

AN ABSTRACT OF THE THESIS OF

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Perceptions of Students and Mentors?

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This study evaluated student authors who had published in the Psi Chi Journal of Undergraduate Research in terms of their perception of their professional development. These students' perceptions were compared to the perceptions of students with similar characteristics who had not published. The students' mentors were also asked to comment on the professional development of their students. Participants consisted of 34 published students, 22 nonpublished students and 43 faculty advisors. Student participants completed a questionnaire, which asked about various aspects of their professional development. Faculty advisors also completed a questionnaire, which addressed how publishing influenced their students' professional development. Published students and nonpublished students reported being involved in similar professional development activities such as conducting research, presenting research, coursework, and mentor relationships. Both groups reported being involved in research-related activities more often than other types of activities. Approximately one third of the published students reported that their publishing experience greatly enhanced their professional development. Finally, faculty advisors reported that publishing helped to build important research and writings skills as well as enhanced students' graduate school applications.

DOES PUBLISHING AS AN UNDERGRADUATE ENHANCE PROFESSIONAL
DEVELOPMENT: PERCEPTIONS OF STUDENTS AND MENTORS?

A Thesis

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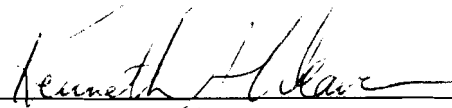
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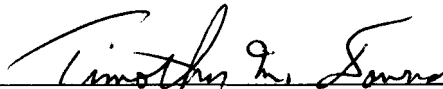
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CHAPTER 1

INTRODUCTION

The topic of professional development has engendered a great amount of attention recently (Ducheny, Alletzhauser, Crandell, & Schneider, 1997). PsycINFO terms used within the literature to describe professional development include career development, occupational aspirations, professional competence, professional identity, and professionalism. Ducheny et al. (1997) defined professional development as "an ongoing process through which an individual derives a cohesive sense of professional identity by integrating the broad-based knowledge, skills, and attitudes within psychology with one's values and interests" (p. 89).

Universities are encouraged, more and more, to instill a sense of professionalism in their undergraduate students. Some universities have met this expectation by providing opportunities for undergraduates to attend professional conventions, providing mentors for students, allowing students to participate in research and field experience, and a variety of other activities (Marston, 1993). Research shows that graduate selection committees expect applicants to have participated in professional activities such as publishing and presenting papers and posters at professional conventions (Keith-Spiegel, Tabachnick, & Spiegel, 1994). Keith-Spiegel et al. (1994) also mentioned that graduate selection committees look favorably on students with mentors who are involved in actively advocating for their students' acceptance into graduate school.

The present study explored how publishing research and having a good relationship with a mentor impacts student professional development. Each of these issues are discussed in detail in the following sections.

Professional Development

Professional development is a "social learning process by which a person acquires specific knowledge and skills that are required in a professional role" (McGowen & Hart, 1990, p. 118). Professionals develop values, attitudes, and a self-identity that are congruent with their new professional role.

Universities have been concerned about training professionals from their inception. Research and academics were valued above all other endeavors; until the 1960s there were few prestigious opportunities for nonacademic professionals in psychology (Ellis, 1992). By the end of the 1960s, students interested in clinical work were very disgruntled about the heavy research emphasis placed on training. Professionals in the field held the Vail Conference in 1973 to address this growing opinion. The Vail Conference provided the impetus for the development of professional programs that put less emphasis on research and more emphasis on training clinicians (Ellis, 1992).

According to Ducheny et al. (1997), this difference of opinion between clinically-oriented students and academically-oriented students still exists. Based on a survey of 604 graduate students, clinical-counseling students believed interpersonal skills and "multirole effectiveness" skills (Ducheny et al., 1997, p. 89) were most important for their professional development. Research-academic students believed skills related to conducting research and teaching were most important for professional development. Clinical-counseling students emphasized skills such as supervising, mentoring, multidisciplinary relations, and awareness of diversity issues, whereas research-academic students emphasized skills such as research proficiency, teaching skills, presenting,

publishing, and grant writing. These results indicated that professional development is a highly individualized construct (Ducheny et al., 1997).

