



Data Sources for Human Behavior

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Focus 2010 Human Social Cultural Behavior Program

Chantilly, VA

6 August 2009



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1. REPORT DATE 05 AUG 2009		2. REPORT TYPE Conference Presentation		3. DATES COVERED 00-00-2008 to 00-00-2009	
4. TITLE AND SUBTITLE Data Sources for Human Behavior Presented at the Focus 2010 Human Social Cultural Behavioral Conference, August 5, 2009, Chantilly VA.			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) Elizabeth Mezzacappa; Kenneth Short			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Army, ARDEC, Target Behavioral Response Laboratory, RDAR-EIQ-SD, Building 3518, Picatinny Arsenal, NJ, 07806-5000			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT This presentation will give the audience an overview of sources of data for understanding human behavior for M&S efforts. This presentation falls under the presentation top are of "Socio-cultural data acquisition, extraction, and management." Open sources of data will be discussed, as well as those found in academic settings, federally supported public archives of data, peer-reviewed journals as well as appropriate search terms to look for data sources will be used. The reliability and utility of different data sources or media will be compared, for example the merits of archived footage, laboratory methods, self-report, observation, etc. The utility and limitations of relying solely on Subject Matter Experts will also be discussed. The goal of the presentation is to give those without a social science background an overview of the methods and procedures available to find data and evaluate the relative utility, validity, and reliability of that data for M&S efforts.					
15. SUBJECT TERMS Data, Open sources, public archives, peer-reviewed journals, search terms, archived footage, laboratory methods, self-report, observation, Subject Matter Experts					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Public Release	18. NUMBER OF PAGES 24	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



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Keywords and Subject Headings



Key Concepts

functional magnetic resonance imaging, neural substrates,
Subject Headings

*Attachment Behavior

*Brain

*Electrical Activity

*Neural Pathways



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How to roughly judge utility



- State of the art review paper of peer review articles
- Peer-reviewed articles
- Books based on review of above
- Chapters based on review of above
- Proceedings of conferences
- Tech reports with DATA and analyses
- Expert qualitative analyses
- First-hand accounts/observations
- Speculation/White Papers/Theses without data
- Wiki (no, no, no)



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Subject Matter Experts



- Why should I wade through all this research when I can just ask a Subject Matter Expert (SME)?



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MISCONCEPTIONS



- Research into human behavior has all been done
- Answers to M&S questions are already known by social scientists, all you need to do is
 - Ask the right person
 - Find the right article
- Therefore, the needed algorithm has already been derived

ALL WRONG



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Limitations of SME's for M&S



- Sometimes the Subject Matter information just doesn't exist, so it's impossible to find a Subject Matter Expert
- An SME can give well informed experienced opinion and observations, but mostly likely not hard data or algorithms
- No SME can take the place of systematic experimentation or investigation
 - Cannot provide concrete measures, numerics, algorithms



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BASIC RESEARCH REQUIRED



- Modeling and Simulation of human social cultural behavior **REQUIRES** investment in BASIC research on human social cultural behavior



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The Search for the Algorithm: Less Costly Data Sources



Public Archives of Survey/Census Data

Strengths

- Nice clean data ready for analyses
- Usually large data sets

Weaknesses

- Need to search for relevant metrics measures
- Data may not exist for the question



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Established in 1962, ICPSR is the world's
largest [archive](#) of digital social science data.

ANNOUNCEMENTS

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[ICPSR Bulletin Spring 2009 now available...](#)

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Feature:

[Online Learning Center \(OLC\)](#)



The OLC is the result of discussions with teaching faculty about using data in their classrooms and the challenges such undertakings can entail. Instructors directed ICPSR to develop tools that would: 1) quickly locate relevant data that



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Assistance in using these data resources is available by emailing eds@columbia.edu or on-site during [DSSC reference hours](#).



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The Search for the Algorithm: Less Costly Data Sources



Historical Analysis of Public Records

Strengths

- Externally valid
- Real events

Weaknesses

- Need to search for relevant metrics measures
- Data may not exist for the question



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The Search for the Algorithm: Less Costly Data Sources



Questionnaire/Interview Methods

Strengths

- Relatively low cost
- Relative ease of conducting research

Weaknesses

- Question construction may not be simple
- Answers subject to memory deterioration, bias
- Differences between talking about a behavior and actually doing a behavior



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Internet Survey on Crowd Experiences



Army Knowledge Online - elizabeth.mezzacappa - Windows Internet Explorer

https://www.us.army.mil/suite/portal/index.jsp;jsessionid=E35E3D52B5AF35AB9688ED2F2DF8D05F.appd07_3

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Information on the Questionnaire

EXPERIENCES WITH CROWDS QUESTIONNAIRE

You are being asked to join a research study that studies the varieties of crowd situations that Soldiers encounter in theater. Your joining the study must be voluntary and you can decide not to continue to be in the study if you wish without any bad feelings without any penalty or loss of benefits you may otherwise be entitled. If you agree to participate, you will be asked to fill out a survey on AKO. There will be about a few thousand people in the study. Your role in the study will take about 20 minutes. This study is being sponsored by the Joint Non-Lethal Weapons Directorate (JNLWD).

