



MAY 05		NIJ
Solicitation for Proposals		
The Effects of Shift Work Schedules on Police Officer Health, Safety, Performance, and Quality of Life		
Notice: You <i>must</i> submit your application using the Office of Justice Programs' automated Grants Management System. Paper applications will not be accepted. We suggest you begin the process as soon as possible. To start the process, go to http://www.ojp.usdoj.gov/fundopps.htm .		Deadline: June 7, 2005 8 p.m. eastern time SL 000702

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The Effects of Shift Work Schedules on Police Officer Health, Safety, Performance, and Quality of Life

I. Introduction

The National Institute of Justice (NIJ) is the research, development, and evaluation agency of the U.S. Department of Justice and a component of the Office of Justice Programs. NIJ provides objective, independent, evidence-based knowledge and tools to enhance the administration of justice and public safety. NIJ solicits proposals to inform its search for the knowledge and tools to guide policy and practice.

Shift work, overtime, and night work are required in policing as in many other occupations. Research with various occupations demonstrates that if work schedules, work hours, and stress are not managed properly, shift work may result in insufficient sleep, decrements in alertness, and fatigue. In turn, increased fatigue and stress may increase performance errors, accidents and injuries, and health problems. However, little research has been conducted on the effects of shift schedules on police officers, or the management of shift schedules in police agencies.

NIJ is soliciting research to examine the influence of shift schedules and shift assignment policies on the safety, health, and performance of police officers in the United States. By informing police administrators about the relative risks and benefits of different shift schedules and shift assignment policies, this research will improve their ability to manage shift work and reduce the negative consequences of fatigue and stress on police officers and their families.

Due date: The due date is June 7, 2005. Extensions to the deadlines are generally not granted.

Page limit: The program narrative section of your proposal must not exceed 30 double-spaced pages in 12-point font with 1-inch margins. Abstract, table of contents, charts, figures, appendixes, and government forms do not count toward the 30-page limit for the narrative section.

Reasons for rejection: NIJ may reject applications that are incomplete, do not respond to the scope of the solicitation, do not comply with format requirements, or are submitted after the deadline. No additions to the original submission are allowed.

How to submit applications to NIJ: Instructions for applying are in "Guidelines: How to Submit Applications," available on the NIJ Web site at <http://www.ojp.usdoj.gov/nij/funding.htm#gsya>.

II. Proposal Topics

Existing research shows that shift workers suffer significantly more fatigue than nonshift workers and that long and erratic work hours can have negative consequences including reduced and insufficient good-quality sleep; negative effects on mood; impaired decisionmaking abilities and motor skills; reduced capacity to cope constructively with job stress; increased probability of accidents and injuries; and earlier onset of cardiovascular, gastrointestinal, and metabolic disease. Insufficient sleep, job stress, and disease interact with one another, forming a vicious cycle that reduces occupational performance and quality of life. It can also contribute to job attrition, retirement, and premature death.

NIJ has funded several current research projects that examine the relationships between police officers' work hours and safety, health, and performance. Current projects include research on the relationship of work hours to health outcomes (e.g., fatigue, morbidity, and mortality), to the risk of developing post-traumatic stress disorder, and to the ability to handle critical incidents and use-of-force situations. One ongoing project is developing and testing a comprehensive fatigue management program in a major urban police department.

However, very little research has been conducted on the relative benefits and risks of different shift schedules and shift assignment policies in police organizations in the United States. Law enforcement agencies in this country currently employ a wide variety of shift schedules and shift assignment policies. Shift schedules vary in the number of hours per shift (commonly, 8, 10 or 12 hours), the time of day at which shifts start, whether schedules are rotated, the frequency and direction of shift rotation, and the number of consecutive days off per work cycle. Uncontrollable factors such as court time and overtime also add significantly to the number of hours that police officers work in a given day. Extended-duration shifts (i.e., "compressed shifts") are becoming more commonplace in law enforcement agencies.

While some research on the effects of shift lengths and shift policies has been conducted in other countries and on other occupational groups, these studies have primarily relied on self-reported data and have commonly used samples too small for the examination of low-base-rate phenomena such as accidents and injuries.