Although there is disagreement as to what constitutes professional development, most researchers agree that being involved with conducting, presenting, and publishing research is very important for professional development (Bloom & Bell, 1979; Drotar, 2000; Ducheny et al. 1997; Huss, 1996; Keith-Spiegel et al., 1994; Marston, 1993; Purdy, Reinehr, & Swartz, 1989). Researchers also agree that having a strong and supportive mentor-protégé relationship will aid greatly in developing professionally (Bloom & Bell, 1979; Ducheny et al, 1997; Keith-Spiegel et al., 1994; Marston, 1993; Morgeson, Seligman, Sternberg, Taylor, & Manning, 1999)

Research and Publication

The notion that psychologists must "publish or perish" is not a new one. The number of publications a professional has often measures that person's level of professionalism. Career advancement and tenure are also dependent on frequent publishing (Mahoney, 1987; Peterson & Trierweiler, 1999).

Studies show that graduate selection committees value students who have published (Huss, 1996; Keith-Spiegel et al., 1994; Purdy et al., 1989). Huss (1996) pointed out that students who apply to graduate school often have very good grade point averages (GPAs), GRE scores, and letters of recommendation. Those students who have been involved in research "stand out from the rest of the pile" (Huss, 1996, p. 6). Huss also mentioned that because faculty members need to publish, they often look for those students who have research experience.

Keith-Spiegel et al. (1994) surveyed 123 faculty members from a number of graduate programs to determine what second-order criteria they use to select graduate students. Generally graduate selection committees narrow the applicant pool by looking at first-order criteria such as GPAs, GRE scores, and letters of recommendation. The graduate selection committees then use second-order criteria to further narrow the applicant pool. Keith-Spiegel et al. found the most important second-order criterion was research resulting in a publication and the third most important second-order criterion was research resulting in a presentation at a professional conference. Purdy et al. (1989) mirror those results. They found that high GRE scores, strong letters of recommendation, high GPAs, and research experience were important characteristics of graduate applicants.

Many universities have begun to develop programs designed to improve students' professional writing skills. Kardash (2000) described and evaluated an undergraduate research experience (URE). Through participating in an URE, undergraduate interns produce original research with the aid of a faculty mentor. Findings indicated that the students' research skills such as developing research questions and hypotheses, testing hypotheses, and writing the research paper improved as reported by the students and the faculty mentors.

Drotar (2000) also described an attempt at improving students' writing skills. A group of clinical psychology graduate students participated in a writer's workshop seminar. The students both wrote and critiqued each others' writing. Through participating in these activities students gained an understanding of the writing and

reviewing process. They also had the opportunity to improve their own writing skills through practice and feedback.

Based on the previously stated research, it is clear that research and publication are very important to professional development. Universities are promoting the importance of research and are encouraging students to get involved (Drotar, 2000; Kardash, 2000). Students who have published and are involved in research are looked upon favorably by graduate faculty members (Huss, 1996; Keith-Spiegel et al., 1994; Purdy et al., 1989). Finally, publishing is essential for career advancement (Mahoney, 1987; Peterson & Trierweiler, 1999).

Mentoring

Mentors also are important for the professional development of students. They use their advanced experience and knowledge to provide support for their protégés in order to further their careers. Mentors help their protégés through coaching, protecting the protégé from adverse forces, providing challenging assignments, and increasing the protégé's exposure and visibility. Mentors also enhance the protégé's sense of competence, self-efficacy, and professional development through providing counseling, giving respect and support, and serving as role models (Kram, 1985).

A survey of 90 college students indicated that good mentors are interested and supportive, competent, unexploitative, involved in research, and had positive personality traits such as loyalty, flexibility, empathy, and compassion (Cronan-Hillix, Gensheimer, Cronan-Hillix, & Davidson 1986). In another study, graduate students listed role modeling, guidance, listening, help in planning future academic and career goals, and

building self-confidence as important functions of the mentor-protégé relationship (Luna & Cullen, 1998).

According to Ragins and Cotton (1999), mentor-protégé relationships have been associated with many positive career outcomes. Individuals with a mentor tended to receive more promotions, have higher incomes, and report higher career satisfaction than individuals without mentors. Business people who had mentors tended to have a higher level of education, higher incomes, higher career satisfaction, and were more likely to develop new protégées (Cronan-Hillix et al., 1986). Cronan-Hillix et al. (1986) also emphasized the value of the mentor-protégé relationship for students. Students who have mentors are more involved in research, present more papers and posters, and publish more articles than students who do not have mentors. Keith-Spiegel et al. (1994) found that graduate selection committees look favorably on students who have mentors advocating for their acceptance.

Although students benefit from the mentor-protégé relationship, mentors also benefit. Faculty members may gain a sense of satisfaction when they help their protégées succeed. Faculty members with protégées tend to be more productive and publish more often, than faculty members without protégées. Mentors tend to gain status through the accomplishments of their protégées (Cronan-Hillix et al., 1986).

