

GRADUATE SCHOOL READINESS IN PSYCHOLOGY: A NATIONAL STUDY

By

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A THESIS PRESENTED TO THE GRADUATE SCHOOL
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Abstract of Thesis Presented to the Graduate School
of the University of Florida in Partial Fulfillment of the
Requirements for the Degree of Master of Science

GRADUATE SCHOOL READINESS IN PSYCHOLOGY: A NATIONAL STUDY

By

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Major Department: Psychology

The increased demand for admissions into graduate school in psychology programs has placed greater pressure on undergraduate programs to provide informed and effective graduate school guidance and preparation. Previous studies have begun to identify the limited knowledge that students have about the requirements, procedures, and components of a graduate school application. The present study provides a multi-site assessment of graduate preparation. A total of 590 undergraduate psychology majors across the United States reported the mechanisms they used to prepare themselves for their graduate school applications, and their overall levels of self-efficacy and knowledge concerning the graduate school application process, using the Grad Prep Quiz. Results examine the nature and patterns of graduate school preparation over the course of undergraduate education in psychology

CHAPTER 1 INTRODUCTION

The number of undergraduates graduating with a degree in psychology has increased 93% in the last three decades (National Center for Education and Statistics, 2001) with 59% of this increase occurring since the mid 80's (McDonald, 1997). This significant increase has translated into a growing interest in graduate training in the field, as well. Overall, the number of master's degrees in psychology has increased 166% over this period of time (National Center for Education and Statistics, 2001) with the number of doctoral degrees conferred having increased by more than 60% (A National Organization for Research at University of Chicago, 2001). This substantial increase in interest in graduate training is accompanied by a growing demand for information and guidance regarding graduate study in the discipline. However, traditional mechanisms for providing this information (e.g., faculty mentoring; informal contact with psychology faculty; "getting into graduate school" meetings) have not adequately supported this burgeoning demand, leaving many aspiring graduate students poorly informed or prepared in relation to the understanding and development of their graduate school applications (Neimeyer, Lee, Saferstein and Pickett, 2004).

Research attention has only recently turned towards understanding the extent of undergraduates' knowledge and preparation regarding graduate study and graduate admissions procedures. In one such study Cashin and Landrum (1991) found that while 97% of the students they surveyed recognized overall GPA as important criteria for admission into graduate school, little more than 50% of the respondents mentioned the

importance of letters of recommendation and GRE scores. In addition, less than a third (30%) identified research experience as an important consideration, and an even fewer (11%) recognized the personal statement as an important criteria in graduate school admissions. Cashin and Landrum (1991) concluded that while students may be familiar with the marquee, numerical graduate admissions' indicators, they generally underestimate the relative importance of the wide range of secondary criteria that are often critical to successful graduate admissions. Subsequent work supported their claim by indicating the importance placed on these secondary indicators by a wide range of graduate programs that are forced to make distinctions among applicants who are increasingly strong along primary indicators such as GPA and GRE scores (Landrum, Jeglum & Cashin, 1994).

Given the weight of these second-order criteria in graduate admission decisions, Keith-Spiegel, Tabachnick, and Spiegel (1994) developed a 31-item survey to explore the relative importance of many of the other variables used by doctoral program selection committees in making acceptance decisions. Results indicated that published research experience was ranked highest, on average, followed by the match between student and program, and then professional paper presentations. Other top variables were faculty interest in working with the student, and the clarity and focus of the student's letter of purpose, in addition to experience as a research assistant. Together with the earlier findings of Landrum et al. (1994), these results highlight the value of students' awareness of the full range of graduate admissions' criteria, beyond GPA and GRE scores.

This work is further supported by the recent efforts of Briihl (2001) who offered additional evidence regarding undergraduates' lack of adequate graduate school

knowledge. Consistent with earlier work (Cashin and Landrum, 1991; Landrum et al., 1994), Briihl (2001) found that while students perceived the importance of objective criteria for gaining admission to graduate school, such as GPA and GRE, they often were unaware of the specific values that graduate schools were looking for in relation to these criteria, as well as a range of other qualitative indicators of probable graduate school success. For example, when asked about what GRE scores might be needed for graduate admission, 63% of the sophomores and juniors responded with “don’t know” or left the question blank. In addition, students in Briihl’s (2001) study underestimated the importance of the graduate interview, while overestimating the importance of undergraduate internships, relative to research experience, letters of recommendation and personal statements. The overall pattern of Briihl’s (2001) findings supports the earlier conclusion of Landrum et al. (1994): “While students may have some awareness of the quantitative and qualitative factors used in the process, most are probably unaware of the situational factors (e.g. match between student and faculty research interests, student competitiveness for fellowships/scholarships) that govern decision making”(p. 246). Recent work by Neimeyer et al. (2004) suggests the scope of this problem. In the process of developing a standardized measure of graduate school preparation, The Grad Prep Quiz, Neimeyer et al. (2004) found that 67% of the 248 psychology students in their sample were unaware of the average GPA of applicants who were successfully admitted into doctoral study in the discipline, and 82% could not identify the GRE scores of successful applicants to graduate programs.

