UC Merced
Proceedings of the Annual Meeting of the Cognitive Science Society

Title
Use of Cognitive Field Research Methods to Investigate Cultural Groups: The Case of Individual Decision Making in Middle Eastern Crowds

Permalink
https://escholarship.org/uc/item/0vx9s07v

Journal
Proceedings of the Annual Meeting of the Cognitive Science Society, 28(28)

ISSN
1069-7977

Authors
McHugh, Anna P.
Sieck, Winston R.
Smith, Jennifer L.

Publication Date
2006

Peer reviewed

eScholarship.org Powered by the California Digital Library
University of California

Use of Cognitive Field Research Methods to Investigate Cultural Groups: The Case of Individual Decision Making in Middle Eastern Crowds

Winston R. Sieck (sieck@decisionmaking.com)
Anna P. McHugh (amchugh@decisionmaking.com)
Jennifer L. Smith (jsmith@decisionmaking.com)
Klein Associates[†], 1750 Commerce Center Blvd.
Fairborn, OH 45324 USA

Abstract

How does individual judgment and decision making mediate the behavior of crowds in the Middle East? Questions such as this cannot be answered by standard experimental psychological methods, and classic ethnographic approaches are limited as well. This paper discusses the applicability of the Critical Decision Method for investigating the decision making of non-western cultural groups in naturalistic settings. The results provide an existence proof that the method can be feasibly extended for studying cognition in non-western cultures.

This paper describes methodological approaches for studying cognition in cultural groups. The discussion is presented in the context of ongoing research into crowd behavior, as it emerges from the decision making of individuals. The general region of interest is the Middle East, extending from Egypt and the Arabian peninsula in the south up through Lebanon and Syria, and also extending from the Mediterranean on the west to the Iraq/Iran border on the east. These boundaries roughly correspond to those of primary Arabic speakers, which is often how this broad cultural group tends to define itself (Patai, 2002). Crowd behavior is an important international and interdisciplinary research area that is currently experiencing an upsurge in activity, primarily due to the practical consequences associated with large, uncontrolled crowds. At this point, it is still fair to conclude that, while considerable thought has been directed towards understanding crowd behavior, the empirical base remains thin. This state is obviously rooted in the inherent difficulties in collecting pertinent and rigorous psychological data. In addition, or perhaps, as a consequence, much existing theorizing is distinctly behaviorist in flavor, as evidenced by the rubric, "crowd behavior," to define the domain of interest.

As mentioned, the focus of the current paper is on methodologies for investigating cognition in cultural groups, in general, using our own work on decision making of crowd members as a specific case. In the remainder of this paper, we summarize experimental and ethnographic approaches for studying culture, and then introduce a commonly used cognitive field research methodology, the Critical Decision Method (CDM) as a potential alternative approach. We then briefly describe our ongoing research using the CDM to investigate crowd member decision making in the Middle East, with an emphasis on the successes, limitations, and lessons of the methodology.

Typical Cultural Research Methods

Much important work in culture and cognition is being carried out by applying standard experimental procedures across cultures, with national origin constituting the usual operational definition of cultural group. Such investigations permit the relative isolation of particular components of cognition, and thus provide a close comparative analysis of cultural differences on the details of particular cognitive processes, such as judgment and reasoning (e.g. Norenzayan, Smith, Kim, & Nisbett, 2002; Yates, Lee, Sieck, Choi, & Price, 2002). Nevertheless, such methods are simply not appropriate for investigating questions pertaining to cognition as it occurs in natural settings. In order to uncover individuals' decision processes in crowd situations, beginning with questions like, "What judgments and decisions are people actually making in the context of a crowd event?" it is necessary to relinquish the rigors of experimental control and other conveniences associated with laboratory work.

Perhaps the quintessential cultural anthropological method is ethnography. The roots of modern ethnography are in the studies of cultural anthropologists, such as Boas and Malinowski. The research questions that ethnographers address are typically descriptive in nature. They want to know, "What are the beliefs, practices, and values of this cultural group?" The ethnographer takes a holistic perspective. To understand a group's culture, the researcher studies many aspects of the group, including behavior patterns, verbal and written communications, religion, politics, family life, history, and many other areas.