Through this solicitation, NIJ seeks innovative social and behavioral science research to expand understanding of the effects of shift-work schedules on the health, safety, performance, and

quality of life of police officers in the United States. This research is intended to improve police administrators' and policymakers' abilities to effectively manage shift work by providing information on the relative benefits and risks of alternative shift schedules and shift-related policies for police officers, and on factors that contribute to these risks and benefits.

This solicitation will support research examining the effects of alternative shift schedules and shift policies commonly used in police organizations on factors such as:

- Alertness and fatigue.
- Health indicators.
- Job performance using measures such as commendations, complaints, and disciplinary actions.
- Accidents and injuries.
- Quality of life indicators such as job satisfaction and family unit stability.
- Stress.

Demonstrated expertise conducting research in police or sheriffs departments, understanding of the police culture and environment, and ability to communicate effectively in that culture, will be critical to successful implementation of the type of research sought. Competitive proposals will include evidence of strong research partnerships with participating police and sheriffs departments, including letters of support from the chief executive of participating departments as well as from relevant employee organizations.

NIJ is particularly interested in proposals that use rigorous experimental or quasi-experimental research designs, and that collect both objective and self-report data. Discussion of methods should also include power analyses with particular attention to low-base-rate outcomes such as accidents and injuries.

Proposals should include a discussion of the generalizability of the anticipated research results to other settings, and consideration of how the particulars of the proposed design and participating agencies or departments limit that generalizability.

Letters of Intent

NIJ requests that applicants submit letters of intent to apply within 20 days of the announcement date of this solicitation. NIJ will use these letters to anticipate the number of peer reviewers needed and to identify conflicts of interest among potential peer reviewers.

Deliverables

The deliverables for research funded under this solicitation will include a draft and final technical research report, a Research in Practice publication designed for police practitioners, presentations at criminal justice conferences and meetings, and articles to be submitted to professional criminal justice journals.

III. General Requirements and Guidance

NIJ is asking you to submit a proposal that states the problem under investigation (including goals and objectives of the proposed project) and the relevance of the project to public policy, practice, or theory. The program narrative section should state the research question and objectives and explain how the work will contribute to knowledge and practice. It should describe in sufficient detail the research methods and analytic strategy.

Your application should include these elements:

• Program Narrative

The Program Narrative includes:

- a. Abstract (not to exceed 400 words).
- b. Table of contents.
- c. Main body. Includes:
 - Purpose, goals, and objectives.
 - Review of relevant literature.
 - Research design and methods.
 - Implications for policy and practice.
 - Management plan and organization.
 - Dissemination strategy.
- d. Appendixes. (Not counted against solicitation page limit.) Includes:
 - Bibliography/References. (If applicable.)
 - List of key personnel (Required.)
 - Résumés of key personnel. (Required.)
 - List of previous and current NIJ awards (Required.)
 - Letters of cooperation/support or administrative agreements from organizations collaborating in the project. (If applicable.)
 - Chart for timeline, research calendar, or milestones. (Required.)
 - Other materials required by the solicitation.

- **Budget Detail Worksheet**

- **Budget Narrative**

- **Negotiated Indirect Rate Agreement** (If applicable.)

- **Other Program Attachments**

These include several forms, available on OJP's funding page at <http://www.ojp.usdoj.gov/forms/htm>.

Instructions for submitting proposals can be found in "Guidelines: How to Submit Applications," (available at <http://www.ojp.usdoj.gov/nij/funding.htm#gsya>) and the Office of Justice Programs Grants Management System Handbook (available at <http://www.ojp.usdoj.gov/fundopps.htm>).