The risks that have been identified are those associated with the questions that are asked, such as difficult memories about your experiences. There is no cost to you to participate in this study. There is no direct benefit to you; however we hope that this information will be helpful to answer how to help Soldiers in crowd management situations. The information collected will be kept confidential by keeping the information that is collected separate from your personal information. All of the research information will be kept in a locked file cabinet or in a password protected data file without any information that could identify you. This study has been reviewed by the ARDEC Institutional Review Board who reviews all research we perform.

If you have any questions about this study you can contact Gordon Cooke at gordon.cooke@us.army.mil or (973) 724-9518 (DSN 880-9518). In addition, if you have any questions about your rights as a research subject you may contact: Barbara J. LoDico, U.S. Army Research Protection Administrator for ARDEC at Barbara.j.lodico@us.army.mil or by calling 973-724-2382.

After reading this consent letter, if you would like to take part in this study, please click on the "Start Survey" button below.

This is an **UNCLASSIFIED** questionnaire. Answer appropriately.

AKO Survey on Crowd Experiences

Take this Survey

Thank you for agreeing to take the survey!

This survey runs from 2009/1/1 to 2011/6/30

Start Survey

As an Administrator, you may download All Results (MS Excel format)

Done

start untitle - Paint Ardec Data Sour... ARDEC Slides Cro... HSCB Crowd M an... SMEs ARDEC Slide... Army Knowledge ... 1:55 AM



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The Search for the Algorithm: Less Costly Data Sources



Analysis of Videorecordings

- Strengths
 - Relatively easy to buy data
- Weaknesses
 - Biased
 - Camera view limited
 - Coding



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The Search for the Algorithm: Richer Data Sources



Real-time Observation/Interview

Strengths

- Great external validity
- Gain deeper insight into phenomena

Weaknesses

- Personnel intensive
- Researchers need to be highly trained
- Relevant event may be rare



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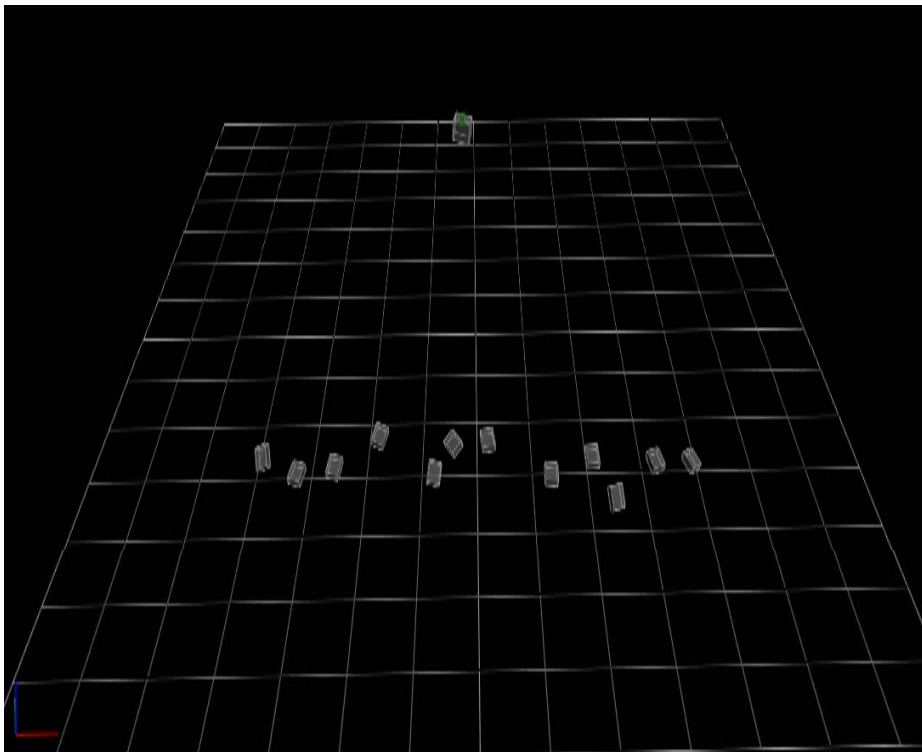
Laboratory Experiments

Strengths

- Control over variables
- Reliable
- Data rich

Weaknesses

- Resource and Personnel Intensive
- External Validity need to be established





Experimentation for M&S



- No “Magic Bullet” experiment that answers all questions
- Need disciplined programmatic research
- Use more than method of research
- Have collaborations among researchers with different perspectives and approaches



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Questions?



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