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How We Teach Psychology: A National Survey Of Empirically Supported Teaching Techniques In Undergraduate Instruction

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HOW WE TEACH PSYCHOLOGY: A NATIONAL SURVEY OF EMPIRICALLY

SUPPORTED TEACHING TECHNIQUES IN UNDERGRADUATE INSTRUCTION

A Thesis
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by

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ABSTRACT

Research from a wide range of psychological disciplines has focused on understanding the teaching methods that most effectively promote learning. Despite a wealth of literature demonstrating the effectiveness of various teaching methods, the prevalence of these methods in contemporary college psychology courses has not yet been examined. To fill this gap, the current study surveyed undergraduate psychology instructors on methods implemented in their classrooms. Distributed to 448 institutions of higher learning, this online survey sought to provide a preliminary picture of the modern teaching landscape. In order to provide the most objective standard of comparison among these different institutions, frequency of testing was the primary item of interest for statistical analyses. It was predicted that testing opportunities would be most frequent at colleges in which teaching was the primary responsibility for instructors. Results suggest that this prediction has some merit, as instructors from associate's colleges indicated testing significantly more frequently than instructors at other types of institutions. These findings, as well as the other descriptive results, are discussed, and future directions for similar research are suggested.

TABLE OF CONTENTS

I. INTRODUCTION

The fundamental aim of pedagogy is to enhance acquisition, retention, and appreciation

of knowledge. Understanding the nature of pedagogy is an essential property of successful

classroom teachers. The most effective teachers are not only able to impart knowledge but also

to develop intellectual skills that promote additional learning (McKeachie, Pintrich, and Lin,

1985). How learning occurs has long been of particular interest in psychology, and research from

a wide range of psychological disciplines has focused on understanding which teaching methods

most effectively promote student learning. A body of literature about these specific classroom

techniques provides important information about improving the teaching process, resulting in

numerous journals that focus exclusively on this area (e.g., Bugg, DeLosh, & McDaniel, 2008;

McKeachie & Svinicki, 2006). This body of research has been critical for the development of

pedagogy, in large part because it has identified key factors that impact student learning. While

many variables have been shown to be important to enhance students' learning, the evidence

base for effective classroom teaching strategies can be generally grouped into three categories:

presentation of material, classroom activities and assignments, and assessment of knowledge.

Presentation of Material

Lecture. The presentation style of course content is critically important for students'

successful engagement of material. The traditional method for presenting classroom information

to students has historically been the lecture. McKeachie and Svinicki (2006) have shown that

students respond differently to the same material based on the method of presentation. The response students have to course material is dependent on a variety of factors, such as instructor enthusiasm, lecture organization, and supplemental resources. Incorporating these factors into the traditional lecture format has been empirically demonstrated to impact students beneficially both in terms of preferences and outcomes. Studies have shown that innovative methods increase students' reports of understanding and appreciating key psychological concepts. For example, in her abnormal psychology course, Banyard (2000) demonstrated that first-person accounts of psychological disorders were preferred to standard textbook explanations, and students reported a deeper understanding of the core features of the material. Underlying this method and other similar techniques is a reliance on the promotion of active learning, a general concept for higher-order thinking tasks like analysis, evaluation, and reflection. Popularized by Bonwell and Eison (1991), active learning refers to instruction that places a greater emphasis on the role of the learner in the context of teaching.

Enhancing lecture. Too often, the traditional lecture format puts students in a passive role; students who merely sit in a classroom and take down notes directly from a presentation have little active engagement with the material. A large body of literature focuses on the methods to enhance lecture techniques by making the learning process more active.

Personal relevance. Evidence supporting specific lecturing methods has its roots in active learning principles. Techniques that increase the personal relevance of material are some of the most effective to achieve these ends. Connor-Green (2000) found that pairing lectures about personality theory with personal journaling assignments, in which the student relates lecture-related concepts to their personal experiences, not only increased students' reported perception of the material but also resulted in better test scores. In addition to journaling,

research has shown other types of methods focused on the personalization of material promote learning (e.g., Zehr, 2000, 2004). Personalizing both lecture material and technique is especially important in large classes in order to maintain positive student interest and engagement. Benjamin (1991) found that efforts which aim to increase students' self-reflection result in significantly improved quiz scores when compared to teaching techniques that require students to listen passively to lecture material.

Salience to students. Beyond making lectures personally relevant, empirically effective teaching avoids presenting material in the abstract. Instead, strategies that connect course material with factors salient to the individual student help promote active learning. Zehr (2004) demonstrated this strategy by teaching a history of psychology using techniques that related key historical figures to concepts familiar to most students, such as job interviews and speed dating. The importance of emphasizing the link between course information and real-world situations has long-standing support (Hettich, 1976), and more recent studies have encouraged the use of these "connected teaching" techniques (Angelo, 1995).