- A. Submit applications online:** Paper applications are not accepted. Applications must be submitted through the Office of Justice Programs' online Grants Management System. NIJ suggests you begin the process early, especially if this is the first time you have used the system. To begin, go to <http://www.ojp.usdoj.gov/fundopps.htm>. There are three types of documents that can be uploaded to an application package: PDFs, Word documents, and text documents.
- B. Relevance of the project for policy and practice:** Higher quality proposals clearly explain the practical implications of the project. They connect technical expertise with policy and practice. To ensure that the project has strong relevance for policy and practice, some researchers and technologists collaborate with practitioners and policymakers. You may include letters showing support from practitioners, but they carry less weight than clear evidence that you understand why policymakers and practitioners would benefit from your work and how they would use it. While a partnership may affect State or local activities, it should also have broader implications for others across the country.
- C. Equal opportunity for all applicants:** It is OJP's policy that faith-based and community organizations that statutorily qualify as eligible applicants under OJP programs are invited and encouraged to apply for awards. Faith-based and community organizations will be considered for an award on the same basis as any other eligible applicants and, if they receive an award, will be treated on an equal basis with non-faith-based and community organization grantees in the administration of such awards. No eligible applicant or grantee will be discriminated against on the basis of its religious character or affiliation, religious name, or the religious composition of its board of directors or persons working in the organization.

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- D. Cofunding:** A grant made by NIJ under this solicitation may account for up to 100 percent of the total cost of the project. You must indicate whether you believe it is feasible for you to contribute cash, facilities, or services as non-Federal support for the project. Your proposal should identify generally any such contributions that you expect to make and your proposed budget should indicate in detail which items, if any, will be supported with non-Federal contributions.
- E. Number of grants to be awarded:** NIJ's grant award process is highly competitive. The number of awards NIJ makes is always subject to the availability of funds and the number and quality of applications received.
- F. When awards will be made:** All applicants, whether they are accepted or rejected, will be notified. The review and approval process takes about 6 months. You should not propose to begin work until at least 6 months after the proposal deadline on the cover of this solicitation. Also, you should not expect to receive notification of a decision for at least 6 months after that date. Lists of awards are updated regularly on NIJ's Web site at <http://www.ojp.usdoj.gov/nij/funding.htm>.
- G. Financial audits are required:** If your organization spends \$500,000 or more of Federal funds during the fiscal year, you may be asked to submit an organization-wide financial and compliance audit report before any award is made. The audit must be performed in accordance with the U.S. Government Accountability Office Government Accounting Standards and must conform to Chapter 19 ("Audit Requirements") of the Office of Justice Programs' Financial Guide (available at <http://www.ojp.usdoj.gov/FinGuide>). You may include the costs of complying with these audits in the proposed budget submitted as part of your application. Detailed information regarding the independent audit is available in Office of Management and Budget Circular A-133 (available at <http://www.whitehouse.gov/omb/circulars>).
- H. An environmental assessment may be required:** All award recipients must comply with the National Environmental Policy Act (NEPA). To ensure NEPA compliance, NIJ may require some award recipients to submit additional information.
- I. Protection of confidentiality:** Federal regulations require applicants for NIJ funding to outline specific procedures for protecting private information about individuals as part of the Privacy Certificate submitted with the application package. For additional information, see "Guidelines: How to Submit Applications," <http://www.ojp.usdoj.gov/nij/funding.htm#gasya>.
- J. A DUNS number is required:** The Office of Management and Budget requires that all businesses and nonprofit applicants for Federal funds include a DUNS (Data Universal Numeric System) number in their application for a new award or renewal of an award.

Applications without a DUNS number are incomplete. A DUNS number is a unique nine-digit sequence recognized as the universal standard for identifying and keeping track of entities receiving Federal funds. The identifier is used for tracking purposes and to validate address and point of contact information. NIJ will use the DUNS number throughout the grant life cycle. Obtaining a DUNS number is a free, one-time activity. Obtain one by calling 1–866–705–5711 or by applying online at <http://www.dunandbradstreet.com>. Individuals are exempt from this requirement.

K. Funds cannot be used to lobby: Under the Anti-Lobbying Act (18 U.S.C. § 1913), grantees generally may not use funds to support the enactment, repeal, or modification of any law, regulation, or policy at any level of government. For additional information on rules and regulations, see “Guidelines: How to Submit Applications” at <http://www.ojp.usdoj.gov/nij/funding.htm#gasya> and OJP’s Financial Guide at <http://www.ojp.usdoj.gov/FinGuide>.