Given the developing consensus in the field regarding the lack of adequate knowledge regarding graduate applications in psychology, it appears that students would

benefit from additional resources and guidance in this regard. Johanson and Fried (2002) have noted that both students and alumni have reported their interest in having more opportunities and assistance in the preparation and planning of their careers (Ogletree, 1999; Sheehan, 1994; Sheehan and Granrud, 1995). In attempting to build mechanisms to help bridge this gap in graduate school knowledge, Briehl (2001) has suggested that faculty begin developing career education courses, create graduate information handouts and websites, and encourage students to visit career resource centers, career advisors, or psychology club meetings. Likewise, Buskist (1999) and Arnold and Horrigan (2002) have suggested that involvement in psychology organizations such as Psi Chi can be a critical part of graduate school preparation, given that Psi Chi provides networking with others of similar interests and can be helpful in supporting the process of graduate school preparation and selection.

While useful, the value of these recommendations can be best gauged against a clear understanding of what students currently do to prepare themselves for the process of graduate application. Relatively little attention has been directed to this topic, with a few notable exceptions. For example, Sheehan and Granrud (1995) surveyed undergraduate psychology students and alumni regarding their overall satisfaction with their undergraduate education. Results revealed that students and alumni both reported high satisfaction with advisor availability and helpfulness, although they rated faculty assistance in planning a postgraduate career and the opportunity to participate in faculty members' research least favorably. In addition, the most frequently suggested improvements by alumni and seniors in the study were to provide more advising on

careers and graduate school, a result that is supported by related findings by Neimeyer et al. (2004).

Perhaps the most detailed assessment to date regarding the resources students utilize to inform themselves about graduate school applications comes from the work of Ogletree (1999). Ogletree (1999) mailed questionnaires to recent psychology graduates to assess the use and perceived value of various sources of career guidance and information. Results indicated that 29% of the students utilized their departmental faculty; 25% used the “Guide for Psychology Majors” (an office booklet); 22% used the departmental advisor; and 20% used career services. A smaller proportion of students made use of other services such as attending programs by Psi Chi (13%), a Careers in Psychology Alumni Speaker series (13%), or career advising sessions (13%). Overall, these various resources were viewed as quite helpful, though the majority of students did not report accessing any of these resources. In concluding this work, Ogletree (1999) noted that “providing opportunities for career information does not guarantee that students will take advantage of available resources” (p. 44). Greater publicity and faculty support of career-related programs are vital to their success and to their utilization, and Ogletree (1999) recommended more concerted departmental marketing as a means to maximize the value and impact of available graduate school preparation services.

The present study builds on the collective efforts of earlier work in this area by attempting to identify the range of resources students currently access in preparing their applications for graduate study in psychology within the context of a large-scale, national sample. In addition, by utilizing a standardized measure of graduate preparation, the Grad Prep Quiz, we hope to be able to identify national norms and to explore changes in

graduate preparation over the course of undergraduate training. Identifying the resources that students utilize, and tracking their preparation over the course of their undergraduate training, could provide useful insights into mechanisms of potential intervention, as well as the ideal times to provide those interventions. The purpose of this study then, was to provide a large-scale, multi-site assessment of graduate school preparation in psychology and the resources utilized in support of that preparation.

CHAPTER 2 METHODS

Participants

A total of 590 undergraduate psychology majors (489 females and 101 males) from 41 universities completed an online graduate preparation survey (See Appendix B.). Of the undergraduates who provided their year in college status, 33 were freshmen, 115 were sophomores, 184 were juniors, and 251 were seniors. The majority of the participants were Caucasian ($N = 490$, 83.2 %) followed by Hispanic ($N = 30$, 5.1 %), Asian American ($N = 25$, 4.3 %), African American ($N = 19$, 3.2 %), and other ($N = 25$, 4.3 %). The mean age for the students was 21.98 ($SD = 4.43$). For the number of participants by university (See Table 1).

Table 2-1 Participation by University

University	<i>N</i>
Albertson College	4
American University	28
Barry University	7
Bridgewater College	7
California State University	19
Catholic University of America	11
Drury University	8
Emory and Henry College	5
Eckerd College	8
Georgia Tech	5
Immaculata University	6
Iowa State University	54
Lehman College- CUNY	8
Davidson College	7
Loyola College	42
Maryville College	10
Minnesota State University	10
New Mexico State University	14

Table 2-1 Continued

University	<i>N</i>
Park University	8
Saint Joseph's University	17
Saint Bonaventure University	18
Samford University	21
Santa Clara University	28
Stephens College	4
Southwest Baptist University	17
Southwest Minnesota State	7
Susquehanna University	21
Southern Louisiana University	5
Texas Tech	31
University of Akron	5
University of Alabama	13
University of Colorado	9
University of Delaware	4
University of Hawaii – Manoa	6
University of Minnesota	20
University of Pittsburg	5
University of Texas	27
Vassar College	12
Washington and Lee University	8
Wayne State University	6
Wright State University	3

Instruments

Participants completed the Grad Prep Quiz and a demographic and self-evaluation instrument.