Rationale for the Present Study

Universities work toward instilling a sense of professionalism in their undergraduate students. Researchers agree that being involved in research through presenting and publishing is a good way to develop professionally; however, undergraduates have limited opportunities to publish in professional journals. The Psi

Chi Journal of Undergraduate Research (Psi Chi Journal) is dedicated to publishing the work of undergraduate students. Publishing in the Psi Chi Journal may be an excellent way to encourage students to develop their own professional identity. The Psi Chi Journal also advocates that faculty mentors help their students get involved in research.

This study evaluated student authors who had published in the Psi Chi Journal in terms of their perception of their professional development. These students' perceptions were compared to the perceptions of students with similar characteristics who had not published. The students' mentors were also asked to comment on the professional development of their students.

Hypotheses. This study determined to what extent publishing in the Psi Chi Journal enhances students' perceptions of their professional development. Based on the previously stated findings, the researcher tested the following hypotheses.

1. Students will report research-related activities (conducting, presenting, and publishing) enhanced their professional development more often than they report other types of activities.
2. The students who had published will report publishing greatly enhanced their professional development.
3. The students who had published will report different types of professional development activities than the student who had not published.
4. The faculty advisors will report students publishing in the Psi Chi Journal is beneficial for both the students and themselves.

CHAPTER 2

METHOD

Participants

Participants consisted of Psi Chi members who had published in the Psi Chi Journal, Psi Chi members who had not published, and the faculty advisors of these students. All participants were contacted through the mail and completed and returned a questionnaire.

The sample of students who published in the Psi Chi Journal ($n = 34$) consisted of 9 men (26.5 %) and 25 women (73.5%). Their ages ranged from 21 to 47 ($M = 26.86$, $SD = 5.36$). The classification of participants was as follows: 5 seniors (14.7%), 8 students in their first year of graduate school (23.5%), 5 students in their second year of graduate school (14.7%), 5 students in their third year of graduate school (14.7%), 5 students in their fourth year of graduate school (14.7%) and 6 students were not continuing their education (17.6%). The majority of participants ($n = 32$) were Caucasian (94.1%).

The sample of students who had not published ($n = 22$) consisted of 5 men (22.7%) and 17 women (77.3%). Their ages ranged from 20 to 58 ($M = 24.32$, $SD = 8.75$). The classification of participants was as follows: 1 sophomore (4.5%), 2 juniors (9.1%), 15 seniors (68.2%), 2 students in their first year of graduate school (9.1%), 1 student in the second year of graduate school (4.5%), and 1 student in the fourth year of graduate school (4.5%). The majority of participants ($n = 20$) were Caucasian (90.9%).

The sample of faculty advisors ($n = 42$) consisted of 19 men (45.2%) and 23 women (54.8%). The ethnic background of participants was as follows: 36 Caucasians (85.7%), 1 African-American (2.4%), 1 Asian-American (2.4%) and 1 Hispanic (2.4%). The faculty members academically advised an average of 8 Psi Chi students per year and had supervised an average of 2.1 student publication submissions.

Design

The present study is an ex post facto study, because the groups (published or not published) were intact before the research was conducted. The dependent variables for this study were professional development activities and perceptions of professional development. The study also explored the faculty advisors' perceptions of the mentoring process.

Instruments

This study used two author-made questionnaires (student and faculty advisor). The student questionnaire consisted of 10 questions that addressed various aspects of the student's professional development (see Appendix A). Sample questions include, "As an undergraduate, what were the three most important experiences you had that influenced your professional development as a psychology student/psychologist?" and "What impact did the professional experiences you described have on your current professional activity/job?" The questionnaire also requested demographic information such as age, sex, classification, and ethnic background.

The faculty questionnaire consisted of 9 questions that addressed professional development issues (see Appendix B). Some sample questions include, "Do you believe the process of publishing in the Psi Chi Journal was beneficial to the student(s) you have

supervised?," "Was the process of supervising a student publication for the Psi Chi Journal beneficial to you?," and "Did publishing in the Psi Chi Journal enhance your student's chances of being accepted to a graduate program?" The questionnaire also requested demographic information such as, sex, ethnic background, and the number of students advised per year.