L. What will *not* be funded:

1. Provision of training or direct service.
2. Proposals primarily to purchase equipment, materials, or supplies. (Your budget may include these items if they are necessary to conduct applied research, development, demonstration, evaluation, or analysis, but NIJ does not fund proposals that are primarily to purchase equipment.)
3. Police operational equipment.
4. Exercise equipment.
5. Technology development.
6. Renovation or remodeling of space.

M. Cost of proposed work: NIJ anticipates that up to \$1 million will be available for awards made through this solicitation. All NIJ awards are subject to the availability of appropriated funds. NIJ expects to make one to three awards depending on funds available and number of high-quality applications. If you propose a project that exceeds the amount of money that may be available for this solicitation, we recommend that you divide the project into phases, stages, or tasks so that NIJ can consider making an award for a specific portion of the work. NIJ cannot guarantee that subsequent phases, stages or tasks will be funded. Such additional funding depends on NIJ’s resources and your satisfactory completion of each phase, stage, or task. Note: Deliverables (e.g., a final report) will be required at the end of each phase, stage, or task.

N. Call for assistance:

For technical guidance about using the Grants Management System, call the hotline at 1–888–549–9901. For questions about this solicitation, the research being solicited, or other

NIJ funding opportunities, see the NIJ web site at <http://www.ojp.usdoj.gov/nij> or contact NIJ at 202–307–2942.

IV. Selection Criteria

NIJ is firmly committed to the competitive process in awarding grants. All proposals are subjected to an independent peer-review panel evaluation. External peer-review panelists consider both technical and programmatic merits. Panelists are selected based on their expertise in subject areas pertinent to the proposals.

Peer-review panelists will evaluate proposals using the criteria listed below. NIJ staff then make recommendations to the NIJ Director. The Director makes final award decisions.

Successful applicants must demonstrate the following:

A. Understanding of the problem and its importance.

B. Quality and technical merit.

1. Awareness of the state of current research or technology.
2. Soundness of methodology and analytic and technical approach.
3. Feasibility of proposed project and awareness of pitfalls.
4. Innovation and creativity (when appropriate).

C. Impact of the proposed project.

1. Potential for significant advances in scientific or technical understanding of the problem.
2. Potential for significant advances in the field.
3. Relevance for improving the policy and practice of criminal justice and related agencies and improving public safety, security, and quality of life.
4. Affordability and cost-effectiveness of proposed end products, when applicable (e.g., purchase price and maintenance costs for a new technology or cost of training to use the technology).
5. Perceived potential for commercialization and/or implementation of a new technology (when applicable).

D. Capabilities, demonstrated productivity, and experience of applicants.

1. Qualifications and experience of proposed staff.
2. Demonstrated ability of proposed staff and organization to manage the effort.
3. Adequacy of the plan to manage the project, including how various tasks are subdivided and resources are used.
4. Successful past performance on NIJ grants and contracts (when applicable).

E. Budget.

1. Total cost of the project relative to the perceived benefit.
2. Appropriateness of the budget relative to the level of effort.
3. Use of existing resources to conserve costs.

F. Dissemination strategy.

1. Well-defined plan for the grant recipient to disseminate results to appropriate audiences, including researchers, practitioners, and policymakers.
2. Suggestions for print and electronic products NIJ might develop for practitioners and policymakers.

V. Requirements for Successful Applicants

If your proposal is funded, you will be required to submit several reports and other materials as follows:

- A. Final report:** The final report should be a comprehensive overview of the project and should include a detailed description of the project design, data, and methods; a full presentation of scientific findings; and a thorough discussion of the implications of the project findings for criminal justice practice and policy. It must contain an abstract of no more than 400 words and an executive summary of no more than 2,500 words.

A draft of the final report, abstract, and executive summary must be submitted 90 days before the end date of the grant. The draft final report will be peer reviewed upon submission. The reviews will be forwarded to the author with suggestions for revisions. The author must then submit the revised final report, abstract, and executive summary by the end date of the grant. The abstract, executive summary, and final report must be submitted in both paper and electronic formats.