Grad Prep Quiz

The Grad Prep Quiz (Neimeyer et al. 2003) consists of a 25-item self-report measure assessing an individual's degree of knowledge and preparedness regarding graduate study in psychology. The instrument includes items designed to assess self-efficacy and knowledge. The 10 self-efficacy questions are recorded on a scale of 1(not confident) to 5 (highly confident) e.g., "I know how to assess my strengths and to find the best graduate program for my particular interest." The 15 knowledge questions are presented in a multiple-choice format , e.g., "Which of the following best describes the

difference(s) between a PhD and a PsyD? a) the PhD is a research degree and a PsyD is a practice degree, b) a PhD program can be APA-approved whereas a PsyD cannot, c) a PhD can be licensed to practice psychology but a PsyD cannot, d) all of the above. The Grad Prep Quiz generates two separate subscale scores, one for self-efficacy and one for knowledge. The first score is the sum of the responses to the 10 self-efficacy questions, (possible range 10-50), with higher scores indicating stronger confidence in one's graduate preparation. The second score is the sum of the correct responses to the 15 multiple-choice knowledge items. Scores can range from 0 to 15, with higher scores reflecting higher levels of graduate school knowledge and preparedness (See Appendix B).

Demographic and Self-Evaluation Instrument

The participants' demographic and self-evaluation instrument included general demographic items such as age, gender, ethnicity, major, year in school, university attended and overall GPA, as well as questions intended to gain information about participants' interest in and experiences related to graduate school preparation. Some of these questions tapped into graduate school plans like; including whether they were planning to go to graduate school in psychology, the degree they planned to pursue (e.g. M.A. or M.S., Ph. D, Psy. D), and their intended area of study (e.g. Clinical). Other questions addressed the mechanisms students utilized in their graduate school preparation, such as whether or not they had taken a graduate preparation course, seminar, or preparation meeting, what kind of services they had utilized in preparing for graduate school in psychology (e.g. talked to a professor). The last few questions dealt with activities undergraduates might be involved in to improve their chances of admission such as, whether or not they were involved in Psi Chi or psychology club, how

many semesters of research had they completed, whether they had volunteered in the community, any publications, senior thesis plans, conference presentations, etc. To examine the nature of student involvement in graduate preparation activities, we developed a preparation activities variable. This variable was the sum of student responses to questions from the demographic sheet about 13 graduate preparation activities (e.g., whether they had completed a graduate preparation course, attended getting into graduate school seminar, talked with departmental advisors, utilized a graduate school preparation book (e.g., *Graduate Study in Psychology*), talked with their professors about graduate school, visited the Career Resource Center, had an ongoing mentor, involvement in Psychology club, conducted research, volunteered in the community, authorship on publications, conference presentations, and writing a senior thesis). The scores for this variable can range from 0-14, with higher scores indicating more involvement in graduate preparation activities. To examine career clarity, participants completed a likert-scale question addressing how clear they felt their career goals were in relation to postgraduate plans in psychology, using a scale of 1(very unclear) to 5 (very clear) (See Appendix B).

Procedure

We solicited participation by contacting all Psi Chi chapters in the country through the National Psi Chi chapter email list. Of the 41 chapters that agreed to participate (4%), we asked each chapter coordinator to obtain approval to distribute our Graduate Preparation Survey materials to the psychology list-serv (See Appendix A and B). Undergraduate psychology students on the list-serv were invited to participate in a study of “Graduate School Readiness in Psychology” and given a short description and a link to the survey (See Appendix A). Once students accessed the website, they read and

electronically signed an informed consent, completed a short demographics section, and then the Grad Prep Quiz. At the end of the survey students submitted their answers electronically to our online database. Participation took approximately 20 minutes.

CHAPTER 3 RESULTS

In order to explore the levels of graduate preparation, the nature of graduate school preparation, and the relationship between them, three sets of analyses were conducted. The first set addressed overall Grad Prep scores (self-efficacy and knowledge), and possible changes in these over the course of undergraduate training. The second addressed an account of the particular graduate preparation resources and mechanisms students used to prepare themselves for their graduate applications. And finally, the third set of analyses addressed the relationships among these variables.

Graduate Preparation Levels

This set of analyses examined whether undergraduates would exhibit significantly higher Grad Prep Quiz scores on both domains (efficacy and knowledge) of graduate preparation as they approached graduation. A between subjects ANOVA was conducted with Grad Prep Quiz Efficacy as the dependent variable and year in college as the independent variable. A second between subjects ANOVA was conducted with Grad Prep Quiz Knowledge as dependent variable and year in college as the independent variable.

