Mentor Perceptions and Motivations in a 10-Week Summer Undergraduate Research Fellowship in Toxicology
Debra L. Laskin and Lauren M. Aleksunes
Department of Pharmacology and Toxicology and Environmental and Occupational Health Sciences Institute, Rutgers University, Piscataway, NJ

Abstract
Intensive laboratory training during the summer provides undergraduate students with great opportunity to gain research skills, explore post-graduate training options, and develop interpersonal skills. Most assessments of summer fellowships focus largely on student perceptions and outcomes. The purpose of the present study was to assess the motivations, satisfaction, and perceptions of mentors who supervised undergraduate students in a 10-week summer research fellowship at Rutgers University. Students spent 40 h per week in individual laboratories or clinical sites and 2 h per week in career development activities such as toxicology research seminars, field trips, and LinkedIn profile development. The fellowship culminated in student research presentations. Each student submitted a scientific abstract and presented their major research findings during symposiums held in the last two weeks of the fellowship. All co-authors on the abstracts (N=25) were emailed an 11 question online survey upon completion of the program. Responses were received from 32 individuals (24 faculty members and 5 graduate students/postdocs/technicians). All respondents had previously mentored summer interns with 68% of mentors having supervised between 1 and 5 students in the past 5 summers. The remaining 32% of respondents reported mentoring between 6 and 10 students in the past 5 summers. Respondents spent an average of 13.3 h (± 11.0 h SD, 1.5-37 h range) with their student each week. Using a 5-point Likert system, the student fellows received the highest ratings for their work ethic and scientific curiosity followed by the quality of their presentation and technical skills. The majority of mentors would recommend (score of 5) the summer fellowship program to a student (85%) and another mentor (72%) as well as serve as a mentor in a subsequent summer (77%). Motivations for serving as a mentor included graduate student recruitment, advancement of research projects, and personal enjoyment of teaching students. Periodic assessment of mentor perceptions and motivations is important for the continual evaluation and improvement of a summer undergraduate research program.

Approach
10-Week Summer Undergraduate Research Fellowship (SURF) conducted at Rutgers University

Participants submitted scientific abstracts (n=25) prior to the Research Symposium
During week 10, co-authors on the scientific abstracts were emailed a 11 question survey to be completed online
Collated responses (n=32)

Survey Respondents
Weekly Face-to-Face Interactions

Discussion
• All respondents had previously mentored summer interns with 68% of mentors having supervised between 1 and 5 students in the past 5 summers. The remaining 32% of respondents reported mentoring between 6 and 10 students in the past 5 summers.
• Respondents spent an average of 13.3 h (± 11.0 h SD, 1.5-37 h range) with their student each week.
• Using a 5-point system, the student fellows received the highest ratings for their work ethic and scientific curiosity followed by the quality of their presentation and technical skills.
• The majority of mentors would definitely recommend (score of 5) the summer fellowship program to a student (85%) and to another mentor (72%) and would serve as a mentor in a subsequent summer (77%).
• Motivations for serving as a mentor included graduate student recruitment, advancement of research projects, and personal enjoyment of teaching students.

Periodic assessment of mentor perceptions and motivations is important for the continual evaluation and improvement of a summer undergraduate research program.

Acknowledgments

Assessment of SURF Program

Future Participation in the SURF Program

Value of the SURF Program

SURF is an important educational program of Rutgers University
SURF effectively introduces the principles of pharmacology and toxicology to undergraduate students

https://surf.rutgers.edu