Procedure

The researcher attempted to contact all of the first authors who have published in the Psi Chi Journal ($N = 103$) since its inception in 1995. Students who had published in the Psi Chi Journal for whom the researcher had an address received a cover letter (see Appendix C), student questionnaire, and a self-addressed stamped envelope. The researcher also attempted to contact all of the faculty who supervised the student papers published in the Psi Chi Journal ($N = 85$). Faculty advisors received a cover letter (see Appendix D), student questionnaire(s), faculty advisor questionnaire, and self-addressed stamped envelopes. The cover letter asked the faculty advisor to forward the student questionnaire to a Psi Chi member who had not published in the Psi Chi Journal. Psi Chi members were used for both samples to ensure the groups were comparable. The faculty advisor was also asked to forward a student questionnaire to published students, for whom the researcher did not have an address. All correspondence was kept confidential and no identifying marks were used. The researcher sent two mailings to maximize participation. The response rate for this study was 33.09% for published students, 21.36% for unpublished students, and 49.11% for faculty advisors.

CHAPTER 3

RESULTS

The researcher developed a set of independent categories for each open-ended question (e.g., types of professional development activities and their impact). Frequencies were then assigned to the respective categories. A chi square analysis was used to compare the published and nonpublished students' professional development activities and the impact those activities had. Due to the qualitative nature of the data, much of the remaining data analysis was descriptive. A descriptive summary narrative including representative comments from student authors, student nonauthors, and faculty advisors is provided.

Student Results

Professional development activities. For the purposes of data analysis, the researcher combined all nonresearch-related activities, such as coursework, internships, mentor relationships, and so forth into one category. Chi square analysis indicated the frequencies of research-related activities and nonresearch-related activities for the nonpublished students significantly differed, $\chi^2(1) = 6.58$, $p = .01$. The nonpublished students reported involvement in more nonresearch activities. However, Chi square analysis indicated the frequencies of research-related activities and nonresearch-related activities for the published students did not significantly differ, $\chi^2(1) = .01$, $p = .92$. This result indicates that published students reported research-related activities at approximately the same rate as nonresearch-related activities.

Impact of professional development activities. A 2 (published students and nonpublished students) x 3 (preparation for graduate school, preparation for future career,

and other) Chi square analysis indicated there was no significant difference between the distributions of the impact of the professional development activities of students who had published and students who had not published, $\chi^2(2) = 1.72, p = .42$. This result suggests that being involved in professional development activities impacted both samples similarly.

The most common response from both samples was that the experiences prepared them for graduate school or enhanced their acceptance into graduate school (see Table 1). They also mentioned that their experiences prepared them to enter the job market. Some less common comments included increased knowledge base, increased confidence, and better developed skills. The following are some typical responses.

- Each of the experiences played an integral role in influencing my decision to pursue graduate studies in psychology, and I personally that either directly or indirectly, served as a contributing factor to the success I encountered in being admitted to Ph.D. level graduate programs
- They have enabled me to better understand the basic principles and methods of psychology and therefore continue with more research to prepare for a job in psychology
- I have found that my experiences have had a considerable impact on my current job

The importance of publications. The student surveys asked participants to list the three most important experiences they had that influenced their professional development as a psychology student (see Table 2). Several of the typical responses follow.

Table 1

Impact of the Professional Development Activities from Student Comments

| Impact | Students | |
|---------------------------------|--------------------|-----------------------|
| | Published Students | Nonpublished Students |
| | (<u>n</u> = 52) | (<u>n</u> = 27) |
| Preparation for graduate school | 34.62% | 37.04% |
| Preparation for future career | 23.08% | 11.11% |
| Other | 42.31% | 51.85% |

Table 2

Professional Development Activities from Student Comments

| Professional Development Activities | Students | |
|--|---|---|
| | Published Students (<u>n</u> = 109) | NonPublished Students (<u>n</u> = 67) |
| Coursework | 11.34% | 14.96% |
| Internships/work experience | 9.28% | 13.43% |
| Research and conferences | 44.33% | 34.33% |
| Mentor relationships | 18.56% | 13.43% |
| Publishing | 35.29% | 0.00% |
| Other activities | 16.49% | 23.88% |

- My experience conducting independent research as an undergraduate and having the opportunity to experience the process of publishing and presenting my research at both regional and national conferences
- Finding a mentor in the psychology department
- Excelling in statistics with a professor who recognized my performance
- Internship at a drug and alcohol rehabilitation center

Participants listed experiences such as coursework, internships, conducting and presenting research, publishing research, and relationships with mentors. The most common response for both groups involved conducting and presenting research. For the group that had not published, the second most common experience was coursework, and for the students who had published, it was relationships with mentors. The third most common experiences of the students who had not published were internships and relationships with mentors. For the students who had published the third most common experience was coursework, and the fourth most common experience was internships. The fact that 12 (35.29%) of the students who had published in the Psi Chi Journal indicated that publishing was an important experience that fostered their professional development is of particular importance to this research. The students who had not published in the Psi Chi Journal were not excluded from publishing in other journals; however, none of these students listed publishing as an important activity.