The first ANOVA revealed a significant main effect of year in college for efficacy $F(3, 578) = 14.21, p < .001, \eta^2 = .069$. To examine the location of the differences, Bonferroni corrected Post Hoc pairwise comparisons were conducted and revealed a significant difference between seniors and all other groups. An examination of the marginal means revealed the direction of the differences, with Seniors ($M = 31.03$)

reporting significantly higher efficacy scores than freshmen ($M = 25.97$), sophomores ($M = 26.27$) or juniors ($M = 27.48$). All other groups did not differ significantly from one another.

The second ANOVA revealed a significant main effect of year in college for knowledge $F(3,578) = 2.676$, $p < .001$, $\eta^2 = .014$. To examine the location of the differences, Bonferroni corrected Post Hoc pairwise comparisons were conducted and revealed a significant difference between seniors and sophomores for knowledge. An examination of the marginal means revealed the direction of the differences, with seniors ($M = 7.62$) exhibiting significantly higher knowledge scores than sophomores ($M = 6.91$). All other groups did not differ significantly from one another. For a collective representative of means and standard deviations (See Table 3-1).

Table 3-1 Means and Standard Deviations for Efficacy and Knowledge Scores by Year in College

Year in College	Efficacy		Knowledge		N
	M	SD	M	SD	
Freshmen	25.96	6.45	6.48	6.38	33
Sophomore	26.26	7.73	6.13	3.71	115
Junior	27.48	7.64	6.91	4.32	184
Senior	31.03	7.97	7.62	4.91	250

Psi Chi Membership

This analyses examined whether undergraduates who were members of Psi Chi would exhibit significantly higher Grad Prep Quiz scores on both domains (efficacy and knowledge) of graduate preparation, than would non-members. The MANCOVA was conducted with Grad Prep Quiz Efficacy and Knowledge subscales as dependent variables and membership in Psi Chi as the independent variable. Given the relationship between membership in Psi Chi and year in college, Chi Square $(3, 560) = 72.59$, $p <$

.001, year in college was then utilized as a covariate. This analysis revealed a significant effect for Psi Chi membership $F(2, 556) = 5.36, p = .005, \eta^2 = .019$. The partial eta squared coefficient suggests a small effect of the predictor.

We conducted follow-up univariate ANOVAs to examine the location of significant effects. A significant main effect of Psi Chi membership was found for efficacy $F(1, 557) = 6.48, p = .011, \eta^2 = .012$. Bonferroni corrected Post Hoc pairwise comparisons were conducted and an examination of the marginal means revealed the direction of the differences. For efficacy, Psi Chi members ($M = 29.68$) reported significantly higher efficacy scores than non members ($M = 27.89$).

A significant main effect of Psi Chi membership was also found for Knowledge $F(1, 557) = 3.99, p = .046, \eta^2 = .007$. Bonferroni corrected Post Hoc pairwise comparisons were conducted and an examination of the marginal means revealed the direction of the differences. For knowledge, Psi Chi members ($M = 7.53$) had significantly higher knowledge scores than non members ($M = 6.65$).

Post Hoc Analyses

Related analyses examined whether Psi Chi membership would be associated with involvement in a significantly higher number of graduate preparation activities. In addition, we also examined whether members would have greater clarity of goals. The MANOVA was conducted with preparation activities (e.g., taking a graduate preparation course) and clarity of goals as dependent variables and degree, as the independent variable. This analysis revealed a significant multivariate effect for Psi Chi Membership $F(2, 562) = 37.77, p < .001, \eta^2 = .118$. The partial eta squared coefficient suggests a small effect of the predictor.

We conducted follow-up univariate ANOVAs to examine the location of significant effects. A significant main effect of Psi Chi membership was found for preparation activities $F(1, 563) = 73.35, p < .001, \eta^2 = .115$. Bonferroni corrected Post Hoc pairwise comparisons were conducted and an examination of the marginal means revealed the direction of the differences. For preparation activities, Psi Chi members were involved in significantly more activities ($M = 5.55$) than nonmembers ($M = 3.85$).

A significant main effect of Psi Chi membership was also found for clarity of goals $F(1, 563) = 16.81, p < .001, \eta^2 = .029$. Bonferroni corrected Post Hoc pairwise comparisons were conducted and an examination of the marginal means revealed the direction of the differences. For clarity of goals, Psi Chi members reported significantly higher clarity ($M = 3.52$) than students not involved in Psi Chi ($M = 3.13$).

