population/opposing forces) actively seek out information provided by US/friendly forces

Counter propaganda conducted by opposing groups or their sympathizers

PO: TA (HN civilian population or other nations) questions credibility of information/propaganda disseminated by opposing groups or their sympathizers

PO: TA (HN civilian population or other nations) does not respond to/act on opposing propaganda appeals

Project a favorable image of the US/friendly forces goals/actions among international audience

PO: TA (International audience) identifies US and its leadership with positive values/consequences

PO: TA (International audiences) declares/displays support for US/friendly forces' goals

Dissuade other nations/international groups from supporting opposing forces/leaders

PO TA (International audience) identifies opposing forces'/leaders' goals or actions with negative values/consequences

PO: TA (International audience) does not abet or provide support for opposing forces', actions, or goals

PO: TA (International audience) refrains from criticizing US/friendly forces' leaders, goals, or actions

PO: TA (International audience) criticizes opposing forces' actions or goals

Gain indigenous local population support for US/friendly forces' leadership/goals/actions

PO: TA (local population/influence groups) identifies US/friendly forces with positive values/consequences

PO: TA (local population/influence groups) refrains from criticizing US/friendly forces' goals/actions

PO: TA (local population/influence groups) declares/displays support for US/friendly forces' goals/actions

PO: TA (local population/influence groups) does not interfere with US/friendly forces/actions

PO: TA (local population/influence groups) follows instructions/guidance provided by friendly forces (e.g. follow assembly/demonstration/curfew/travel guidelines)

PO: TA (local population/influence groups) provides information on opposing forces/actions

Provide instructions/directions to enhance conditions or safety of civilian populace

PO: TA (local population) follows instructions to access humanitarian aid, improve living conditions, or avoid problems/danger

Isolate opposition leadership/forces from local popular support base

PO: TA (local population/influence groups) overtly question leadership, motives, credibility of opposition (e.g., speeches, letters, posters)

PO: TA (local population/influence groups) cease to aid members of opposition forces

PO: TA (local population/influence groups) demonstrate opposition to policies/actions of those opposing US/friendly forces (e.g., protest marches, demonstrations, strikes)

PO: TA (local population/influence groups) support resistance groups/activities

PO: TA (local population/influence groups) take actions to hinder opposing forces' goals or activities

Create disunity, disaffection among opposition forces

PO: TA (opposition forces) overtly question opposition leadership, goals, or operations

PO: TA (opposition forces) question likelihood of achieving opposition goals

PO: TA (opposition forces) question continued involvement with opposition activities

PO: TA (opposition forces) decrease compliance with orders/effectiveness of efforts (malingering)
PO: TA (opposition forces) question capability or loyalty of some members or groups within their forces
PO: TA (opposition forces) take actions to disable, degrade, or sabotage unit equipment, supplies, or capabilities
PO:TA (opposition forces) refuse orders to leave barracks or engage in conflict
PO:TA (opposition forces) desert or leave units
PO:TA (opposition forces) defect or surrender

Cause opponent leadership to doubt the loyalty/capability of its military/popular support

PO: TA (opposition leadership) questions continued loyalty/commitment of forces or supporters
PO: TA (opposition leadership) questions forces'/supporters' willingness/ability to successfully carry out desired actions
PO: TA (opposition leadership) increases fault-finding and scapegoating among own forces/supporters
PO: TA (opposition leadership) fails to attempt, or delays implementing, high-risk options

Create or exploit disunity among opposition's political/military allies

PO: TA (opposition leaders) are embarrassed or angered by actions of political or military allies
PO: TA (opposition leaders) increase doubts about motives, reliability, or trustworthiness of political or military allies
PO: TA (opposition leaders) support for or cooperation with allies slows, decreases, or ceases

PSYOP Objectives Relevant to Peace Enforcement Operations

Establish credibility of US/friendly forces as source of information

PO: TA (HN civilian population/opposing forces) view US information as reliable
PO: TA (HN civilian population/opposing forces) actively seek out information provided by US/friendly forces

Counter propaganda conducted by opposing groups or their sympathizers

PO: TA (HN civilian population or other nations) does not respond to/act on opposing propaganda appeals