Psi Chi assistance. Finally, the survey asked how Psi Chi could help implement additional professional development experiences. The most common response for both the published students (48.78%) and the nonpublished students (35%) was Psi Chi should continue to encourage students to conduct, present, and publish research. Other, less

common, responses included offering internships, matching mentors with students, and, publishing material about careers and graduate schools.

Faculty Results

Student publications and graduate school. Chi square analysis revealed that a significant number of faculty advisors felt publishing as an undergraduate enhanced their students' chances of being accepted to a graduate program, $\chi^2(1) = 15.12, p < .001$. In fact, the majority of the faculty advisors felt publishing helped their students get accepted into graduate school (see Table 3). The remaining faculty advisors reported, (a) their students had already been accepted when the article was accepted for publication, (b) being published had no bearing on whether or not they were accepted to graduate school, or (c) were not sure if publishing had an effect. The following are typical comments from faculty advisors.

- Yes, it helps make a student stand out from the competition when they have a published paper
- I think so, although I don't have proof
- No, she was already accepted to graduate school

Student benefits from publishing. The faculty advisor survey asked the participants to describe how publishing in the Psi Chi Journal was beneficial to their students (see Table 4). Typical comments follow.

- Yes, it gave her experience in writing for publication and helped her graduate school application look stronger
- Yes, it improved her thinking and writing skills and gave her confidence in her ability to do graduate work

Table 3

Did publishing enhance graduate school acceptance from Faculty Advisor Comments

| Responses | Percentage of Responses |
|---------------------------------------|-------------------------|
| | (n = 41) |
| Yes, publishing helped | 65.85% |
| No, the students was already accepted | 9.76% |
| No, publishing did not help | 12.20% |
| Publishing might have helped | 12.20% |

Table 4

Benefits to students who have published from Faculty Advisor Comments

| Benefits to Students | Percentage of Responses |
|---|-------------------------|
| | (n = 61) |
| Experience with the publication process | 39.34% |
| Enhances vita/graduate school application | 22.95% |
| Improves writing skills | 11.48% |
| Improves confidence | 9.84% |
| Improves research skills | 16.39% |

- Yes, I think that it gave her insights into the scientific research process beyond what an undergraduate might experience just doing a project for a research methods course
- Yes, it helped her learn more about research, learn more about the publication process, and gain entry into graduate school

The most common response was the students gained an understanding of the publication process. Specifically, many participants mentioned that it was beneficial to be involved in the peer review process. Participants also indicated that publishing enhanced their students' attractiveness to graduate school selection committees. Students also gained a better understanding of how research is conducted, improved their writing skills, and gained confidence in doing high level work.

Faculty benefits from student publications. The faculty advisors were also asked if the process of supervising a student publication for the Psi Chi Journal was beneficial to them (see Table 5). The following are typical responses from faculty advisors.

- I love mentoring students and my university values student mentored publication in my performance reviews
- I enjoy it to some extent, but it is more work
- I have enjoyed the collaboration very much
- Yes, by encouraging that student's professional development

The most common response centered on facilitating their students' growth. Many participants specifically mentioned that their students gained skills in conducting and publishing research. Participants also indicated that their departments looked favorably on faculty who sponsored student publications. Other faculty mentioned that the

Table 5

Benefits to faculty advisors from Faculty Advisor Comments

| Benefits to Advisors | Percentage of Responses (<u>n</u> = 46) |
|---|---|
| Gratifying | 19.57% |
| Facilitates student growth | 46.65% |
| Department looks favorably on mentoring | 19.57% |
| Improved own skills | 6.52% |
| It was more work than it was beneficial | 8.70% |

experience was gratifying and that it improved their own research skills. A few participants felt that the amount of work involved overshadowed the benefits.

Impact of student publications on graduate school selection committees. The survey also asked participants if they had served on a graduate school selection committee and, if so, would publications enhance a student's graduate application. Less than half (33.33%) of the faculty advisors had served on a graduate school selection committee. However, all of the respondents who had served on graduate school admissions committees felt that publications increased a student's chances of being accepted into their graduate program.

Additional professional development activities. Finally, participants were asked to list any other professional development activities they felt were important for undergraduate students (see Table 6). The following are some typical responses.

- Presenting their work at local, regional, and national conventions
- Doing some type of research project, whether published or not, has been valuable to our students
- Internships and work experience. Students need to experience the demands and frustrations of whatever career they may presently be pursuing

The most common response was presenting research at conferences. Conducting research and internships were also frequently mentioned as important activities for professional development. Additional activities included community service, networking, and being involved in professional organizations.

