

Obtaining a Mentored K Award: The importance of project originality and project ownership by the candidate

The purpose of mentored K awards is two-fold: 1) to provide scholars with the skills and education to be outstanding scientists and successful, independent researchers; 2) to provide the time for scholars to develop an important research project that a) they are passionate about, b) addresses an important scientific problem and c) will help them launch their independent research career. In order to achieve the latter, they must have an original research project that will eventually lead to R01 or equivalent funding, and that they can pursue as independent scientists without competition from their mentor.

The review process at both the peer-review level and programmatic level carefully considers whether this purpose is likely to be fulfilled when evaluating an application. This document addresses the second issue above: originality and the need for a path to independence for the scholar.

Originality. Mentored K awards exist fundamentally to recruit new investigators, with original ideas and a passion for solving scientific problems, into the research enterprise. The award is not intended simply to provide skills in data collection and/or data analysis, but to facilitate the well-rounded development of future scientific leaders in their fields. Consequently, it is not acceptable for K applications to propose a research project that includes, even partially, addressing the mentor's funded research aims. There are two issues here. First, from a funding perspective, submission of an application that proposes to do research that is already funded is "double dipping." The work is already funded by the mentor's grant(s). The scholar cannot then ask for additional funding to do the same work. Second, from a career development perspective, there is no intellectual contribution by the scholar to generation of, or ideas behind, the proposed research. The scholar is effectively just providing labor for the mentor, collecting and perhaps analyzing data for a project conceived by the mentor. Whereas the scholar may obtain technical skills with this work, the scholar misses out on many of the skills and intellectual development required for independence. These include the ability to synthesize existing knowledge to develop an original idea, the ability to develop an original project that is feasible, novel and important, and critically, the intellectual tools to become a unique investigator with a unique perspective.

Ownership. NIH K awards are funded with the understanding that, after the period of mentored support, the scholar will be in a position to apply for major independent research funding, such as that provided by an NIH R01. To do so, and more broadly to be able to successfully launch an independent research career, the scholar must have a project that they own and can take with them from the mentor's lab or research environment from which to pursue both the science and funding for that project. To enable success, the mentor must agree that the scholar "owns" the rights to that project and can pursue it as an independent investigator and that the mentor will not continue to pursue that line of research.

NINDS Policy

- 1. NINDS will not support K award applications, regardless of score obtained in the peer review system, if any of the specific aims, questions being asked or approach to answering a specific question are fundamentally identical to those already proposed in the mentor's grants.**

Although a "cut-and-paste" is the most egregious possible example, this policy extends to the

ideas and approaches. The goal of science is to learn new information and move fields forward in understanding. It does not benefit the scholar, science or the taxpayer (who is funding the work/career development) for the scholar to propose, in a separate funding application, experiments designed to learn the exact same thing as will be learned by completion of the aims in the mentor's grants. Note that different statements of significance do not, by themselves, separate projects. Proposing an "identical" set of experiments to answer a single proposed question does not take on new meaning simply because the statement of significance is changed (e.g., understanding the fundamentals of brain development vs addressing a developmental disorder). **In short, a K award project should reflect an original research question, or a novel approach to answering a research question, which is distinct from the mentor's funded work.**

2. **NINDS will look carefully at "me-too" studies.** As an example, a mentor may have proposed a set of experiments in one model system and the scholar then proposes to do the same experiments in another model system. Experiments such as these could be remarkably important. However, to consider it as a novel proposal, it is critical that the applicant explain the significance of doing similar experiments in this second system. If there isn't a strong rationale for doing the same experiments again in a different system, then it is fundamentally a "me-too" project – nothing new, just repeating what has already been learned.
3. **Scholars must "own" their project.** In order to launch an independent research career, and successfully obtain independent funding, the scholar must have a project that they can take with them, which they can work on without involvement of the mentor (it's fine to collaborate with the mentor, but not because the mentor requires it), and for which they won't have to compete with the mentor (i.e., the mentor should not continue to work on the project that the scholar is using to launch their independent career). Applicants are strongly advised to make this clear in the application, with a direct, unambiguous statement by the mentor about what project, or piece of the project, the scholar can take to independence and for which the mentor will not compete.