

## Session 1

# Origins of the Funding Opportunity in Survey Research



# **Charting the Interdisciplinary History of the Funding Opportunity in Survey and Statistical Research**

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The Funding Opportunity in Survey and Statistical Research is an interdisciplinary grants program in basic survey and statistical research that is oriented to the needs of Federal statistical agencies. It was officially established in 1998 when the National Science Foundation (NSF), the Interagency Committee on Statistical Policy (ICSP)\*, and the Federal Committee on Statistical Methodology (FCSM)\*\* agreed to jointly fund and administer the program. However, the Funding Opportunity's heritage goes back much further than when it was created five years ago.

The Funding Opportunity is rooted in the CASM Movement. As a matter of fact, it would never have been established in 1998 or since, had it not been for the efforts underway in 1998 to obtain the funding needed to sustain the research agenda of the CASM Movement. The CASM Movement, a long-term effort to foster interdisciplinary research on the cognitive aspects of survey methodology, emerged in the early 1980's as a direct consequence of the change from the behavioral to the cognitive paradigm that occurred in psychology the early 1970's. Thus, charting the interdisciplinary history of the Funding Opportunity is equivalent to recounting the history of a sustained effort to foster interdisciplinary survey research in the United States that began more than 30 years ago, and is alive and active today due to the recent extension of the 1998 NSF/FCSM-ICSP agreement to fund and administer the Funding Opportunity in Survey and Statistical Research beyond the year 2002.

## **Historical Overview**

The history of the Funding Opportunity in Survey and Statistical Research can be divided into the three periods shown below:

Period (1) The Prologue - The decade between the emergence of the cognitive paradigm in the early 1970's and convening the CASM I Seminar 1983;

Period (2) The CASM Movement - The 14-year period between the CASM I Seminar in 1983 and CASM II Seminar in 1997;

Period (3) The Funding Opportunity Program - The 5-year period since the Funding Opportunity in Survey and Statistical Research was established in 1998.

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\* The ICSP is a committee of the directors of 13 largest Federal statistical agencies and is chaired by the Chief Statistician of the Office of Management and Budget.

\*\* The FCSM is an interagency committee dedicated to improving the quality of Federal statistics and includes invited Federal agency staff with relevant experience and expertise. The reader is referred to Aborn (1999) for more information about period (1), to Tanur (1999) and Jabine (1999) for more information about Period (2), and to Sirken (2001) and Kirkendall (2001) for more information about Period (3).

The flowchart on the following page lists eight milestones in the history of the Funding Opportunity by the period of occurrence. Milestones occurring during periods 1, 2, and 3 respectively are discussed below. In view of the vital importance of interdisciplinary research to the advancement of official statistics, concluding section F proposes that studies should be undertaken to explore improved ways of meeting the challenges of fostering interdisciplinary research in our decentralized Federal Statistical System.