Effects of Graduate Degree Program

This set of analyses examined whether differences in the anticipated degree program would predict the number of preparation activities students were involved with and clarity of their goals. The MANOVA was conducted with preparation activities and clarity of goals as dependent variables and planned degree, as the independent variable. This analysis revealed a significant multivariate effect for planned degree $F(4, 1044) = 6.79, p < .001, \eta^2 = .025$. We conducted follow-up univariate ANOVAs to examine the location of significant effects. A significant main effect of planned degree was found for preparation activities $F(2, 522) = 11.79, p < .001, \eta^2 = .043$. Bonferroni corrected Post Hoc pairwise comparisons were conducted and revealed significant differences between students planning to pursue a master's and students planning to pursue a Ph. D. After examining the marginal means, the direction of the differences indicated students who planned to pursue a Ph. D ($M = 5.90$) were involved in significantly more activities than

students who planned to pursue a Master's (M = 4.77). Students planning to pursue a Psy. D (M = 4.38) did not differ significantly from either group.

A significant main effect of planned degree was also found for clarity of goals $F(2, 522) = 5.716, p = .004, \eta^2 = .021$. Bonferroni corrected Post Hoc pairwise comparisons were conducted and again revealed significant differences between students planning to pursue a master's and students planning to pursue a Ph. D. After examining the marginal means, the direction of the differences indicated students who planned to pursue a Ph. D (M = 3.51) exhibited significantly more clarity of goals than students planning to pursue a Master's (M = 3.16). Students planning to pursue a Psy. D (M = 3.30) did not differ significantly from either group. In addition to examining differences in the number of preparation activities students were involved in by degree, we also examined the percentage of students involved in each preparation activity by degree (See Table 3-2).

Table 3-2 Graduate Preparation Activity Percent Involvement by Degree
Degree

Activities	Masters (n = 208)	Psy. D (n = 52)	Ph. D (n = 265)
Research	67%	61%	72%
Volunteer	26%	35%	33%
Senior Thesis	38%	39%	53%
Journal Publication	2%	0%	7%
Conference Presentation	12%	8%	25%

Correlations Among Variables

To assess the relationship between students' clarity of goals and Grad Prep Quiz efficacy and knowledge scores, Pearson Product Moment correlations were conducted. Results revealed a significant correlation between students' clarity of goals and self-efficacy scores ($r = .479, p < .001$), but not the correlation between students' clarity of

goals and knowledge scores ($r = -.008, p = .847$). Additional Pearson correlation coefficients were conducted to assess the relationship between students' clarity of goals and the utilization of an ongoing faculty mentoring relationship. Results revealed a significant correlation ($r = .237, p < .001$). Results also revealed a significant correlation between having an ongoing faculty mentor and students' self-efficacy scores ($r = .323, p < .001$).

We additionally conducted a Pearson Product Moment correlation to examine the relationship between student involvement in graduate preparation activities and Grad Prep Quiz efficacy and knowledge scores. Results revealed a significant correlation between student involvement in graduate preparation activities and self-efficacy scores ($r = .406, p < .001$), although the correlation between student involvement in graduate preparation activities and knowledge scores was not significant ($r = .057, p = .165$).

Additional correlations can be seen in Table 3-3.

Table 3-3 Intercorrelations Between Graduate Preparation Activities and Criteria

	Preparation activities	Efficacy	Knowledge	GPA	Clarity of Goals
Preparation activities					
Efficacy	0.41**				
Knowledge	0.06	0.02			
GPA	0.33**	0.15**	0.08*		
Clarity of Goals	0.35**	0.48**	-0.01	0.13*	

- $p < .05$, ** $p < .01$

Descriptive Statistics Regarding Preparation

To assess student utilization of graduate preparation resources, given previous research indicating student interest in additional guidance (Ogletree, 1999; Sheehan, 1994; Sheehan & Granrud, 1995) and the need for alternative mechanisms of guidance

(Buskist, 1999; Dodson, Chastain and Landrum, 1996, Neimeyer et al. 2004), we conducted item analyses to examine student usage in our sample. Results revealed that students interested in obtaining graduate school guidance were most likely to visit a psychology department academic advisor or talk to a faculty professor (69%).

Approximately 50% of students in the current study had developed an ongoing relationship with a faculty mentor and 41% had utilized a graduate preparation book to gain information about graduate school preparation and application. Roughly 25% of students in the sample had visited their university Career Resource Center or attended a seminar or “getting into graduate school meeting”. Less than 5% percent of students had taken a graduate preparation course.

We also examined student membership and involvement in extracurricular graduate school related preparation activities. Results indicated more than 68% of students had completed at least one semester of research and 45% of students indicated they had or planned to write a senior thesis, although only 17% of students had presented at a conferences and less than 5% had been an author on a publication. In relation to student involvement in psychology organizations, 51% of students indicated that they were involved in Psi Chi and 36% were involved in the Psychology Club. Lastly, 29% of students indicated they were involved in volunteering in the mental health community. For a collective representation of these results see Table 3-4.