Project a favorable image of the US/peacekeepers' goals/actions among international audience

PO: TA (International audience) identifies US and its leadership with positive values/consequences
PO: TA (International audiences) declares/displays support for US/peacekeepers' goals

Dissuade other nations/international groups from supporting warring factions or continued conflict

PO: TA (International audience) identifies continued hostile actions with negative values/consequences

PO: TA (International audience) does not abet continued warfare by factions

Gain indigenous local population support for US/peacekeepers' leadership/goals/actions

PO: TA (local population) identifies US/peacekeepers with positive values/consequences

PO: TA declares/displays support for US/peacekeepers' presence/goals

PO: TA does not interfere with PK forces/actions

PO: TA follows instructions/guidance provided by PKers, (e.g., turn in arms, follow assembly/demonstration guidelines)

PO: TA provides information on hostile forces/actions

Gain refugee population support for US/peacekeepers' leadership/goals/actions

PO: TA (refugee population) identifies US/peacekeepers with positive values/consequences

PO:TA (refugee population) follows instructions/guidance provided by PKers, (e.g., turn in arms, follow assembly/demonstration guidelines)

PO:TA (refugee population) remains in refugee situation rather than returning home or shifting sites

PO:TA (refugee population) moves location as directed by PKers

PO:TA (refugee population leaves refugee situation and returns home

Provide instructions/directions to enhance conditions or safety of civilian populace

PO: TA (local population) follows instructions to access humanitarian aid, improve living conditions, or avoid problems/danger

Isolate hostile factions from local popular support base

PO: TA (local population) overtly questions leadership, motives, credibility of warring factions

PO: TA (local population) ceases to aid members of warring factions

Create disunity, disaffection among forces/factions that oppose PK efforts

PO: TA (faction members) overtly question faction's leadership, goals, or operations

PO: TA (faction members) question likelihood of achieving faction's goals

PO: TA (faction members) question continued involvement with faction's activities

PO: TA (faction members) decrease compliance with/effectiveness of faction's efforts

PO: TA (faction members) question capability or loyalty of some members or groups within their forces

PO:TA (faction members) cease association with faction's non-peacekeeping activities

Cause opponent leadership to doubt the loyalty/capability of its military/popular support

PO: TA (Leadership of warring factions) questions continued loyalty/commitment of supporters

PO: TA (leadership) questions supporters' willingness/ability to successfully carry out desired actions

PO: TA (leadership) increases fault-finding and scapegoating among own forces

PO: TA (leadership) fails to attempt, or delays implementing, high-risk options

Gain cooperation from factions in implementing PK goals

PO: TA (factions) cease hostile actions/comply with agreements

PO: TA (factions) do not attack/ interfere with PK activities

PSYOP Objectives Relevant to Combating Terrorism Operations

Establish credibility of US/friendly forces' as source of information

PO: TA (HN civilian population/opposing forces) view US information as reliable

PO: TA (HN civilian population/opposing forces) actively seek out information provided by US/friendly forces

Counter propaganda conducted by opposing groups or their sympathizers

PO: TA (HN civilian population or other nations) does not respond to/act on opposing propaganda appeals

Project a favorable image of the US/host nations' goals/actions among international audience

PO: TA (International audience) identifies US/host nation and its leadership with positive values/consequences

PO: TA (International audience) declares/displays support for US/host nations' goals

Dissuade other nations/international groups from supporting terrorist groups/activities

PO: TA (International audience) identifies terrorist actions with negative values/consequences

PO: TA (International audience) does not abet terrorist groups/actions

PO: TA (International audience) declares/displays opposition to terrorist goals/methods

Gain indigenous local population support for US/host nations' leadership/goals/actions

PO: TA (local population) identifies US/host nations' leadership with positive values/consequences

PO: TA (local population/influence groups) refrain from criticizing US/host nation leadership/goals/actions

PO: TA declares support for indigenous leaders' actions (e.g.. population control measures or political economic reforms

PO: TA displays positive attitudes toward US presence/goals

PO: TA does not interfere with anti-terrorist forces/actions
PO: TA follows instructions/guidance provided by anti-terrorist leaders
PO: TA provides information on terrorist forces/actions

Provide instructions/directions to enhance conditions or safety of civilian populace