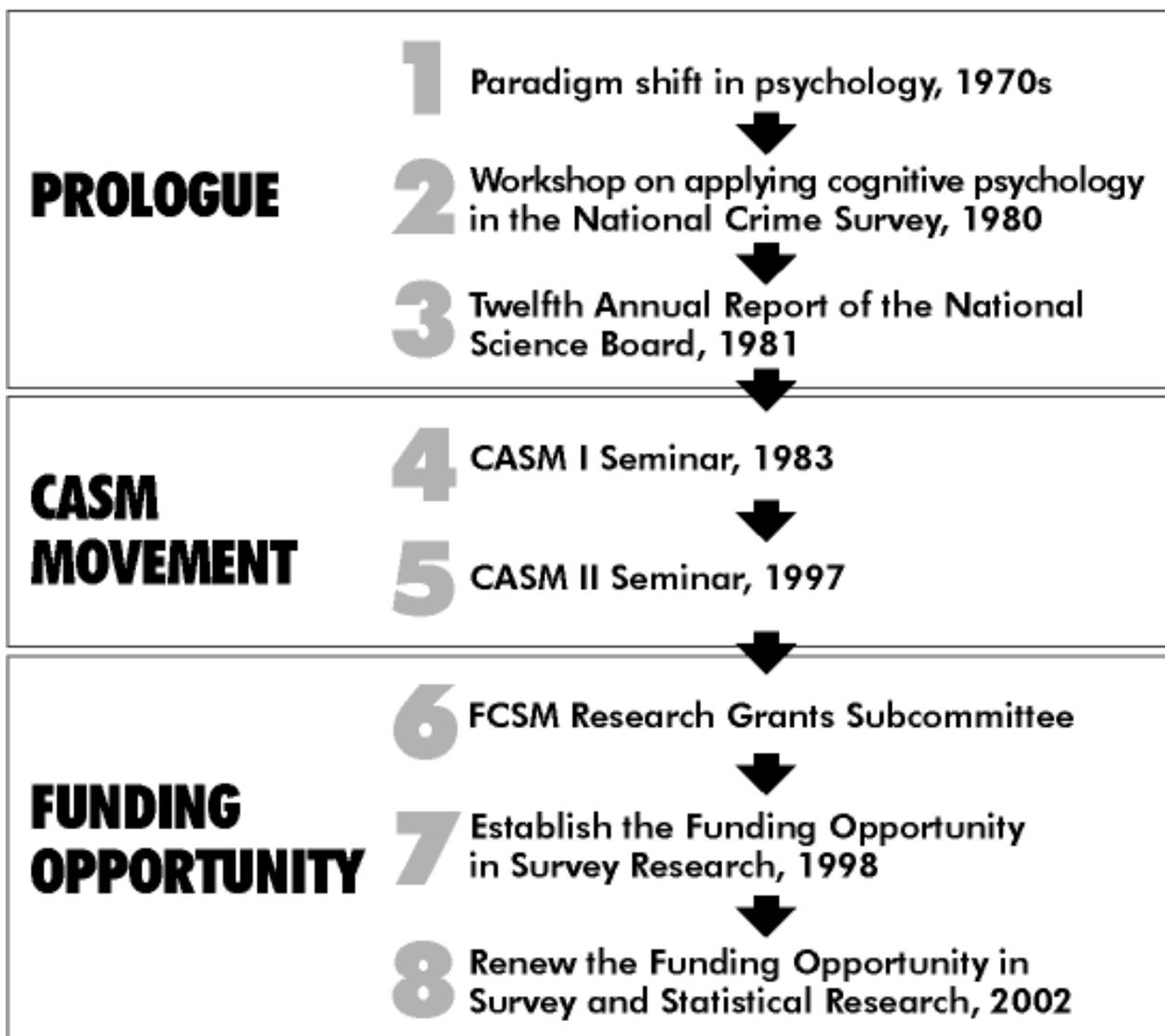
### **Milestones Preceding the CASM Movement**

Milestone 1. Emergence of the cognitive paradigm. The shift in paradigms, from the behavioral to the cognitive, implied that the two-stage stimulus response process postulated by the behavioral paradigm is intervened by a cognitive stage in which subjects perform a range of mental tasks. Compared to the behavioral paradigm, the cognitive paradigm focuses on how the mind works rather than who the subjects are and what the conditions are when the subjects perform their tasks. The cognitive paradigm rapidly diffused from psychology and influenced the research orientations of other disciplines, notably education and computer science. When the cognitive paradigm reached the survey research community toward the end of the 1970's, it provided survey researchers and cognitive psychologist with opportunities to simultaneously address chronic measurement problems in survey response and non response, and to test in the real world of survey research, the cognitive theories that had been largely developed and tested in laboratory settings.

Consider, for example, the difference between the behavioral and cognitive theories of truthfully answering sensitive questions in surveys. Based on behavioral theory, the likelihood of truthful response depends on the survey takers' assessments of the sensitivity of the survey questions and the extent of privacy and anonymity provided by the data collection modes. Based on cognitive theory, the independent variables are the respondents' perceptions of the risks and losses of truthful disclosure. From the cognitive theory perspective, the likelihood of truthful survey response is an example of "human decision making under conditions of uncertainty" - a scientific field of enquiry that has long interested cognitive psychologists and for which Daniel Kahneman, a cognitive scientist, recently shared a Nobel prize in economics. Conducting interdisciplinary research on the cognitive aspects of truthful response to sensitive survey questions potentially benefits survey researchers and cognitive psychologists. It provides survey researchers with innovative theories of survey response and non response that are in the mainstream of mathematical statistics and modern science, and it provides cognitive psychologists with opportunities to test cognitive theories of human decision making under conditions of uncertainty in the real world venue of survey taking.

Figure 1

## Milestones in the History of the Funding Opportunity in Survey and Statistical Research



Milestone 2. The workshop on applying cognitive psychology to recall problems of the National Crime Survey. The initial meetings of cognitive psychologists and survey researchers were independently convened in the UK in 1978 (Moss and Goldstein, 1979) and in the USA in 1980 (Biderman, Cantor, Lynch, and Martin, 1986) to discuss the cognitive aspects of retrospective reporting in single time population surveys. The U.S. meeting, a 2-day workshop convened by the Bureau of Social Science Research (BSSR) with support of the Bureau of Justice Statistics and the Bureau of the Census, brought together a small number of cognitive psychologists and survey researchers to discuss cognitive methods to improve recall of victimization in the National Crime Survey. (The Crime Survey asks respondents to retrospectively report incidents in which they were crime victims.) Though the workshop was not organized with the intent of fostering an interdisciplinary survey research movement, it made lasting impressions on those in attendance and several of them subsequently became key players in the CASM Movement.