Table 3-4 Student Responses to Graduate Preparation Activities

<u>Graduate Preparation Activities</u>	<u>N</u>	<u>Percentage of students responding “yes”</u>
Visited your psychology department academic advisor	590	69.5
Talked to your professors a few times	590	68.6
Developed an ongoing relationship with a faculty advisor or mentor	590	50.3

Table 3-4 Continued

Graduate Preparation Activities	N	Percentage of students responding "yes"
Read books on preparing for graduate school in psychology	590	41.5
Visited your University Career Resource center	590	25.5
Have you taken or attended a seminar or getting into graduate school meeting?	584	25.2
Have you taken or attended a graduate preparation course?	569	4.6
Memberships and Qualifications		
Have you been involved in at least one semester of research?	524	68.3
Are you a member of Psi Chi?	567	51.7
Do you plan on writing a senior thesis?	584	44.9
Are you a member of the Psychology Club?	517	36.2
Are you involved in volunteering in the mental health community?	588	28.6
Have you presented at any conferences?	587	17.0
Do you have any publications?	587	4.1

CHAPTER 4 DISCUSSION

The purpose of this study was to address the need for research examining undergraduates' confidence and knowledge regarding graduate school preparation and application, and the kinds of services students utilize to gain this information in a diverse undergraduate psychology population. Consistent with previous research (Cashin & Landrum 1991; Briihl 2001; Neimeyer et al. 2004) we found support for findings suggesting undergraduates have widely variable levels of information regarding graduate school preparation and application. Also consistent with Neimeyer et al. (2004), findings indicated that this knowledge increases gradually as undergraduates approach graduation. Findings from the current study also revealed that, consistent with higher levels of knowledge, as undergraduates approach graduation they have higher levels of self-reported confidence in relation to graduate school preparation and application. While the current findings imply longitudinal changes in undergraduates' knowledge and confidence in relation to the graduate school preparation process, a cautionary note must be made when interpreting the results, given the cross-sectional nature of the current study's data.

In addition to finding general support for undergraduates' lack of adequate graduate school knowledge, a number of additional findings emerged. First, findings indicated the potential benefits of involvement in psychology-related extra curricular activities such as Psi Chi. Student members not only felt significantly more efficacious in relation to graduate school preparation and application, but also had significantly higher levels of

graduate preparation knowledge than students that were not involved in such activities. One possible explanation for these findings is Psi Chi's commitment to making students aware of the importance of getting involved with volunteer and research opportunities, and making connections with graduate students and faculty (e.g. graduate student/faculty talks, getting into graduate school seminars). Thus, these findings provide potential support for having psychology departments encourage student involvement in such programs.

Another interesting finding emerged in relation to clarity of goals. Findings indicated that students' involvement in groups such as Psi Chi and Psychology club were related to significant differences in students' clarity of goals. Members in these groups were significantly more clear in their goals in relation to graduate school and careers in psychology, again providing support for the potential benefits of membership in these clubs. Additional findings supported the benefit of ongoing relationships with department faculty. Findings indicated that having an ongoing relationship with psychology faculty was significantly positively correlated with not only students' clarity of goals, but levels of efficacy regarding graduate school preparation and application. These results support the importance of opportunities for undergraduates to be involved in activities that provide continuity regarding graduate school guidance, rather than the piecemeal fashion of traditional methods (e.g. getting into graduate school meetings, isolated informal contact with faculty) (Neimeyer et al. 2004).

Overall, the current study adds to the literature examining what undergraduates know in relation to graduate school preparation and application, and the services they utilize to gain this information, although limitations must be considered when examining

these results. Foremost among these limitations are the nature of the sampling procedure, the self-report nature of the data, and the essentially correlational nature of the study.

A major limitation of the current investigation's sampling procedure is a lack of published research on the process of online data collection and support for its validity and reliability, in addition to the psychometric implications of changing a survey from traditional paper-and pencil to an electronic format. Additionally, researchers have raised concerns regarding the representativeness of the sample and the potential for selection bias (e.g., only participants who have regular access to a computer). Lastly, participants may not all be equally computer literate or have access to investigators for clarification of confusing material, leaving questions open to interpretation and incorrect responding.

Investigators must also consider the issues of self-report in their interpretation of the current study's results. One consideration is the evaluative nature of graduate preparation, which may cause participants to present themselves as more efficacious, prepared or involved in graduate preparation activities. This has the potential to distort the actual nature of graduate preparation and involvement, and consequently the results of our study. Lastly, while the correlational nature of the current study's findings suggest possible relationships among preparation activities, clarity of goals and graduate preparation efficacy and knowledge, they do not provide direct evidence of improved graduate application materials or increased acceptance into graduate programs of choice. Future research may benefit from examining graduate preparation in the context of more behavioral indicators of success (e.g. admission offers).

Within the context of these limitations, the goal of this study has been to clarify the nature of current graduate school preparation activities among undergraduate psychology

majors, to assess the relationship among graduate preparation variables, and to support further work in this area. As interest in graduate work in psychology continues to increase, the value of a better understanding of the processes and procedures of graduate preparation will increase, as well. The current work hopes to draw attention to this issue and encourage further work along these lines.

