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Engaging Undergraduate Nutrition Students in Research: A Graduate Student Mentorship Approach

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Background: Research skills are crucial for making evidence-based ethical decisions in dietetics practice (KRDN 1.1). Students require development of skills that will enable them to successfully serve as mentors/preceptors (KRDN 2.8). Opportunities to participate in undergraduate research and graduate mentorship are often limited. A research model where graduate students, under the supervision of RDN faculty, mentor undergraduate students was developed to address these issues.

Methods: Seniors enrolled in a research methods course and undergraduates at all levels were invited to assist with data collection in an on-going research project, alongside two experienced masters-level research assistants. All students completed ethical training and conducted in-depth testing that included anthropometric, blood pressure, and taste/smell sensitivity testing. Students volunteered with a graduate student who oversaw data collection, trained students on proper equipment use and communication skills, and delegated tasks.

Results: Qualitative feedback was overwhelmingly positive. Undergraduate students gained a greater appreciation for the research process; 32% voluntarily continued to assist with data collection for a second semester. Graduate students noted improvement in communication, mentoring, and research skills. Faculty viewed this as a feasible mechanism for increasing student engagement with research while balancing competing demands for time.

Conclusions: Involving graduate students in the mentoring of undergraduate research presents an under-utilized resource for (1) engaging future RDNs in the research process and (2) empowering graduate students to become preceptors.

Funding Disclosure: None

Learning Objective (≤500 characters): Participants will be able to identify the benefits of involving graduate students as mentors for undergraduate research.

Learning Code (select 3):

- #1 – 9000 Research
- #2 – 6080 Training, coaching, mentoring
- #3 – 7200 Team building

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Abstract

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Background

- According to the Dietetics Practice-Based Research Network (DPBRN) Needs Assessment Survey, nearly all Academy members (99.5%) perceive that research is important in the field of nutrition and dietetics. However, knowledge barriers are common:
  - 57.1% lack understanding of research methodology,
  - 65.5% lack understanding of statistics,
  - 46.8% lack understanding of the ethical review process, and
  - 45.3% believe their training did not prepare them to conduct research

  To improve their ability to conduct research, 91.4% perceive mentorship opportunities are helpful (Dougherty et al., 2015)
- While university faculty members perceive the importance of involving undergraduate students in research, a common barrier is lack of time for supervision and training.

Purpose #1 of this Innovation:

When graduate students serve as the direct contact for undergraduate researchers, a reduced time commitment for faculty members will be required.

KRDN 1.1 Demonstrate how to locate, interpret, evaluate and use professional literature to make ethical, evidence-based practice decisions.

Background (Cont.)

- The nationwide shortage of preceptors is one of the greatest issues facing the dietetics profession (Crayton et al., 2015)

Purpose #2 of this Innovation:

By providing support and guidance to undergraduates, graduate students develop mentoring skills that will enable and inspire them to become successful preceptors.

KRDN 2.8 Demonstrate an understanding of the importance and expectations of a professional in mentoring and precepting others.

Methods

- Seniors (n=48) in an undergraduate research methods course:
  - Completed ethics training (Collaborate Institutional Training Initiative, www.citiprogram.org)
  - Collected anthropometric, blood pressure, and taste/smell sensitivity data for an on-going research project (Leone et al, 2015)
- Graduate students (n=2) in a combined Master's of Food & Nutrition and Internship Program in Nutrition & Dietetics:
  - Trained students on equipment use and communication skills
  - Supervised data collection
  - Delegated tasks

Research In Action

Waist Circumference | Air-Displacement Plethysmography | Blood Pressure | Taste & Smell Sensitivity

Results and Discussion

Undergraduate Student Reactions

"the greatest benefit… is the opportunity to be exposed to real-life research projects as an undergraduate student. So often, we learn about methodologies… or how to properly conduct research, but never actually have the opportunity to use such skills during our time as undergraduate students. Before becoming an undergraduate research assistant, I did not have any knowledge of how to become involved in faculty research and was under the impression that it was a task only for graduate students."

"I have received incredibly valuable experiences that I know for a fact will be transferable."

The benefits of undergraduate research are "getting to know grad students in the program and hearing about their experiences, becoming familiar with equipment and study procedures, and it's made me think a lot about topics that I would like to study myself and ways to make them possible."

Graduate Student Reactions

"I have gained a lot more supervising skills than I ever had. I have never been the head of any research projects or bigger groups of people, so this experience has helped me learn more about being a leader and supervisor."

"I am now more confident in leading research projects/papers/posters than I ever have because of this opportunity. My hope is in the future when pursuing my thesis and PhD, I will be more confident in my abilities to conduct research and train other to do the same. Conducting and participating in research is the core of nutrition, so I know I will be ready to tackle more opportunities that come my way."

Conclusions

- Involving graduate students in the mentorship of undergraduate research assistants presents an opportunity for:
  - Engaging future RDNs in the research process and
  - Empowering graduate students to serve as preceptors.

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