Table 6

Other Professional Development Activities from Faculty Advisor Comments

| Professional Development Activities | Percentage of Responses |
|-------------------------------------|-------------------------|
| | (n = 59) |
| Presenting research at conferences | 47.46% |
| Conducting research | 16.95% |
| Other | 22.03% |

CHAPTER 4

DISCUSSION

Support for Hypotheses

The present study tested the following hypotheses:

1. Students will report research-related activities (conducting, presenting, and publishing) enhanced their professional development more often than they report other types of activities.
2. The students who had published will report publishing greatly enhanced their professional development.
3. The students who had published will report different types of professional development activities than the student who had not published.
4. The faculty advisors will report students publishing in the Psi Chi Journal is beneficial for both the students and themselves.

Hypothesis 1 was partially supported by the data. Published students reported approximately the same number of research-related activities as nonresearch-related activities. Nonpublished students reported more nonresearch-related activities than research-related activities. The research/publication emphasis by the published students is in agreement with the previous research (see Huss, 1996; Keith-Spiegel et al., 1994; Purdy et al., 1989) that shows that graduate selection committees, as well as university faculty and students, value research-related activities.

Hypothesis 2 was partially supported by the data. Approximately one-third of the students who had published specifically mentioned publishing was important to their professional development. Almost half of the students who had published reported

research-related activities other than publishing were important for their professional development. This result indicates that simply being involved in research is enough to impact the perception of students' professional development. The questionnaire asked students if they had published in a psychological journal prior to asking about the professional development activities. Perhaps those students who had published believed that their publishing experience was implied when they discussed being involved with research.

Hypothesis 3 was not supported by the data. Students who had published and students who had not published reported the same activities at approximately the same frequencies. Both groups reported research, coursework, mentors, and internships as important for their professional development. Perhaps the lack of a significant finding is due to both groups having had extensive experience with conducting and presenting research. This similarity may be the result of universities and faculty placing greater emphasis on conducting and presenting research (see Drotar, 2000; Kardash, 2000; Huss, 1996; Keith-Spiegel et al., 1994; Purdy et al., 1989). Additionally, the students used in this sample were members of Psi Chi and therefore had high grade point averages and were likely very good students. All of these students, whether they had published or not, were likely to be involved in professional development activities similar to those mentioned previously. Comparing Psi Chi members to students who are not members of Psi Chi may lead to significant findings.

Finally, Hypothesis 4 was supported by the data. Most of the faculty advisors felt that publishing in the Psi Chi Journal was beneficial in a number of ways. They mentioned that students had a better grasp on the publication process as well as the

research process. Additionally, the faculty advisors reported that publishing in the Psi Chi Journal enhanced their students' graduate school applications. In fact, a significant number of the faculty advisors also believed publishing in the Psi Chi Journal helped their students gain acceptance to graduate school. Many of the faculty advisors also felt that supervising a student publication was beneficial to themselves. They indicated that the experience was enjoyable because they facilitated their students' personal and academic growth. Several faculty advisors also mentioned that their departments encouraged them to supervise student publications.

Student Perceptions

The qualitative nature of this study warrants including a narrative of the participants' responses. The student surveys asked participants to explain why they chose specific professional development activities. The following comments are representative of the combined student sample.

- Publications were a great source of motivation to conduct research, and then see the fruits of your efforts in print.
- Really good instructors also motivated me to learn more and strive to be a more involved and competent researcher.
- The Honors Thesis helped me understand the process of doing an independent study from conception to publication.
- Participating in conferences taught me presentation skills and allowed me to interact with others in the field.
- The experience that initially piqued my interest in the field of psychology is the exposure to the content of the field itself and the dynamic presentations

and lectures of my instructors. It was the high quality teaching and caring nature of my professors that inspired me to pursue graduate studies.

- I developed a love and passion for research and statistical methods.
- They gave me real life experiences actually "doing" what I had learned in classes.
- The internship was important as it provided me with a real world view and application of what I was learning in the classroom.

It is clear from the students' comments that they have gained much through participating in professional development activities such as research and internships. They acquired skills such as developing research topics, conducting research, doing statistical analysis, and presenting and publishing research. Many students also mentioned being highly motivated and passionate about being involved in research. Finally, students highly valued their relationships with faculty members.

Faculty Perceptions

It is equally important that faculty advisors' comments are included in a descriptive narrative. The following comments expand on how publishing is beneficial to students.

