Scientist-Practitioner Interest Changes and Course Outcomes in a Senior Research Psychology Course

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Abstract

Psychology students (*N*=42) completed the Scientist-Practitioner Inventory before and after completion of a senior research course. As predicted, students indicated a stronger preference for practice than science related areas of psychology. Course enjoyment positively correlated with an increase in scientist orientation. Implications for program development and career choices are discussed.

Introduction

Psychology is a diverse field which includes basic and applied research as well as practice related divisions, such as clinical assessment and counseling. The research areas of psychology rely on training in science and methodology, whereas the practice areas rely on training in interpersonal skills, evaluation, and professionalism. Psychologists generally complete undergraduate programs in psychology which expose students to the breadth of the field, including scientific preparation area like statistics and research methods as well as certain practice-related areas of study like abnormal psychology and personality. The scientist-practitioner model (i.e., the Boulder model) combines science and practice areas in graduate training while other models focus on the different orientations, personalities, interests, and theoretical assertions of scientists and practitioners. A thorough understanding of these orientations may help with academic program development and student career choices.

Past studies have linked developmental and personality characteristics to interests in scientist and practitioner areas (Feist, 2006; Zachar & Leong, 1992). Other findings show how undergraduate research experience can increase research skills in specific domains of scientific psychology (Kardash, 2000). However, few studies (e.g., Pettijohn & Ahmed, 2009; Hills & Pettijohn, 2010) have investigated the scientist-practitioner interests of undergraduate psychology majors and the influence of these interests on performance in science and practice themed courses.

The current research explores how the attitudes regarding the science and practice of psychology are impacted by course outcomes in an undergraduate senior level research class at a public university.

Current Study Hypotheses

Consistent with general information about psychology major interests, we predicted that students would indicate a preference for practitioner interests compared to scientist interests. We also predicted that students who anticipated higher grades in the senior research course, reported more enjoyment of the course, and obtained significant results in their research projects would report an increased interest in science-related areas due to their positive experiences with research.

Method

Participants

Forty-two students from a medium sized, public university in the Southeastern United States enrolled in three unique sections of a required senior research course participated in the current research. The racial distribution of the sample included 83.3% Caucasian and 14.3% African-American. The average age of the participants was 22.57 years (*SD*=3.34), and all of the participants were psychology majors. Most of the participants enrolled in the course were women (83.3%). The majority of the participants were seniors (92.9%), with the remaining 7.1% being juniors. Approximately half of the participants planned to graduate the semester of the study (42.9%).

Senior Research Course

The senior research course, Applied Research in Psychology (PSYC 497), is a psychology major requirement majors generally complete during their senior year. The course is a "research experience in which students are required to develop a research project, conduct a literature review, gather and analyze data, prepare a research paper in accord with the standards of the American Psychological Association (APA) and present their research." The instructor supervises the project and leads group instruction on topics related to research.

Materials & Procedure

Students completed the Scientist-Practitioner Inventory (SPI; Leong & Zacher, 1991) at the beginning and the end of the semester. All students verbally agreed to have their responses included in this investigation. The SPI includes 42 questions pertaining to interests in the science and practice of psychology. The inventory is divided into sub areas of science (research activities, teaching/ guiding/ editing, academic ideas, statistics and design) and practice (therapy activities, clinical expert/ consultant, tests and interpretation) interests. Participants rated their interest in each scale item using a 5-point Likert scale.

Participants indicated whether they found significant results in their research project and whether they planned to follow-up on their study. They also rated their course effort, enjoyment of the course, and whether the course increased their research knowledge on a 10-point Likert scale.

Participant age, sex, class rank, and major were collected on a demographic questionnaire. Students were also surveyed about their plans to attend graduate school and the type of graduate program and degree sought.

Table. *Descriptive Statistics for Perceived Course Outcomes*

Questions (all answered on a 10-point Likert scale)	*M*	(*SD*)
How much effort did you put into the class?	8.89	1.03
How much did you enjoy the class?	7.20	1.81
How much has the class increased your research knowledge?	9.42	.83

Results

As predicted, students preferred practice related areas of psychology rather than science related areas of psychology at both the beginning, $t(41)=7.22$, $p<.001$, $d=1.51$, and end, $t(41)=8.40$, $p<.001$, $d=1.74$, of the course.

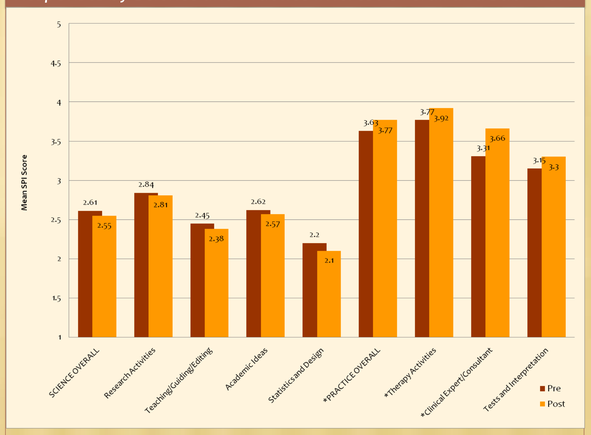
We were also interested in possible changes in these interest areas during the semester. Difference scores were calculated to examine student interest changes from the beginning of the course to the end. Overall, students reported a positive change in practitioner orientation at the end of the course, $t(41)=2.38$, $p=.02$, $d=.24$, and no significant change in scientist orientation, $p=.47$. Sub area results are provided in the **Figure.**

Students reported positive course outcomes regarding their course effort, course enjoyment, and research knowledge gained from completing the course. These values are reported in the **Table**. Effort and knowledge ratings were not significantly related to an increase in scientific interest, but reported course enjoyment was related to a positive increase in scientific interests, $r(40)=.37$, $p=.02$.

Approximately half of the participants' research projects did not yield statistically significant results (52.4%). Thirty-eight percent anticipated a course letter grade of A, 50% B, and 12% C. While students who obtained significant results in their research projects, and anticipated earning As in the course, reported positive changes in scientific interests, these changes were not statistically significant.

Only 21.4% of the participants intended to follow up on their research project and the majority of students planned to attend graduate school (76.2%). Nearly 90% indicated plans to attend clinical or counseling graduate programs.

Figure. *Mean Pre and Post Scientist-Practitioner Inventory Responses by Science and Practice Interest Overall and Sub Areas*



Note. *= $p<.05$. *1=very low interest, 2=low interest, 3=unsure, 4=high interest, 5=very high interest.*

Discussion

As predicted, students reported a stronger preference for practitioner interests over scientist interests. These results are consistent with the fact that students enrolled in our department heavily prefer the practice-related areas of clinical and counseling psychology. The current findings were consistent with Pettijohn and Ahmed's (2009) investigation of an introductory research methods course and Hills and Pettijohn's (2010) investigation of a psychology communication course, finding greater student interest in practice than science related areas overall.

While students who anticipated high marks in the course and who obtained significant results on their research project did report more positive changes in science interests, these results were not significant. However, students who enjoyed the course most showed significant increases in scientist orientation.

Limitations of this research include a small sample size of predominately women, and the possibility that students did not fully comprehend the interest areas they rated.

Research methods courses are a common psychology major requirement. Psychology programs may want to measure interests in science and practice areas of psychology at multiple stages across the curriculum to follow changes in students and to address assessment. Career choice options may also be explored using the SPI.

Selected References

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