Incorporating multimedia. The manner in which lecture content is structured and presented has a demonstrable impact on student learning; so too does the medium with which that content is relayed. Most undergraduate course lectures incorporate computer-based presentation software, such as PowerPoint (Craig & Amernic, 2006). Incorporating multimedia in the presentation of material has a long history of empirical support, especially with respect to student evaluations (Erwin & Rieppi, 1999). Multimedia lectures are often valued by students and can facilitate an interest in the material necessary for active learning. Brewster (1996) compared instruction of abnormal psychology between a traditional course and a multimedia-intensive one. In the multimedia classroom, videos of various disorders were regularly

incorporated, and students had individual keypads with which to provide feedback, opinions, and responses that were used to foster class discussion. She found no significant differences in comparing the two classes with respect to test scores, class attendance, or reported student satisfaction, yet an overwhelming majority (84%) of students rated the value of the multimedia techniques for delivering instruction as "high" or "very high." While students often report higher satisfaction with multimedia lectures (Smith & Woody, 2000), there is some concern that multimedia technology is often more style than substance (e.g., Murray, 1999) and that techniques that incorporate technology do not consistently result in better student outcomes (e.g., Gotsick & Gotsick, 1996). Too great a reliance on media in lieu of other teaching techniques has been demonstrated to have significant drawbacks, including increasing study passivity, reducing teacher-student interaction, and decreasing class attendance (Turkle, 2004). Despite these potential problems, evidence supports general guidelines for maximizing the utility of multimedia lectures. For instance, Johnson and Christensen (2011) found that students significantly preferred PowerPoint lectures that incorporated frequent visual aids that minimized the amount of on-screen text when compared to a more traditional bullet point-style PowerPoint presentation. Similarly, Erwin and Rieppi (1999) found that enhancing lectures with graphics, animations, and sound produced higher mean final examination scores across a range of classes versus classes with a more traditional lecture style.

Effective multimedia strategies. The style of lectures as well as the techniques used to synthesize content and media can have a significant impact on student outcomes. Supplementing PowerPoint lectures with other teaching techniques is a strategy that has been empirically supported. Bartlett and Strough (2003) developed an interactive course guide for their introductory psychology course. The guide, which incorporated the traditional lecture material

with learning objectives and class activities, resulted in an increase in both student grades and course evaluations. Similarly, interactive media including computerized games have been associated with greater in-class participation, reported effectiveness, and perceived value of course content (Paul, Messina, & Hollis, 2006). Gier and Kreiner (2009) demonstrated significant benefits to incorporating content-based questions in addition to standard PowerPoint presentations; by providing students with handouts and time for discussion, they found a significant improvement in test and quiz scores over standard, passive note-taking. Most recently, Ciarocco, Lewandowski, and Van Volkom (2013) found that students report better attitudes towards and higher perceived value of often disliked areas of psychology when teaching approaches go beyond traditional instructional methods. Taken together, this body of research suggests the instruction of psychology ought to encompass more than the traditional lecture-and-note format, and that a rich variety of academic experiences provides the greatest range of educational opportunities for students.

Classroom activities and student assignments

The second broad area of empirically supported techniques for enhancing students' learning involves activities both in and out of the classroom. Classroom activities are an integral component of effective pedagogy and encompass far more than traditional lectures. Lectures alone do not afford much student participation and engagement, limiting the opportunities for active learning. Activities and assignments that foster participation by incorporating multiple instructional components have been shown to increase students' test scores when compared to traditional teaching methods (Saville, Zinn, & Elliott, 2005).

Interteaching. Interteaching is an increasingly popular technique developed using the principles of behavior analysis. Introduced by Boyce and Hineline (2002) and based on models

of learning and behavior, interteaching is comprised of several components. Before each class period, the instructor creates a prep guide made up of questions and concepts about the upcoming lecture material. These prep guides typically require the student to think about material conceptually or to apply factual information to real-world scenarios; the intent is to deepen the student's understanding of course content. Then, once in class, students are paired together to collaboratively discuss their prep guide answers while the instructor observes the classroom, encouraging discussion and answering questions. Boyce and Hineline (2002) suggest pairs rather than larger groups to ensure all students participate in the discussion. Finally, after their pair discussion, students provide feedback to the instructor by identifying the quality of their discussion, as well as difficult, unclear, or unresolved items. This feedback then forms the basis of the professor's next lecture (Saville & Zinn, 2011). In addition, the lecture should not only incorporate material from the prep guides but should also serve to provide supplementary information. In contrast to many typical classroom traditions, interteaching techniques use the lecture component as only a small portion of the class period, roughly one-third of the overall time spent in class. The remainder of the class period is devoted to collaborative student work. The collaboration and student engagement fostered by this approach makes it uniquely suited as a technique to enhance active learning. Interteaching has been demonstrated to have positive effects on both student outcomes and preferences (Saville, Zinn, & Elliot, 2005).