Central to ethnography is the belief that immersion in a group or community, "encountering it firsthand and making some sense out of it" (Agar, 1986, p. 12), is necessary to gain a deep understanding of the culture. The research is time-intensive, sometimes lasting for several years. Fieldwork typically includes interviews, observations, and reviews of documents and artifacts. Many ethnographers take on the role of participant observer, becoming actively involved in the community rather than watching it from a distance. This allows them to not only see and hear about how the individuals live, but to actually live the life themselves.

Unlike most experimental research, ethnographic research does not proceed linearly, going from hypothesis to data collection to data analysis. Instead, data analysis is often

conducted in parallel with data collection, and theories are developed and revised throughout the study. During analysis, the researcher identifies themes and patterns in the behaviors, customs, rules, and beliefs that are representative of the entire group. Based on these observations, the ethnographer makes inferences about the culture of the group. The product of ethnographic research is usually a written narrative of the cultural group.

Although ethnography has much to offer, and it forms a broader basis for much naturalistic research, several features of ethnography in its "classic form" make it relatively unattractive for investigating issues like decision making in crowds. First, the method requires that extensive time be spent with a particular localized group of people. This is certainly useful and appropriate for many kinds of studies. However, it is undesirable when the research aims require the capturing of sporadic and dispersed events like crowd incidents. Secondly, standard ethnographies tend to focus on broader socio-political and economic contexts of the cultural group which lead to theorizing about cognition based on such distal factors. This emphasis tends to be associated with a lack of detail on more proximal variables, such as specific cues that inform particular judgments.

Critical Decision Method for Cultural Analysis

Experimental methods and standard ethnographies will continue to have their place in research on cultural issues. However, neither presented an attractive alternative for our research into the judgment and decision making of crowd participants. In our investigation, we have attempted to extend methods in common use by cognitive field researchers to study the decision making of populations in the Middle East. These Cognitive Task Analysis methods are closely related to ethnography and share many of the philosophical underpinnings, but tend to be more focused both in time and in specificity of proximal drivers of cognition (Schraagen, Chipman, & Shalin, 2000).

Our cultural research has incorporated a specific interview technique, the Critical Decision Method (CDM). The CDM is an incident based interview method for uncovering information about the knowledge, goal structures, and judgment and decision processes underlying observable actions in a particular context (Hoffman, Crandall, & Shadbolt, 1998; Klein, Calderwood, & MacGregor, 1989). CDM was originally developed based on an earlier technique for uncovering critical incidents that comes from direct experience (Flanagan, 1954). The CDM interview requires an initial step, that of guiding the participant to recall and recount a relevant incident. The interviewer then conducts three additional information gathering sweeps through the incident: Timeline Verification and Decision Point Identification; Progressive Deepening; and What-if Queries (See Figure 1).

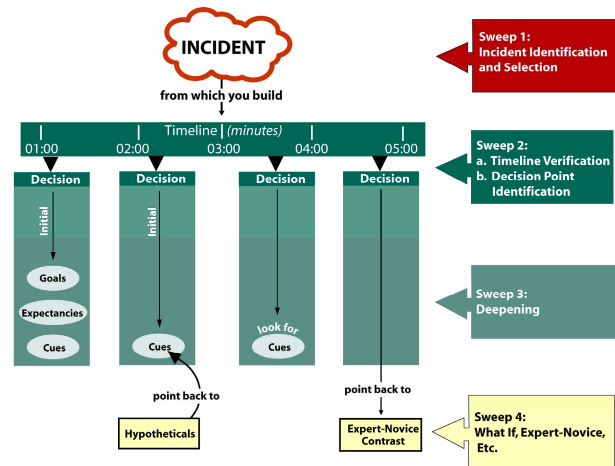

Figure 1: CDM overview.

First Sweep: Incident Identification and Selection. In accord with the goals of the project, the interviewers or elicitors will have decided ahead of time on an opening query, such as "Can you tell us about a time when you were part of a demonstration or protest of some sort?" Once the participant identifies a relevant incident, he or she is asked to recount the episode in its entirety. The interviewer acts as an active listener, asking few (if any) questions, and allowing the participant to structure the incident account him or herself. The participant's account, solicited in this non-interfering way, provides a framework and structure that the elicitor will use throughout the remainder of the interview.

