

End of Year Report: RESEARCH CAMP

Research Experiences for Students Early in Academic Routes Can Help Create Accessible Mentorship Possibilities

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Executive Summary

With generous support from the 2024-2025 Innovation in Diversity and Inclusion award (\$5,000), Drs. Grassetti and Brumley, along with their colleagues and students, successfully developed and piloted Research Experiences for Students Early in Academic Routes Can Help Create Accessible Mentorship Possibilities (RESEARCH CAMP) during the 2024-2025 academic year. RESEARCH CAMP is a training initiative by which undergraduate students (“campers”) gain an introductory research experience under the mentorship of faculty members and near peer graduate student researchers. The initiative is designed to engage students in research, help them develop a foundation of transferrable research skills that they can build upon, promote their confidence, and build their professional networks. A diverse group of eight undergraduate Psychology students were selected to participate in the 2024-2025 RESEARCH CAMP pilot as campers. Campers self-identified in the following ways: 75% as members of racial or ethnic groups that are historically underrepresented in Psychology, 50% first generation college students, 38% from a low-income background, 13% sexual or gender minority, and 25% as a person with a disability. Four Psychology graduate students and four Psychology faculty members served as research mentors. Pre-post surveys assessed campers’ motivation for participating, satisfaction with camp, and the impact of camp on their future career plans. Quantitative and qualitative data suggest that 100% of campers agreed that RESEARCH CAMP had a positive effect on their interest in research in psychology. Campers reported significantly increased confidence in research-related skills from pre-to-post camp ($t(7) = -3.09, p = .02$). A full semester after camp, 87.5% of campers continued to engage in course-based research and planned to continue into the following semester (a full year after the start of research camp). Quantitative data and qualitative data from campers provided clear “proof of concept” that RESEARCH CAMP is a helpful strategy for engaging students in research and promoting their retention. We describe future directions below.

Background

Undergraduate student participation in faculty-mentored research has numerous benefits for students, particularly those from underrepresented backgrounds such as racial and ethnic minority, first-generation, and low-income backgrounds (Jones et al., 2010; Slovacek et al., 2012). A study at a predominately Hispanic-serving institution found that students who were placed in research experiences in faculty-led labs on campus had higher GPAs, were more likely to complete their degree, graduated in less time, were more likely to graduate with a degree in a science major, and were more likely to enter a graduate program compared to a propensity score matched comparison group (Slovacek et al., 2012). Several factors inherent in undergraduate research experiences may help explain benefits for retention, such as students feeling a sense of belonging in a lab where a group of people are working together towards shared goals, gaining exposure to a career path in graduate study, developing an identity as a scientist, and having a meaningful mentoring relationship with a faculty member (Carlone & Johnson, 2007; Seymour et al., 2004; Wayment & Dickson, 2008).

Despite the advantages of faculty-mentored research experiences, not all undergraduate students engage in research with a faculty mentor. In a study of a mid-sized Psychology department in the US (550 majors, 21 full-time faculty), authors identified unequal access and lack of awareness as major barriers to undergraduate students engaging in faculty-led research (Wayment & Dickson, 2008). This study notes that reliance on a word-of-mouth system at their university resulted in a first-come, first-served basis for accepting students into small sections of research experience (Wayment & Dickson, 2008). This, of course, affords research opportunities for students with the luck or privilege of either hearing about research opportunities early enough to successfully gain a spot, or having prior knowledge about the importance of gaining undergraduate research experience. Students also express not understanding what faculty research is or how to get involved (Maden & Teitge, 2013) and/or feel too intimidated to reach out to a faculty member over email (Wayment & Dixon, 2008).

Barriers to participating in faculty-led research are even greater for students from marginalized backgrounds, such as low-income, first-generation students and/or students of color (Pierszalowski, Bouwma-Gerhart, & Marlow, 2021). Financial constraints during the school year and summer present major barriers particularly when students are required to volunteer time to gain research experience (Pierszalowski et al., 2021). Additionally, students from marginalized backgrounds are more likely than their White peers to lack awareness or understanding of the benefits of participating in research experiences or its necessity for graduate study (Pierszalowski et al., 2021). Underrepresented students also come to college with lower academic literacy and may not know the steps that they need to take to secure a research experience with a faculty mentor (White & Lowenthal, 2011). Creating equitable access to undergraduate research opportunities requires modifying the existing infrastructure in place. It behooves faculty to take a proactive, student-centered approach to connecting students to research opportunities.

We designed RESEARCH CAMP with the goal of improving equity by developing a pathway by which undergraduate students from marginalized backgrounds (first generation, low income, and/or racial and ethnic minority students) could access an engaging introductory research experience with faculty and near peer (graduate student) mentors without having to pay for course credits. We hypothesized that this approach would be helpful in engaging students in research immediately and in the long term (e.g., continuing to engage in research after

RESEARCH CAMP) and promoting their retention (WCU and major retention) in academic research. We also expected to observe increases in knowledge about research and graduate study, perceived readiness to participate in research, confidence in targeted research skills, belongingness, and commitment to retention in the major.

Program Evaluation

Participants. Students were informed about RESEARCH CAMP through flyers posted on campus and disseminated by faculty members teaching undergraduate courses. Twenty students applied to participate in RESEARCH CAMP and 8 were invited to participate as “campers.” Campers were a diverse group (self-identifying in the following ways: 75% as members of racial or ethnic groups that are historically underrepresented in Psychology, 50% first generation college students, 38% from a low-income background, 13% sexual or gender minority, and 25% as a person with a disability). Most of the campers (88%) had no previous research experience. Campers most frequently indicated they wanted to participate to learn about the research process and get hands-on research experience, due to their interest in the subject matter, and to build their resume.