APPENDIX A
SOLICITATION LETTER

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April 21, 2004

To Whom It May Concern:

My name is Geoffrey Lee and I am a first year counseling student in the counseling psychology doctoral program at the University of Florida. I am currently conducting a study of graduate preparation under the supervision of Dr. Greg Neimeyer. Given the competitiveness of graduate school admissions in psychology, it is becoming increasingly important for students to be adequately prepared. As students face the preparation process for graduate school, they are often uninformed about where to begin to develop an effective application package and how to get into the graduate program of their choice. Related to these concerns, the current study's goal is to assess the national levels of readiness among undergraduates for graduate study in psychology. We would like to offer students the opportunity to participate in our study. If interested, they can complete the "Grad Prep Quiz," a 15-minute online survey assessing graduate school readiness. At the completion of the study, they will have an opportunity to view the answers to the multiple-choice section of the quiz and see how much they know in relation to graduate school in psychology. In an effort to ensure student privacy, all participant information will be collected and coded in manner both confidential and anonymous. We hope to utilize the information we receive from students to offer new methods for providing adequate information and guidance for undergraduate psychology majors as they prepare for graduate study and careers in the discipline.

Enclosed, as an attachment to this letter is a message we would like you to send out to your university's psychology student listserv so that we might offer students a chance to participate. If you feel this is a worthwhile project, your support of our project would be greatly appreciated. Our study has been IRB approved by the University of Florida Institutional Review Board. If you have any questions or concerns please feel free to contact me at gradprepstudy@yahoo.com Thank you for your time and consideration.

Sincerely,
Geoffrey Lee
Project Director

APPENDIX B
INFORMED CONSENT, DEMOGRAPHIC AND SELF EVALUATION
INSTRUMENT, AND GRADUATE PREPARATION SURVEY

Dear Student:

This is a study conducted by Geoff Lee, a graduate student from the Department of Psychology at the University of Florida. As a part of a research project under the supervision of Dr. Greg Neimeyer, I am conducting a study about undergraduate psychology majors in relation to their interest in, and preparation regarding, application to graduate study in psychology.

The procedure will entail the completion of a survey assessing student's knowledge base regarding the graduate school application process and the different components involved in graduate study in psychology, the financial aspects, acceptance criteria, and distinctions between different graduate programs in psychology. Participants must be at least 18 years old to participate in this study.

The survey will take approximately 15 minutes to complete. Participation in this research project is voluntary. You do not have to answer any questions you do not wish to answer, and you are free to withdraw your consent and to discontinue your participation at any time without consequence.

There are no anticipated risks or direct benefits from your participation in this study, apart from reflecting on your experience. The measures will be kept secure and only accessible to Geoff Lee and his supervisor, Greg J. Neimeyer, Ph.D. Individual scores will be kept confidential to the extent provided by law through a numerical coding system. Individual data will not be shared and completed questionnaires will be kept in a password protected computer file in the Psychology Department at the University of Florida.

This study has been approved by the University of Florida Institutional Review Board IRB # 2004-U-269.

Questions concerning your rights as a research participant can be directed to the UFIRB, Box 112250, University of Florida, Gainesville, FL, 32611-2250.

If you have any questions about this study please contact Geoff Lee, gradprepstudy@yahoo.com

Graduate Preparation Survey

Age _____ Sex: M F

Ethnicity African American Asian Hispanic Caucasian Other

If you classify yourself as **other**, please explain _____

Major _____

Year in School Freshman Sophomore Junior Senior

Overall GPA: _____ (e.g. 3.50)

Are you planning to go to graduate school in psychology?

Yes _____ No _____ Undecided _____

If yes, are you considering pursuing a

Masters degree M.S. or M.A. _____ or **Doctoral Degree** Ph. D _____ Psy. D _____

If yes, what are of study are you planning to do graduate work in?

If no, what do you plan to do after graduating with your B.S. degree? _____

Have you taken or attended a graduate preparation course Yes _____ No _____

Have you taken or attended a seminar or getting into graduate school meeting?

Yes _____ No _____

If yes, please explain _____

In preparing for graduate school in psychology, which of the following have you done? Check all that apply.

Visited your psychology department academic advisor _____

Read books on preparing for graduate school in psychology _____

Talked to your professors a few times _____

Visited your University Career Resource center _____

Have an ongoing relationship with a faculty advisor or mentor _____

Are you a member of Psi Chi or the Psychology Club at your University?

Psi Chi Yes _____ No _____

Psychology Club Yes _____ No _____

How semesters of research have you completed? _____

Are you involved in volunteering in the mental health community?

Yes _____ No _____

Do you plan on writing a senior thesis? Yes _____ No _____

Do you have any publications? Yes _____ No _____

If yes, how many? _____

Have you presented at any conferences? Yes _____ No _____

If yes, how many? _____

How clear are your career goals in relation to your post graduate plans in psychology?

very unclear 1 2 3 4 5 **very clear**

For the first ten items, please rate **how confident you are in relation to each of the following aspects of graduate school preparation and application.**

Not Confident 1 2 3 4 5 **Highly Confident**

1. Are you confident that you can write an effective personal statement for your application to graduate school?
2. Do you know what information your resume' should contain?
3. Do you know who to ask for letters of recommendation, and the kind of information those letters should contain?