Course content-specific activities. Another critical component of effective pedagogy involves facilitating the link between course content and utility; just as lectures can be enhanced by emphasizing the real-world salience of material, so too can classroom assignments. Activities that involve student interactivity, in-class demonstrations, and independent study are effective in increasing the active learning process. Ciarocco et al. (2013) found that students preferred these

types of "hands-on" projects to standard textbook reading and assignments. Students in the experimental condition of their research methods class were engaged in a variety of independent tasks such as designing their own studies as well as collecting, recording, and analyzing data. When compared to the control group's traditional writing assignments, these students reported greater mastery with American Psychological Association-style writing, greater perceived value of course content, and improved attitudes towards both the subject matter and their own abilities. Beyond improving student attitudes and perceptions, students report greater conceptual understanding of material when classroom activities relate to specific features of the course. Yanowitz (2001) demonstrated this by assigning students the task of generating a lifeline before and after learning about key features of developmental psychology. Norcross and Karpiak (2012) reported similarly effective strategies engaging students in teaching clinical psychology, with both in-class activities and between-class assignments related to specific core areas, such as the importance of psychological science and evidence-based practice. Classroom activity-based studies have shown that greater student engagement is correlated with more long-term retention of knowledge, even when concepts are abstract. Owen and Siakaluk (2011) found that students who engaged in a classroom activity explaining the concept of analysis of variance (involving physical movement and space) performed better on exam questions related to the subject than those who merely observed the activity.

Clickers and response cards. Student participation and engagement can be increased by encouraging active student responding in classroom assignments. One method is the use of paper response cards, which may contain answer choices such as "Yes/No," "True/False," or "A/B/C/D," that the student can hold up when the instructor asks questions during a lecture. The use of this technique encouraging audience responding has been shown not only to increase

student participation but also to improve academic performance in some settings (Gardner, Howard, & Grossi, 1994). An increasingly common variation of this practice involves the use of electronic response devices (clickers), which have been shown to improve student participation even more than paper response cards (Stowell & Nelson, 2007). While the impact on test performance is still inconclusive, the increase in student engagement relative to traditional methods (e.g., hand-raising) both in terms of preference and participation has been demonstrated repeatedly (Elicker & McConnell, 2011; Fallon & Forrest, 2011).

Guided notes. Similar to other techniques that foster active student responding, the use of guided notes is a classroom strategy that increases the probability that students attend to key information. This technique involves providing students with a lecture note template that contains blank spaces which must be filled in throughout the class period. Although this approach was first used with students diagnosed with learning problems, later research suggests their effectiveness in standard university classroom settings (Austin, Thiebealt, Carr, & Bailey, 2002). This efficacy was demonstrated by comparing students' quiz scores following traditional lectures with those supplemented using guided notes; students in the guided notes condition demonstrated significant improvement, approximately a grade letter or more (Williams, Weil, & Porter, 2012). These and other similar findings (e.g., Isbell, Tyler, & Burns, 2007; Kolar & McBride, 2003; Middlecamp, 2003) suggest that interactive classroom activities that foster student participation are essential for effective teaching.

Assessment of Knowledge

Methods for both the presentation of and interaction with classroom material has been demonstrated to be critically important in maximizing students' learning. The final category of empirically supported teaching techniques involves how knowledge is assessed.

The testing effect. Assessment as a teaching technique has been demonstrated to be effective in a variety of academic contexts. In the university setting, more frequent testing has long been associated with superior student outcomes (e.g., Turney, 1931; Fitch, Drucker, & Norton, 1951; Dustin, 1971). Regular assessment of course material using methods such as weekly quizzes has been demonstrated to improve academic performance, students' reports of engagement and understanding of material, and active learning (Angelo, 1995). In addition to these well-established benefits of predictable testing, assessment on an irregular or intermittent basis has demonstrated similarly positive results (Keys, 1934; Fulkerson & Martin, 1981). Graham (1999) found that unannounced quizzes had the same benefits of regular assessment, and that these pop quizzes provided the most significant benefit to students whose prior performance was in the average range.