Second Sweep: Timeline Verification and Decision Point Identification. In this phase of the interview, the elicitor attempts to construct a timeline of the incident. The participant is asked for the approximate time of key events and turning points within the incident. The elicitor's goal is to capture the salient events within the incident, ordered by time and expressed in terms of the points where understanding changed, where judgments or decisions were made, and points where actions were taken.

Third Sweep: Progressive Deepening and the Story Behind the Story. During the third sweep through the incident, the CDM interviewer leads the participant back over each critical turning or decision point in the incident as identified in sweep two to determine presence or absence of salient cues and the nature of those cues, assessment of the situation and the basis of that assessment, expectations about how the situation might evolve, goals considered, and options evaluated and chosen.

Fourth Sweep: "What if?". The final sweep through the incident provides an opportunity for interviewers to shift perspective. During this phase, interviewers often use a "What if?" strategy, such as "What if you had taken action Y, instead of action X?" Answers to such questions provide

additional information on how the participant understood the complete situation.

Crowd Member Decision Making in the Middle-East

Although theorists have been analyzing crowds for over a century, it is safe to conclude that the psychological investigation of crowds remains in its infancy. Early theorists popularized notions that crowd membership drives people towards irrationality and destructiveness (e.g. Le Bon 1896/1947). Although the empirical basis for these ideas is quite thin, they have persisted in various forms (but see Drury & Reicher, 2000). The irrationality conception is perhaps most enticing in its ability to explain crowd violence by ordinary citizens. Nevertheless, taking irrationality seriously implies that crowd members are not making important judgments in their own interest, such as assessing opposition capabilities.

More recently, scholarship on crowds has suggested conceptualization of a crowd as a natural process, roughly corresponding to a natural disaster, like a hurricane or volcano. In this "crowd as natural process" view, the crowd has a beginning (formation), a middle (gathering), and an end (dispersion). This is an intensely compelling model, since every crowd event that has ever occurred can be described in terms of these stages. An important implication of this model, however, is that, as with any other natural process, a crowd event will run its course and end in some amount of time without intervention.

In contrast to these existing conceptions, our general hypothesis is that crowd members maintain their capacity for rational, individual decision making. That is, we view crowd members as making locally-rational decisions in light of their goals and perceived goal accomplishment, their assessments of threat, risk tolerance, and commitment against opposition. Although such a distinctively cognitive approach may seem the obvious place to start among cognitive scientists, it is not at all clear in scholarship on crowd behavior more generally.

As noted above, the focus of our investigation is crowd member decision making in the Middle East. Our intent was not to engage in cross-cultural comparisons between cultural groups, but rather to test our general hypothesis in a particular cultural region. In this sense, our approach is distinctly ethnographic in spirit.

Method

Over the course of the project to date, we have collected over 30 CDM interviews on several different populations. However, we restrict discussion here to data collected on Middle Easterners who were engaged in demonstrations or similar crowd events in the Middle East. We first interviewed expatriates from a variety of Middle Eastern countries currently living in the Dearborn area, and then interviewed Lebanese citizens in Beirut. A translator was available during all of these interviews, though many of the participants spoke English.

Interview Examples

Because the purpose of the current paper is to demonstrate aspects of the CDM methodology, as applied to Middle Easterners, we present specific examples of transcribed exchanges, rather than attempting a comprehensive discussion of the results. In all of the presented examples, I = Interviewer, P = Participant, and T = Translator. Our first set of examples illustrates particular elements of crowd members' decision making. In general, they suggest an alternative to the standard conceptions of crowds presented above. Specifically, crowds appear to be made up of members who are highly intentional, and engaged in assessing their current situations in light of specific goals that are under ongoing negotiation.

Example 1. A Lebanese woman recounts her participation in a demonstration to increase teacher's salaries. The example shows how the participants determined that their goals were met, so that they would no when to stop the demonstration.

T: She said that after about a half an hour after the cameras left is when the crowd started to disperse.
I: Ok. How did you know that the crowd was starting to disperse? How did you know that?
T: She said what happened is that after the cameras left they thought their story was now going to get out and so everybody went home to their own home. She said the story that they wanted to get out was now out…
I: Did the teachers end up getting a pay raise, getting what they were asking for from the government?
T: She doesn't know.
I: Ok, did you see what the media recorded on the television?
P: yeah…
I: What did you see?
T: She said most of the footage was not of the students but of the teachers.
I: Did they show the government or the administration responding to the demonstration?
T: Ok, what she said is, no there was no immediate response by the government on the raise, but the government said they would have meetings with the teachers.
I: So when you were watching, when you saw the news report on TV that night, did you think the message was going to be heard, or did you think we should have been louder or we should have had more banners or we should have done something differently to make sure that they heard us?
T: They felt they got their message out by watching themselves on TV, or watching the people say stuff about the message, they were happy with themselves, that they did something good.