Evaluation Design. We evaluated RESEARCH CAMP via a longitudinal, repeated measures design in which campers completed a Qualtrics survey immediately before CAMP (December 2025), immediately after camp (January 2025), and during a follow up period the end of spring 2025 semester (May 2025). The survey included items to assess students' knowledge about targeted research skills and graduate study as well as their readiness to participate in research and sense of belongingness at WCU. We also sought and obtained approval from the institutional review board so that our program evaluation data could be used for research purposes so that our experiences could inform the broader field of higher education.

Preliminary Program Evaluation Quantitative Findings. Campers responses to questionnaires indicated that they found RESEARCH CAMP to be an engaging training experience. Those who participated were, largely, retained in the major, as WCU students, and as student researchers a full semester after RESEARCH CAMP.

- ***Positive Engagement.*** After RESEARCH CAMP, 100% of campers “agree” or “strongly agree” that RESEARCH CAMP had a positive effect on their interest in research in psychology and was a good way of learning about the process of scientific research.
- ***Enhanced “researcher” identity, confidence in research tasks, future education/career goals***
 - ***Developing a “researcher” identity.*** After RESEARCH CAMP, 100% of campers selected “agree” or “strongly agree” that “seeing other people who look like me in my field reinforces my researcher identity.” 100% of campers also indicated they “agree” or “strongly agree” that being involved in research is important to them.
 - ***Increased confidence.*** Campers reported increased in confidence in research-related tasks from pre- to post-camp (paired samples t-test: $t(7) = -3.08, p = .02$).
 - ***Developing plans for career goals.*** Before RESEARCH CAMP, 5 of 8 (63%) of campers “strongly agree” that graduate school is very important to their career

goals; after RESEARCH CAMP, 100% of campers “strongly agree” that graduate school is very important for their career goals.

- **Retention.**

- **Continued research engagement.** Mentored research experiences are high impact practices that can help retain students. We expected that camp would provide an introductory research experience and that campers would continue research even after camp ended. At May 2025 Follow-up, 7 of 8 campers were currently enrolled in PSY410 during the Spring 2025 semester (5 of whom were enrolled with the same professor with whom they worked with for RESEARCH CAMP). All 7 campers currently enrolled in PSY410 indicated they were “very likely” to continue with psychology research experience by enrolling in PSY410 in the Fall 2025 semester.
- **Relationship building.** Before RESEARCH CAMP, 50% of campers rated “connecting with a faculty member” and “connecting with a graduate mentor” as “extremely important” reasons for wanting to participate in RESEARCH CAMP. After RESEARCH CAMP, 100% (8 out of 8) campers felt “extremely satisfied” with the connection they made with a faculty mentor, and 7 of 8 felt “extremely satisfied” with the connection they made with a graduate student mentor. 100% of campers felt their faculty member had a significant positive impact on their research experience.

Preliminary Program Evaluation Qualitative Findings. In addition to responding to scaled items, we asked campers to respond to open ended questions that assessed their satisfaction with RESEARCH CAMP and asked them to identify their favorite parts. Campers’ responses to these items emphasized the campers’ enjoyment of the training experience (i.e. “It was a truly productive and wonderful experience. I hope more students will get to have such an experience”) and their appreciation of the opportunity for research mentorship (i.e., “I felt I built a great relationship with more faculty and it gave me the opportunity to broaden my horizons.”; “I loved having a graduate student mentor to connect with and ask questions to. She was so helpful and patient and understanding.”). When asked about the best parts of RESEARCH CAMP, campers highlighted an appreciation for mentors sharing information about their professional pathways (i.e., “sharing your experiences and story; it gave me great models for comparison and reinforcement.”), the professional development and introductory research skill content offered during the group seminar meetings (i.e., “I really liked the conversations about how to prepare/apply for graduate school and info on the different careers in psych. I also liked reviewing research articles and filling out the summary worksheets.”). Finally, a camper comment highlighted the high value they placed on individual mentorship (i.e., “individual meetings, it felt like someone really wanted to know me.”).

Future Directions

Dissemination of Results. We plan to present this work at the PASSHE Summit in Fall 2025 and at West Chester University’s Research and Creative Activity Day in Spring 2025. We hope that these presentations may inform our local academic community of a successful model of equitably engaging students in research and promoting their retention. In addition, we plan to

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share our experiences out with the broader academic community through a peer-reviewed publication. We are currently working on preparing a manuscript to submit for publication. We are targeting a submission to the *Journal of Access, Retention and Inclusion in Higher Education*.

Next Steps. Seed funding facilitated an extremely successful initial pilot of RESEARCH CAMP. We are now considering options for sustaining the initiative without grant funding.

Future research directions may involve exploring how RESEARCH CAMP impacts mentors as well as mentees. In our experience, faculty mentors reported learning from each other about how to best support students and graduate mentors reported appreciating the opportunity for guidance about how to mentor students' research.

Budget Report

Budget Itemization:

\$2,000 graduate student stipends (4 graduate students compensated with \$500 each)

\$2,000 is requested for faculty compensation (4 Faculty will be compensated with \$500 each)

\$480 research participation incentives (\$20 x 3 time points x 8 campers=\$480)

\$520 refreshments during the seminar series

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