- It is good experience to respond to reviewer comments, and publication looks good on a student's record
- Student had to revise the paper for an audience other than myself. He had to explain complex theoretical issues for a general psychology audience.
- The experience required refinement of his paper to a degree he would not otherwise have achieved.

- The student who published was admitted to several graduate programs, despite low GRE scores. Further, I think the entire experience honed her writing skills and her knowledge of APA style.
- The students took great pride in their publication.

Faculty advisors mentioned many of the same skills that students mentioned. For example, both groups mentioned developing a greater understanding of the research and publication process. Faculty members also mentioned that students improved their writing skills, knowledge of psychological concepts and knowledge of APA style. Finally, faculty advisors mentioned being involved in research-related activities enhances students' attractiveness to graduate selection committees.

The following comments expand on how supervising a student publication is beneficial to faculty advisors.

- Helping facilitate student growth is one of the richest rewards in teaching.
- My own knowledge of APA style was improved. Further, I think that I developed a closer relationship with the student.
- There is more of a "colleague" relationship between teacher and student in this context which I find very gratifying.
- It looks good on my Vitae and I enjoy working with students completing research projects.

Both faculty advisors and students value their mentor-protégé relationships. Faculty advisors also seem to find working with students and facilitating their professional growth rewarding. Some universities value faculty members who support

and encourage student research. Perhaps these examples will encourage other universities to follow suit.

Recommendations to Psi Chi

Because the student participants were all members of Psi Chi, they had several good suggestions to offer Psi Chi. The most common recommendation to Psi Chi was to encourage and offer more opportunities to be involved in research. Specifically, students wanted to have more student conferences and symposiums. Given that many students and faculty advisors indicated being involved in research enhanced students' attractiveness to graduate programs, it would be beneficial to Psi Chi members to be involved in research-related activities as early in their undergraduate careers as possible. Faculty advisors mirrored the student responses in that they also frequently mentioned conducting and presenting research as important for professional development. Many participants praised Psi Chi for the many opportunities available but also encouraged Psi Chi to increase the number of opportunities to be involved in research.

Some additional recommendations included offering information about careers and graduate schools. Some students felt it would be beneficial if Psi Chi would publish a ranked list of graduate schools across the country that include information about acceptance rates, tuition, etc. Participants also requested that Psi Chi offer information about careers in psychology for students with bachelor's through doctoral degrees. Psi Chi members feel uninformed about their options and are turning to Psi Chi for assistance.

Both students and faculty advisors frequently mentioned hands-on experience in the form of undergraduate internships or volunteering. Psi Chi may be able to fill this

request by offering internships or providing information about volunteer organizations around the country.

Several of the participants, both students and faculty advisors, praised Psi Chi's efforts in helping students develop professionally. A few participants specifically mentioned that the Psi Chi Journal made the publication process "user friendly" and was a real learning experience for the students.

Limitations

Some persons may see the qualitative nature of the study as a limitation. It may be beneficial to design a more quantitative questionnaire for future research in this area. Quantitative data (e.g., Likert-type scale) may add to the research literature in ways this research did not. For example, one may be able to get a more accurate measure of the impact of being involved in professional development activities using a Likert scale that rates the importance of the various activities.

Additionally, the response rate was low for this study; 33.09% for students who had published, 21.36% for students who had not published, and 49.11% for faculty advisors. Finally, the responses to the open-ended questions were coded by only one individual, consequently inter-rater reliability was not established. Future studies should attempt to increase the response rate and use more than one individual to code responses on open-ended questions.

It is appropriate to conclude with a caveat emptor. The nature of the two samples makes generalization tenuous, at best. The fact that the published group included several postbaccalaureate students makes it difficult to offer any definitive conclusions concerning the benefits of students publishing as undergraduates.

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Appendix A

Copy of the Student Questionnaire

Student Questionnaire

Instructions: Please respond to the following questions to the best of your knowledge. All responses will be kept confidential. After completing the questionnaire please place it in the self-addressed stamped envelope and place in the mail. Thank you for participating.

1. What is your age? _____
2. What is your gender? (Circle one) Female Male
3. What is your classification? (Circle one) 4. What is your ethnic background? (Circle one)

| | |
|---|-----------------------------|
| Freshman | Caucasion |
| Sophomore | African-American |
| Junior | Asian-American |
| Senior | Hispanic |
| Graduate, please specify year in program _____ | Native American |
| | Other, please specify _____ |

5. Are you a member of Psi Chi? (Circle one) Yes No

6. Have you published any original research? (Circle one) Yes No

If so, in what journal did you publish? _____

7. As an undergraduate, what were the three most important experiences you had that influenced your professional development as a psychology student/psychologist?