Example 2. A Palestinian recounts an incident in the street near his home. This example illustrates that crowd members explicitly assess the weapons and level of force being directed towards them:

I: I'm just thinking, if they shoot the rubber bullets, do people know that it's rubber?
P: You will become expert.
P: First, how you would know, it's a big size [magazine] connected to the rifle. You know, the noise is different from the rifle. Yeah, you would know.
I: So you knew things were going to go badly if you saw them take off the--
P: No--
I: Oh, you wouldn't even see that?
P: You have it twenty soldiers. Or fifty soldiers. You will hear sometimes, whatever they shoot, the noise, you hear if it's live ammunition in the air. Sometimes it's at you.

Example 3. A Lebanese woman talks of her participation in crowds that formed at Baabda Palace over a couple of month's time in 1989 to act as a human shield against Syrian bombing. This demonstrates how persistence in crowd member actions is dependent on both the intensity with which goals are held, and also shared attitudes towards risk.

I: But they're bombing the roads?
P: Yes!
I: So this is to keep people from going to the palace? To keep them from going back and forth?
P: Yes.
I: So when they started bombing the roads, did you quit going down?
P: We hide, and when they stopped, we go back. It was like this. We were crazy then.
I: You were young – college student age. And you would hide from the bombs and then continue on down…Early on I asked about who was going down and you said "young people, old people; it was everybody."
P: Yes.
I: After the bombing of the roads, who was really still going down?
P: Everybody.
I: It was still everybody?
P: Everybody, yes. Maybe young is the majority, but…
I: Were there fewer people showing up?
P: Just after bombarding, we were few, but after some hours, it was normal. The Lebanese are like this; they are crazy.
P: Yes, several times we went to the beach, and they started to bombard us. Okay, home…we go home, and when everything is calm, we go back.
I: This is like a thunderstorm for us.
T: Exactly, but it's raining shrapnel instead.

Methodological Issues

The above examples provide some flavor for the kinds of information obtained from CDM on Middle Easterners. In addition, we experienced some difficulty in conducting CDM interviews with this population, as compared with our experiences with U.S. interviewees. Specifically, we had trouble keeping participants focused on the details of specific incidents. Instead, they tended to move away from the incident and speak in general terms, or to "bump up" from the details sto refocus on the theme of the incident. Examples of these challenges are presented next, along with some potential hypotheses for why they occurred.

Example 4. A Palestinian describes a demonstration following services at a mosque, when news spread of some nearby deaths. In this example, the interviewee flipped back and forth between one incident and other crowd situations he had seen. When we asked questions to get the interviewee to focus and stay grounded in the one specific incident, he appeared to respond to those questions in generalities.

I: So how did this day end? Did everyone just go home? Or were there more demonstrations afterward?
P: It [the crowd] sometimes gets bigger.
I: But on this day did it?
P: Yeah, sometimes they get bigger even after they go outside the door… it depends how the police force them. Like if they force them very hard, they break the demonstrations. But if they don't force them very hard…or if they see it's going to be a peaceful demonstration, then they let them do something. Usually if it's peaceful they try to stop it, but they don't shoot gas.

Example 5. A Lebanese man describes his involvement as an organizer in the massive demonstrations following Prime Minister Hariri's assassination in 2005. These demonstrations precipitated the departure of Syrian forces from Lebanon. This example illustrates a tendency to avoid requests for more detail in favor of reiterating the general point or theme of their account.

I: But everyone was very angry that day?
P: Yeah.
I: And so, how were they expressing that anger?
P: They were thinking that in this day they will turn the table. But unfortunately it did not happen.
I: So in terms of just what you were seeing in the crowd, would they shake their fists, how would they show that they were angry?
P [passionate]: Maybe on that day you can see lions on the ground. This is the top level of crazy you can reach on this day. Nobody came laughing, nobody came to enjoy. Everybody upset. Everybody angry, everybody want to finish, everybody want peace. Everybody want the reality, to know what's going on in my country. We have reached a level of country out of control. Not area, not people, country whole. Country in dungeon. Country out of control. Everybody was afraid. What is tomorrow, what is after some hours. Everybody was afraid about himself. His childrens, his future. His country's future. Everything… (continues)
I: I see.