PO: TA (local population) follows instructions to access humanitarian aid, improve living conditions, or avoid problems/danger

Isolate terrorists from local popular support base

PO: TA (local population supporters) overtly question leadership, motives, credibility of terrorists
PO: TA (local population supporters) cease to aid members of terrorist groups

Create disunity, disaffection among terrorist forces

PO: TA (terrorist members) overtly question terrorist leadership, goals, or operations
PO: TA (terrorist members) question likelihood of achieving terrorist goals
PO: TA (terrorist members) question continued involvement in terrorist actions
PO: TA (terrorist members) decrease compliance with/effectiveness of terrorist efforts
PO:TA (terrorist members) cease association with terrorist group/activities
PO: TA (terrorist members) surrender to/cooperate with government forces

Cause terrorist leadership to doubt the loyalty/capability of its military/popular support

PO: TA (terrorist leadership) questions continued loyalty/commitment of forces or supporters
PO; TA (terrorist leadership) questions forces' or supporters' willingness/ability to successfully carry out desired actions
PO: TA (terrorist leadership) increases fault-finding and scapegoating among own forces
PO: TA (terrorist leadership) fails to attempt, or delays implementing, higher-risk options

Create or exploit disunity among terrorist forces' political and military allies

PO: TA (terrorist faction leaders) are embarrassed or angered by actions of political or military allies
PO: TA (terrorist faction leaders) increase doubts about motives, reliability, or trustworthiness of political or military allies
PO: TA (terrorist faction leaders) support for or cooperation with allies slows. decreases, or ceases

PSYOP Objectives Relevant to Counterinsurgency/Nation Assistance

Establish credibility of US/friendly forces' as source of information

PO: TA (HN civilian population/opposing forces) view US information as reliable
PO: TA (HN civilian population/opposing forces) actively seek out information provided by US/friendly forces

Counter propaganda conducted by opposing groups or their sympathizers

PO: TA (HN civilian population or other nations) does not respond to/act on opposing propaganda appeals

Project a favorable image of the US/host nations' goals/actions among international audience

PO: TA (International audience) identifies US and its leadership with positive values/consequences

PO: TA (International audiences) declares/displays support for US/host nations' goals

Dissuade other nations/international groups from supporting insurgent groups/activities

PO: TA (International audience) identifies insurgent actions with negative values/consequences

PO: TA (International audience) does not abet insurgent groups/actions

PO: TA (International audience) declares/displays opposition to insurgents' goals/methods

Gain indigenous local population support for US/host nations' leadership/goals/actions

PO: TA (local population) identifies US/host nations' leadership with positive values/consequences

PO: TA declares support for government leaders' actions (e.g.. population control measures or political/social/economic reforms)

PO: TA displays positive attitudes toward US presence/goals

PO: TA does not interfere with government forces/actions

PO: TA follows instructions/guidance provided by government leaders

PO: TA provides information on insurgent forces/actions

Gain refugee population support for US/international groups' leadership/goals/actions

PO: TA (refugee population) identifies US/international assistance groups with positive values/consequences

PO:TA (refugee population) follows instructions/guidance provided by US or international assistance groups (turn in arms, follow assembly/demonstration guidelines)

PO:TA (refugee population) remains in refugee situation rather than returning home or shifting sites

PO:TA (refugee population) moves location as directed by US or international assistance groups

PO:TA (refugee population) leaves refugee situation and returns home

Provide instructions/directions to enhance conditions or safety of civilian populace

PO: TA (local population) follows instructions to access humanitarian aid, improve living conditions, or avoid problems/danger

Isolate insurgents from local popular support base

PO: TA (local population supporters) overtly question leadership, motives, credibility of insurgents

PO: TA (local population supporters) cease to aid members of insurgent groups

Create disunity, disaffection among insurgent forces

PO: TA (insurgent members) overtly question insurgent leadership, goals, or operations

PO: TA (insurgent members) question likelihood of achieving insurgent goals

PO: TA (insurgent members) question continued involvement with insurgent activities

PO: TA (insurgent members) decrease compliance with/effectiveness of insurgent efforts