8. Please explain why each of these activities was important.

9. What impact did the professional experiences you described in #6 have on your current professional activity/job?

10. How can Psi Chi help implement additional professional development experiences?

Appendix B:
Copy of the Faculty Advisor Questionnaire

Faculty Advisor Questionnaire

Instructions: Please respond to the following questions to the best of your knowledge. All responses will be kept confidential. After completing the questionnaire please place it in the self-addressed stamped envelope and place it in the mail. Thank you for participating.

1. What is your gender? (Circle one) Female Male
2. What is your ethnic background? (Circle one)
Caucasian
African-American
Asian-American
Hispanic
Native American
Other, please specify _____
3. Approximately how many Psi Chi students do you advise per year? _____
4. How many of those students have submitted to the Psi Chi Journal of Undergraduate Research? _____
5. Do you believe the process of publishing in the Psi Chi Journal was beneficial to the student(s) you have supervised? Please explain your answer.

6. Was the process of supervising a student publication for the Psi Chi Journal beneficial to you? Please explain your answer.

Appendix C

Copy of Published Student Cover Letter

February 23, 2001

«Authors_First_Name» «Authors_Last_Name»
«Authors_Address».
«City1» «State1» «PostalCode1»

Dear «Authors_First_Name» «Authors_Last_Name»:

I am asking for your assistance and participation in my Master's thesis project. The purpose of the project is to contact students who have published in the Psi Chi Journal of Undergraduate Research and examine their perceptions of professional development. I also intend to explore the perceptions of the students' faculty advisors.

Please complete and return the enclosed student questionnaire. I will be contacting your faculty advisor to complete a faculty advisor questionnaire as well.

Please return the questionnaire in the enclosed prepaid envelope no later than March 16, 2001. Feel free to contact me (316-341-5803 or jenlynnthom@yahoo.com) if you have any questions or concerns regarding the project. If you are interested in receiving the results of the study please write either your mailing address or your email address on the questionnaire. Thank you for your participation. It is greatly appreciated!

Sincerely,
Jennifer Thomas

Appendix D

Copy of the Faculty Advisor Cover Letter

February 23, 2001

«Advisors_First_Name» «Advisors_Last_Name»
 «University»
 «Advisors_Address».
 «City1» «State1» «PostalCode1»

Dear Dr. «Advisors_Last_Name»:

I am asking for your assistance and participation in my Master's thesis project. The purpose of the project is to determine how the perceptions of professional development differ between students who have published in the Psi Chi Journal of Undergraduate Research and students who have not published. I also intend to explore the perceptions of the students' faculty advisors.

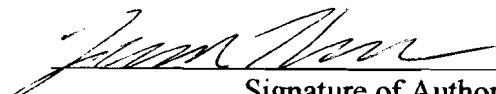
I have enclosed three questionnaires and three prepaid envelopes. You should have two student questionnaires and one faculty advisor questionnaire. I am requesting that you forward one of the student questionnaires to «Authors_First_Name» «Authors_Last_Name» who has recently published an article under your supervision in the Psi Chi Journal. I am also asking you to contact **another** student, who is a member of Psi Chi and is comparable to «Authors_First_Name» «Authors_Last_Name» but who **has not** published, to complete the second student questionnaire. Finally, I am asking you to complete and return the faculty advisor questionnaire.

Please return, and ask your students to return the questionnaires no later than March 16, 2001. Feel free to contact me (316-341-5803 or jenlynthom@yahoo.com) if you have any questions or concerns regarding the project. If you are interested in receiving the results of the study please write either your mailing address or your email address on the questionnaire. Thank you for your participation. It is greatly appreciated!

Sincerely,
 Jennifer Thomas

Permission to Copy

I, Jennifer L. Thomas, hereby submit this thesis to Emporia State University as partial fulfillment of the requirements for an advanced degree. I agree that the Library of the University may make it available for use in accordance with its regulations governing materials of this type. I further agree that quoting, photocopying, or other reproduction of this documents is allowed for private study, scholarship (including teaching) and research purposes of a nonprofit nature. No copying which involves potential financial gain will be allowed without written permission of the author.

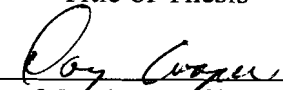

Signature of Author
8-2-01
Date

Does Publishing as an Undergraduate

Enhance Professional Development:

Perceptions of Students and Mentors?

Title of Thesis


Signature of Graduate Office Staff Member

August 7, 2001
Date Received

original