It is important to note that while we occasionally experience similar issues with western respondents, the

difference in working with Middle Easterners was quite noticeable. There are several hypotheses for why we might be experiencing these CDM interview challenges with Middle Eastern participants. One hypothesis for why interviewees tended to speak in generalities and provide fewer details is that Middle Easterners tend to be holistic thinkers, focusing more on connections between elements, and resisting decomposition (Nisbett, Peng, Choi, & Norenzayan, 2001). Another possible reason for the relative lack of detail might be due to the use of language in the Middle East. Exaggeration and repetition are key characteristics of the speech in the Middle East. There is less emphasis on the accuracy of the details in a story or an argument, and more emphasis on the point or the theme that is being communicated (Patai, 2002). If the theme of the story is most important, the details may be more likely to either be left out, or be created (and recreated) to suit the purpose of the theme being conveyed. A third possibility is that the details are simply not encoded in memory, and hence are unavailable for recall. This could occur as a consequence of either of the first two reasons, for some other unspecified reason.

Summary

Overall, we found the CDM to be a useful, efficient field method for understanding Middle Eastern decision making. Specifically, it provided insights into the cognition of crowd members that could not be obtained through behavioral observations or related methods. In particular, we found that crowd members were making decisions in support of their goals, and were assessing a variety of aspects of their situations, including ongoing assessments of threat and risk, as well as the extent to which their goals were being accomplished. These findings speak against associations of crowd membership with a loss of rationality, as well as conceptions of crowd processes as unintentional, natural phenomena.

Our methodological findings suggest that a lower yield of information should be expected from CDM interviews on Middle Easterners, and perhaps non-Westerners more generally. Particular effects may be anticipated for a cultural group by conducting a preliminary analysis of language discourse and thinking style of the group. Further investigation into use of the CDM for cultural analysis of decision making is clearly warranted.

Acknowledgments

We would like to thank Rob Hutton, Helen Klein, Jenni Phillips, and Wil Readinger for their data collection assistance and guidance. We also deeply appreciate the wonderful hospitality of David Rababy and his family, as well as the contributions of all of our research participants.

This research is supported by AF contract FA8650-05-C-6549.

† A division of Applied Research Associates.

References

Agar, M. H. (1986). *Speaking of Ethnography*. Ed. J. Van Maanen. Vol 2 of the Qualitative Research Methods Series. Thousand Oaks, CA: Sage Publications, Inc.

Drury, J., & Reicher, S. (2000). Collective action and psychological change: The emergence of new social identities. *British Journal of Social Psychology*, *39*, 579-604.

Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin, 51*, 327-358.

Hoffman, R. R., Crandall, B. W., & Shadbolt, N. R. (1998). Use of the critical decision method to elicit expert knowledge: A case study in cognitive task analysis methodology. *Human Factors, 40*(2), 254-276.

Klein, G. A., Calderwood, R., & MacGregor, D. (1989). Critical decision method for eliciting knowledge. *IEEE Transactions on Systems, Man, and Cybernetics, 19*(3), 462-472.

Le Bon, G. (1896/1947). The crowd: A study of the popular mind. London: Ernest Benn.

Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review, 108*, 291-310.

Norenzayan, A., Smith, E. E., Kim, B. J., & Nisbett, R. E. (2002). Cultural preferences for formal versus intuitive reasoning. *Cognitive Science, 26*(653-684).

Patai, R. (2002). *The Arab Mind*. Long Island: Hatherleigh Press.

Schraagen, J. M., Chipman, S. F., & Shalin, V. L. (Eds.). (2000). *Cognitive Task Analysis*. Mahwah, NJ: Lawrence Erlbaum Associates.

Yates, J. F., Lee, J.-W., Sieck, W. R., Choi, I., & Price, P. C. (2002). Probability judgment across cultures. In T. Gilovich & D. Griffin & D. Kahneman (Eds.), *Heuristics and Biases: The Psychology of Intuitive Judgment* (pp. 271-291). Cambridge: Cambridge University Press.