PO:TA (insurgent members) cease association with insurgent group/activities

PO: TA (insurgent members) surrender to/cooperate with government forces

Cause insurgent leadership to doubt the loyalty/capability of its military/popular support

PO: TA (insurgent leadership) questions continued loyalty/commitment of forces or supporters

PO; TA (insurgent leadership) questions forces' or supporters' willingness/ability to successfully carry out desired actions

PO: TA (leadership) increases fault-finding and scapegoating among own forces

PO: TA (leadership) fails to attempt, or delays implementing, higher-risk options

Create or exploit disunity among insurgent forces' political and military allies

PO: TA (insurgent faction leaders) are embarrassed or angered by actions of political or military allies

PO: TA (insurgent faction leaders) increase doubts about motives, reliability, or trustworthiness of political or military allies

PO: TA (insurgent faction leaders) support for or cooperation with allies slows. decreases, or ceases

PSYOP Objectives Relevant to Counter Drug Operations

Establish credibility of US/government as source of information

PO: TA (HN civilian population/drug traffickers) view US information as reliable

PO: TA (HN civilian population/drug traffickers) actively seek out information provided by US/friendly forces

Counter propaganda conducted by drug groups or their sympathizers

PO: TA (HN civilian population or other nations) does not respond to/act on opposing propaganda appeals

Project a favorable image of the US/host nations' counter drug goals/actions among international audience

PO: TA (International audience) identifies US and its leadership with positive values/consequences

PO: TA (International audience) declares/displays support for US/host nations' counter drug goals/actions

Dissuade other nations/international groups from supporting drug traffickers/activities

PO: TA (International audience) identifies drug traffickers' actions with negative values/consequences

PO: TA (International audience) does not abet drug trafficking groups/actions

PO: TA (International audience) declares/displays opposition to drug traffickers

Gain indigenous local population support for US/host nations' leadership/goals/actions

PO: TA (local population) identifies US/host nations' leadership with positive values/consequences

PO: TA declares support for indigenous leaders' counter drug actions (e.g., Population and Resource Control Measures or Political/Social/Economic Reforms)

PO: TA displays positive attitudes toward US presence/involvement

PO: TA does not interfere with counter drug forces/actions

PO: TA follows instructions/guidance provided by government leaders

PO: TA provides information on drug traffickers' and their actions

Provide instructions/directions to enhance conditions or safety of civilian populace

PO: TA (local population) follows instructions to access humanitarian aid, improve living conditions, or avoid problems/danger

Isolate drug traffickers from local popular support base

PO: TA (local population) overtly question leadership, motives, credibility of traffickers

PO: TA (local population supporters) cease to aid members of drug groups

PO: TA (Local population/officials) decreases support for/protection of drug activities

PO: TA (government leaders/officials) increase active opposition to drug trafficking

Create disunity, disaffection among drug traffickers

PO: TA (drug traffickers) question drug trafficking leadership/decisions

PO: TA (drug traffickers) question continued drug involvement

PO: TA (drug traffickers) decrease compliance with leaders' demands

PO: TA (drug growers) decrease or cease growing drug-related crops

PO: TA (drug traffickers) cease drug operations/surrender to government forces

PO: TA (drug trafficker leadership) questions the loyalty/commitment of its network of workers

PO: TA (rival/cooperating drug trafficking groups) fight internally

Other OOTW Areas That Could Be Supported by PSYOP Objectives

***Arms Control** - A US strategic information program handled in civilian channels

FID (Same as Nation Assistance/Counterinsurgency above)-

Military Professionalization -

Enforcing Exclusion Zones -

Ensuring Freedom of Navigation and Overflight/Protection of Shipping -

Show of Force Operations -

Strikes and Raids -

Support for Insurgency -

Recovery Operations - Locate, identify, rescue and return personnel, equipment or items critical to national security

Humanitarian Assistance -

Noncombatant Evacuation Operations -

Other Types of Peace Operations:
Peacekeeping Operations - Military ops, undertaken with consent of all parties, to monitor and supervise an agreement designed to restore peace and a long-term political settlement

Peace Making Operations - Using diplomacy; mediation, negotiation or other forms of peaceful settlement to resolve a dispute

Preventive Diplomacy - Actions taken in advance of a crisis to prevent or limit violence