For evaluation studies, the final report should include a section on measuring program performance. This section should outline the measures used to evaluate program effectiveness, modifications made to those measures as a result of the evaluation, and recommendations regarding these and other potential performance measures for similar programs. (This information will be particularly valuable to NIJ and other Federal program agencies in implementing performance measures for federally funded criminal justice programs.)

- B. Interim reports:** Grantees must submit quarterly financial reports, semi-annual progress reports, and a final progress report. Future awards and fund drawdowns may be withheld if reports are delinquent. Post-award reporting requirements are described in “Guidelines: How to Submit Applications,” available at <http://www.ojp.usdoj.gov/nij/funding.htm#gasya>.

C. Materials concerning protection of confidential information and human subjects:

Recipients of NIJ research funds must comply with Federal regulations concerning the protection of private information about individuals. Recipients also must comply with Federal regulations concerning protection of human subjects. In general, all research involving human subjects that is conducted or supported by NIJ funds must be reviewed and approved by an Institutional Review Board before Federal funds are expended for that research. NIJ may also ask grant recipients for additional information related to privacy and human subjects testing.

Information regarding NIJ's requirements for privacy and protection of human subjects appears in "Guidelines: How to Submit Applications," which is available at <http://www.ojp.usdoj.gov/nij/funding.htm#gasya>, and at NIJ's Human Subjects Protection web page, <http://www.ojp.usdoj.gov/nij/humansubjects>.

- D. Electronic data:** Some grant recipients will be required to submit electronic data and supporting documentation, such as a codebook or dictionary, capable of being re-analyzed and used by other researchers. The materials must be submitted by the end date of the grant. Grant applicants should ensure that the proposed timeline and budget accommodate these requirements.
- E. Performance guidelines:** As part of government-wide efforts to measure the performance of Federal funding, in May 2002, the White House issued guidance on how to evaluate the performance of Federal research programs. Research should be: (1) relevant—that is, important and appropriate for meeting the needs of the field, (2) of high quality, and (3) well-managed by grantees and well-monitored by the Federal agency. Therefore, in addition to the reporting requirements discussed above, a grantee's performance on an award made under this solicitation will be evaluated on whether the final research report was (1) relevant to the needs of the field as measured by whether the grantee's substantive scope did not deviate from the funded proposal or any subsequent agency modifications to the scope; (2) of high quality as assessed by peer reviewers; and (3) well-managed as measured by whether significant interim project milestones were achieved, final deadlines were met, and costs remained within approved limits. For more information see "Guidelines: How to Submit Applications," available at <http://www.ojp.usdoj.gov/nij/funding.htm#gasya>.

Tips for Submitting Your Application

1. Begin the application process early—especially if you have never used the online Grants Management System before. NIJ will not accept applications received after the closing date and time listed on the cover. To start the process, go to <http://www.ojp.usdoj.gov/fundopps.htm>.
2. Review “Guidelines: How to Submit Applications” for complete instructions, available at <http://www.ojp.usdoj.gov/nij/funding.htm#gsya>.
3. Although your proposal may budget for the purchase of equipment if the equipment is necessary to conduct the project, NIJ will not fund applications that are primarily to purchase equipment, materials, or supplies.
4. Call for help:
 - For technical guidance about the Grants Management System, call the hotline at 1–888–549–9901.

For questions about this solicitation, the research being solicited, or other NIJ funding opportunities, contact NIJ at 202–305–7807 or visit NIJ’s Web site at <http://www.ojp.usdoj.gov/nij/funding.htm>.

View or print a copy of this document from the NIJ Web site (<http://www.ojp.usdoj.gov/nij/funding.htm>) or request one by calling NCJRS at 1–800–851–3420 or e-mailing askncjrs@ncjrs.org.

The National Institute of Justice is the research, development, and evaluation agency of the U.S. Department of Justice.

NIJ provides objective, independent, evidence-based knowledge and tools to enhance the administration of justice and public safety.

NIJ is a component of the Office of Justice Programs, which also includes the Bureau of Justice Assistance, the Bureau of Justice Statistics, the Office of Juvenile Justice and Delinquency Prevention, and the Office for Victims of Crime.