

NSF Proposal Structure

Lauren J. Krivo, Department of Sociology, Rutgers University

NSF does not provide specific sections or categories for their proposals. However, in carefully reading the guidelines, Ruth Peterson and I developed a successful structure that speaks to all of the issues required in the NSF guidelines. Here, I summarize the structure that we have used based upon the discussion in the [NSF Proposal and Award Policies and Procedures Guide– January 2020](#).

Importantly, note that the outline that we developed applies only to the *Project Description* (limited to 15 pages including results from prior NSF support) which is the central substantive part of the proposal. Any graphs, diagrams, or tables you wish to present are included within the 15 pages. There are font, line, and margin requirements; these are basically Times New Roman 11 point font and 1 inch margins on all sides. Proposals are single-spaced (this is not actually a requirement but it is not wise to send in a double-spaced proposal since you would have provided about ½ the amount of detail of others submitted proposals.)

You should also note that all proposals to NSF will be reviewed utilizing the two merit review criteria described in greater length in Policies and Procedures Guide, Chapter III. The two criteria are intellectual merit and broader impacts and both are taken very seriously.

The outline that I provide below, is based on my interpretation of the following text explaining the content of the Project Description from page II-11 in the proposal guide.

“The Project Description should provide a clear statement of the work to be undertaken and must include the objectives for the period of the proposed work and expected significance; the relationship of this work to the present state of knowledge in the field, as well as to work in progress by the PI under other support.

The Project Description should outline the general plan of work, including the broad design of activities to be undertaken, and, where appropriate, provide a clear description of experimental methods and procedures. Proposers should address what they want to do, why they want to do it, how they plan to do it, how they will know if they succeed, and what benefits could accrue if the project is successful. The project activities may be based on previously established and/or innovative methods and approaches, but in either case must be well justified. These issues apply to both the technical aspects of the proposal and the way in which the project may make broader contributions.

The Project Description also must contain, as a separate section within the narrative, a section labeled “Broader Impacts”. This section should provide a discussion of the broader impacts of the proposed activities. Broader impacts may be accomplished through the research itself, through the activities that are directly related to specific research projects, or through activities that are supported by, but are complementary to the project. NSF values the advancement of scientific knowledge and activities that contribute to the achievement of societally relevant outcomes. Such outcomes include, but are not limited to: full participation of women, persons with disabilities, and underrepresented minorities in science, technology, engineering, and mathematics (STEM); improved STEM education and educator development at any level; increased public scientific literacy and public engagement with science and technology; improved well-being of individuals in society; development of a diverse, globally competitive STEM workforce; increased partnerships between academia, industry, and others; improved national security; increased economic competitiveness of the U.S.; use of science and technology to inform public policy; and

enhanced infrastructure for research and education. These examples of societally relevant outcomes should not be considered either comprehensive or prescriptive. Proposers may include appropriate outcomes not covered by these examples.

Plans for data management and sharing of the products of research, including preservation, documentation, and sharing of data, samples, physical collections, curriculum materials and other related research and education products should be described in the Special Information and Supplementary Documentation section of the proposal (see GPG Chapter II.C.2.j. for additional instructions for preparation of this section).”

(Note: I added the underlining to the last part of this text to make clear that the data management plan is not included in the 15 page project description.)

Here are the sections that I have generally used in proposals for research funding:

- A. Objectives and Significance
- B. Broader Impacts
- C. Limitations and Unanswered Questions from Previous Research – this section sets up the need for the new study in relationship to what we already know. In other words, it substantively describes the important gaps in prior knowledge on the topic of the project and thereby sets up the contributions of the proposed research. This specifically addresses the issue noted in the guide about “relation to the present state of knowledge in the field.” It should not be too long.
- D. Theoretical Model – Here you outline the underlying framework that is being explored. In other words, you present the key arguments that will be evaluated in the research. Including a conceptual model here as a diagram is a very useful way to help organize this discussion. In relation to the issues noted in the NSF guide, this addresses the theoretical/substantive plan for the research. NSF funds basic research and so articulating theoretical considerations is important.
- E. Research Design – this spells out the more specific methods of the “plan of work, including ... a clear description of ... methods and procedures” asked for in the NSF guide. Subsections for a quantitative project would include (this would need to be modified accordingly for a qualitative project):
 - a. sample
 - b. data
 - c. measures (and these may be subdivided into the dependent variable and sets of independent and control variables)
 - d. analytic strategy
- F. Relation of the Project to the Longer-Term Goals of PIs – this addresses the relationship of the proposed work in progress by the PI under other support.
- G. Project Timetable – not specifically asked for but is always a good thing to include
- H. Results from Prior NSF Support – If you have had support from NSF in the past 5 years, this section is required. It is included within the 15 page limit of the project description. See details on p. II-12 in the current guidelines.