Milestone 3. The Twelfth Annual Report of the National Science Board. In its annual report to the President in 1981, the National Science Board (NSB), the governing body of the NSF, appraised six areas in which basic research has significantly impacted society, and luckily as it turned out “survey research and opinion polls” was one of these areas. After describing the growth of survey research and polling in our modern society, the NSB report stresses the need for more research and refinement in measuring the behavioral and social dimensions of survey taking so that surveys can continue to benefit society in the future. The twelfth NSB report was very influential in setting NSF priorities during the 1980's. Quoting Murray Aborn (1999), then head of NSF's Measurement Methods and Data Improvement (MMDI) Program, “... it is no exaggeration to say that the [NSB] report was instrumental in obtaining the budgetary increments that made it possible [for the MMDI program] to support the CASM I [Seminar], and subsequent research projects, and the cognitive research laboratory at the National Center for Health Statistics.” Dr. Aborn was a consultant to the NSB in preparing the 12<sup>th</sup> annual report, and had been a participant at the BSSR Workshop.

### **Milestones of the CASM Movement**

Milestone 4. The CASM I Seminar. The Advanced Research Seminar on the Cognitive Aspects of Survey Methodology, more familiarly known as the CASM I Seminar, convened on June 15, 1983. It was a landmark event that initiated the CASM Movement to foster interdisciplinary research on the cognitive aspects of survey methodology (Jabine et al, 1984). The CASM Seminar and its follow-up meeting in January 1984 were organized and convened by the Committee on National Statistics and funded by the MMDI program. Twenty-two invited cognitive psychologists and survey researchers from academia and government participated in the seminar and its follow-up meeting. The seminar sought to foster dialogues among the participants, and to develop ideas for collaborative research project proposals. Its success in realizing both objectives can be attributed to careful planning by CNSTAT staff, and to the announcement by the MMDI program before the seminar that it would be interested in funding the most promising seminar research project proposals. Several ideas for interdisciplinary research projects evolved at the CASM I Seminar, were discussed at the follow-up January meeting, and later were submitted by seminar participants to and were funded by the MMDI program

Milestone 5. The CASM II Seminar. The CASM II Seminar convened in June 1997 (Sirken et al, 1999b). The seminar was jointly funded by the NSF and National Center for Health Statistics (NCHS), organized by a Planning Committee of survey researchers from government and universities, and administered by NCHS staff. Though it had been prudent at the CASM I Seminar to narrowly focus CASM research on the cognitive aspects of questionnaire design, and to limit collaborations largely to cognitive psychologists, much had been accomplished since then and the CASM II Seminar sought to expand the scope of CASM research to address issues at all stages of the survey measurement process, and to expand collaborations to many scientific disciplines. The 6-day seminar had 58 invited participants, and 16 commissioned papers were presented and discussed (Sirken, et al., 1999a).

The CASM I Seminar served as the model for organizing of the CASM II Seminar. The CASM I and II Seminars were virtually equivalent in all major respects, except one. Unlike the CASM I Seminar, the CASM II Seminar lacked institutional funding to support the research projects generated at the CASM II Seminar and to sustain the CASM Movement thereafter. The sheltered CASM funding and administrative support previously provided by the MMDI program had expired with Murray Aborn's retirement in about 1990, and ongoing efforts to obtain commitments from the NSF and the Social Science Research Council to support CASM II research projects and to sustain the CASM Movement were in limbo when the CASM II Seminar convened. A potential breakthrough occurred towards the end of the CASM II Seminar when NSF's Methodology, Measurement, and Statistics (MMS) Program offered to administer a grants program in basic survey research and provide \$300,000 in annual sheltered funding during a 3-year period, but the offer was contingent on matching funds being provided by a consortium of Federal Agencies.

### **Milestones of the Funding Opportunity**

Milestone 6. Establishment of the FCSM Research Subcommittee. Well before the MMS program offer at the CASM II Seminar to cosponsor a survey research grants program, efforts had been underway to recruit and organize a consortium of Federal statistical agencies to support an interdisciplinary grants program in CASM research. In early 1997, when the matter was first brought to the attention of the Federal Committee on Statistical Methodology (FCSM), an FCSM Research Grants Subcommittee was appointed to draft a CASM II Research Consortium Proposal requesting the ICSP for concept approval and funding support for the consortium. The FCSM Subcommittee estimated that, at a minimum, about \$600,000 or an average of almost \$50,000 per ICSP agency (if all 13 ICSP agencies participated) would be required annually to maintain the CASM research grants program. Informal discussions with some ICSP agency heads made it clear that the proposed annual contribution of almost \$50,000 per agency was unrealistic. However, the MMS offer to co-fund a survey research grants program would lower the average annual ICSP agency contribution from \$50,000 to \$25,000, and that reduction appeared to make the consortium proposal feasible.