4. Do you know how to get to the "interview" stage in the graduate admission's process?
5. Have you ever been interviewed over the telephone?
6. Can you identify at least five questions you will likely be asked during interviews?
7. Do you know how to assess your strengths and to find the best graduate program for your interests?
8. Do you know how to find out about various funding options, like graduate assistantships, fellowships or scholarships?
9. Can you identify three or more things you can do after you submit your applications that can substantially improve your chances of getting admitted?
10. Can you identify three or more differences between clinical and counseling psychology?
11. Which of the following best describes the difference(s) between a Ph.D., and a Psy.D.?
 - a. a Ph.D. is a research degree and a Psy.D. is a practice degree
 - b. a Ph.D. program can be APA-approved whereas a Psy.D. cannot
 - c. a Ph.D. can be licensed to practice psychology but a Psy.D. cannot
 - d. all of the above
12. Which of the following is the most likely starting salary for a beginning professor in psychology?
 - a. \$45,000 b. \$55,000
 - c. \$65,000 d. \$75,000
13. Approximately what percentage of undergraduates in psychology go on to complete a graduate degree in the field?
 - a. 10% b. 20%
 - c. 33% d. 50%
14. On average, doctoral programs in clinical or counseling psychology accept what

percentage of their overall applicant pool in any given year?

- a. roughly 3%
- b. roughly 10%
- c. roughly 30%
- d. roughly 60%

15. The average GPA of all incoming doctoral students in all areas of psychology is _____

- a. 3.3
- b. 3.5
- c. 3.7
- d. 3.9

16. What percentage of clinical and counseling psychologists go into private practice?

- a. 25%
- b. 40%
- c. 65%
- d. 80%

17. Which of the following courses is required by the greatest number of doctoral programs in clinical psychology prior to applying for graduate study?

- a. statistics
- b. experimental methods/research design
- c. abnormal psychology/psychopathology
- d. history and systems in psychology

18. For doctoral programs in clinical psychology, which of the following factors is viewed as the most important type of undergraduate preparation

- a. computer knowledge and skills
- b. human service experience
- c. research experience
- d. Psi Chi membership

19. Out of all the doctoral degrees in psychology awarded each year, Social Psychology, Developmental Psychology, and Experimental Psychology each generate about the same percentage; what percentage is that?

- a. 3%
- b. 7%
- c. 15%
- d. 20%

20. The average GRE scores of first-year graduate students in psychology in master's program are _____, whereas the average scores for doctoral programs are _____.

- a. 880; 1290
- b. 1010; 1340

c. 1196; 1278 d. 1033; 1206

21. On average, APA-approved doctoral programs in *clinical* psychology receive about _____ applications per year

a. 85 b. 135

c. 230 d. 360

22. Which of the following types of programs has the strongest demonstrated commitment to multicultural issues?

a. clinical psychology b. counseling psychology

c. school psychology d. cognitive psychology

23. Regarding financial aid, approximately _____ percent of Psy.D. students receive assistantship or fellowship support, compared to roughly _____ percent of Ph.D. students

a. 35%; 90% b. 50%; 50%

c. 50%; 70% d. 60%; 40%

24. If you wanted to become licensed to practice psychology you could you complete your degree in all of the following areas **except**

a. Psy.D. in clinical psychology

b. Ph.D. in school psychology

c. Ph.D. in industrial/organizational

d. In any of these areas

25. The average amount of time it takes to complete a doctoral degree in psychology, after completing the bachelor's degree, is approximately

a. 2 b. 4

c. 6 d. 8

26. If the Department of Psychology were to offer a special "Grad Track" program as part of your undergraduate degree that was specifically designed to help prepare you for graduate study in psychology, would you be interested in it taking it?

Very Uninterested 1 2 3 4 5 **Very Interested**

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BIOGRAPHICAL SKETCH

I was born in San Antonio, Texas, on October 15, 1981. I have lived in Seattle, Washington; Las Vegas, Nevada; and more recently, the Florida Keys. I lived in the Florida Keys until I went to the University of Florida in Gainesville, Florida. I graduated in August of 1999 with a Bachelor of Science in psychology. After graduation, I remained in Gainesville and continued my education as a post-baccalaureate student in the Department of Psychology conducting research and taking graduate coursework. I also worked as the coordinator of a multi-site study investigating the quality of life of caregivers of bone marrow transplant survivors for the Department of Hematology and Oncology in Shands Hospital at the University of Florida.

I began my graduate education in the Department of Psychology at the University of Florida as a counseling graduate student in August of 2004. I completed my Master of Science degree in August of 2005.