Milestone 7. Establishment of the Funding Opportunity in Survey Research. In June 1998, the FCSM Research Subcommittee submitted a research grants program proposal to the ICSP with the following provisions: (1) the consortium of ICSP agencies match the MMS offer and contribute \$300,000 annually for a period of three years to support meritorious research proposals of potential

benefit to Federal statistical agencies; (2) ICSP agencies and NSF programs have opportunities to add-on funds for research proposals of particular interest to their respective programs; (3) project proposals responding to the MMS announcements undergo a two-tier project review and selection process, first by a NSF panel for scientific merit and then by a government panel for potential utility to Federal statistical agencies with final selections made by the MMS program in close collaboration with the FCSM Research Subcommittee; and (4) seminars, such as this one, that offer opportunities for direct discourse between the principal investigators of funded projects and statistical agency staffs are convened periodically in the Washington DC vicinity.

Twelve of the 13 ICSP agencies pledged to match the NSF contributions, by each contributing \$25,000 annually for 3 years contingent on a successful demonstration during the first funding year.

In September 1998, the ICSP, MMS and FCSM reached final agreement to administer and fund the Funding Opportunity during the 1999 demonstration year. In July 1999, the MMS/FCSM-ICSP agreement was extended for 2 additional funding years 2001 and 2002, and the name of the program was changed to The Funding Opportunity in Survey and Statistical Research.

**Milestone 8. Renewal of the Funding Opportunity.** Prior to the expiration in 2002 of the original NSF/FCSM-ICSP agreement, the MMS program indicated that if the ICSP agencies would continue to contribute \$300,000 annually, MMS would be willing to continue to administer the Funding Opportunity, but as an integral part of the MMS grants program rather than a separate program. Also instead of the MMS program pledging \$300,000 annually in sheltered funding for Funding Opportunity projects as it had in the past, the Funding Opportunity project proposals would compete on an equal basis with other project proposals submitted for MMS funding. Thus, in effect the size of the MMS contributions to the Funding Opportunity in the future would vary from year to year, and could be more or less than the \$300,000 per annum contributed by the consortium of ICSP agencies.

During the latter part of 2002, the FCSM Research Committee incorporated the MMS renewal offer into a renewal proposal that was submitted to the ICSP with the recommendation that the ICSP agencies renew their pledges for 3 more years. The ICSP agencies agreed to extend their pledges and contribute a total of \$300,000 annually to the Funding Opportunity for three more years, but instead of each ICSP agency contributing \$25,000 annually, the sizes of the agency's annual contributions will vary somewhat depending on relative size of the agency's appropriated budget. The renewed NSF/FCSM-ICSP agreement became effective at the beginning of year 2003, using essentially the same NSF/FCSM administrative arrangements that had evolved and worked so well during the period of the first agreement.

### **Concluding Remarks**

By its very nature survey research is an interdisciplinary discipline, and its advancement depends on knowledge and technology transfers that come about as a result of interdisciplinary survey research (Sirken and Herrmann, 1996). There is growing appreciation of the need to foster interdisciplinary survey research, but fostering interdisciplinary survey research is not an easy thing to do. Initiating interdisciplinary survey research requires bridging the communication and cultural gaps between survey researchers and researchers in other disciplines, and sustaining interdisciplinary research

requires obtaining institutional commitments to provide the administrative structures and funding support (Olkin and Sacks, 1988). Fostering interdisciplinary survey research oriented to the needs of Federal statistical agencies is a particularly hard thing to do in our decentralized statistical system comprising 68 independent statistical agencies in which short term research linked to each agency's particular missions is the rule. Despite these difficulties or perhaps due to these difficulties, several independent efforts are currently underway to foster interdisciplinary research oriented to the needs of Federal statistical agencies. Other ongoing fostering efforts, in addition to the Funding Opportunity in Survey and Statistical Research, are the ASA/NSF Fellowship program and NSF's Digital Government Program.

In view of the vital importance of interdisciplinary research in the advancement of official statistics, it seems to me that initiating a research *project on the process of fostering interdisciplinary in official statistics* would be well worth the effort. As a step in that direction, I propose that a seminar be convened to review and compare the objectives and fostering strategies of the Funding Opportunity, the ASA/NSF Fellowship program, and NSF's Digital Government Program, and to discuss the policy implications of fostering interdisciplinary research efforts in the Federal statistical system.

### **Acknowledgements**

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