Testing and preparedness. Available data from the past two decades suggests that compliance with course-related reading assignments has been on the decline (Burchfield & Sappington, 2000), illustrating a trend towards what Burroughs, Kearney, and Plax (1989) have described as "destructive resistance." Failure to come to class prepared, to do homework, or to do required reading is a significant barrier to effective learning, and a variety of research efforts have attempted to address this problem (e.g., Roberts, Fulton, & Semb, 1988). Testing has been an empirically demonstrated technique to provide a simple and efficient solution to this problem. The use of regular assessment measures has been shown to have direct benefits to teaching, not only increasing students' preparedness for daily lectures (Sappington, Kinsey, & Munsayac, 2002) but also classroom participation (Thorne, 2000).

Testing and generalization. Beyond being prepared for the specific material in daily lectures, testing has been shown to enhance the transfer of knowledge and facilitate generalized

learning (Carpenter, 2012). Roediger and Karpicke (2006) argue that teachers should use constant assessment in order to improve learning material, retaining information, and monitoring individual knowledge. Frequent testing has also been shown to improve student study approaches and self-testing methods (Einstein, Mullet, & Harrison, 2012). While these effects of testing have been demonstrated in numerous studies, many students do not recognize the importance of testing on their own learning (Karpicke, Butler, & Roediger, 2009). As a result, many research efforts that focus simply on student preferences and opinions overlook the importance of testing and the frequent, immediate feedback it provides. Frequent testing opportunities, along with other empirically supported teaching techniques, should be an integral part of the instruction of psychology.

Current Study Finding ways to enhance students' learning is the core goal of pedagogy. While a wide range of studies have examined which techniques most effectively achieve these ends, little has been done to evaluate the prevalence of these methods in contemporary psychology instruction. No data is available in current psychology- or education-based journals on how widely these types of approaches are used.

Under-utilization. Data from other fields. Other academic disciplines have examined the implementation of empirically supported techniques in their respective fields, and prevalence of these methods has been assessed in other scientific areas such as physics (Hake, 1998) and chemistry (Martin, Schmidt, & Soniat, 2011). Becker and Watts's (1996) seminal study about the methods by which economics programs instruct their students provided an important framework for understanding the characteristics of and goals for their field. Their study surveyed instructors of undergraduate economics courses to obtain information about both the content and process of their teaching, looking specifically at how instructors expanded their

10

pedagogical styles beyond the traditional lecture format. Among their findings: the median amount of time spent on lecturing in all economics courses was 83%, cooperative teaching and learning methods were employed in an average of 14% of introductory/principles classes (the median use for these methods was zero), and supplementary publications and assignments were used often in both beginning and intermediate level classes (means ranged from 24 to 43%). This data became the groundwork for later research aimed at improving the teaching delivery methods in economics (Becker, Watts, & Becker, 2006).

      Data from psychology research. In the domain of psychology, survey data has primarily been limited to student preferences, course content, demographic qualities, and consistency of instruction (e.g., Meyers & Prieto, 2000). Surveys from students and instructors have been used to gather information about the teaching of psychology. These types of surveys are usually defined by subjective ratings, typically asking questions about individual attitudes of the importance of particular course elements. While these surveys can be useful feedback for instructors, they typically do not provide objective information about the types of techniques used in-class. Other measures to gather this data, such as syllabi reviews, provide insight into what students and instructors find most important in their course material. The data gathered from these types of surveys can form the basis of recommendations for instructors (e.g., Becker & Calhoon, 1999) and can be utilized to better develop more student-friendly approaches to teaching. From data gathered in these ways, a wide range of instructional guides, tips for classroom management, and similar teacher training materials are available to help enhance the pedagogy of both new and experienced instructors (McKeachie & Svinicki, 2006). Yet despite the availability of these resources, little effort has been made to examine how these recommendations are received or implemented in actual classrooms. A large-scale survey of the

methods being employed in undergraduate psychology classrooms is sorely lacking. Given that theories of learning are a unique subdomain of psychological research, this omission seems particularly egregious.

Purpose of the present study. The current study sought to provide a more comprehensive picture of the types of teaching techniques used in the instruction of psychology. This survey study assessed the prevalence of evidence-based classroom strategies currently being employed by instructors of psychology. In addition, this survey sought to provide some insight into the factors which might influence the use of empirically supported teaching techniques. There exists a real need to fill the gap in the literature with respect to the actual use of empirically supported teaching techniques. By providing this missing information, the present study sought to portray more precisely the nature of contemporary psychology pedagogy and provide a foundation on which future research can be built. The vast body of teaching literature that has demonstrated the effectiveness of particular techniques should not exist in the abstract; in order to maximize the value of this existing research, it should be connected with current trends in the instruction of psychology. This survey was conducted to begin to provide this connection to understand the types of teaching methods most used by instructors. Conversely, data from the current study may provide information about potential areas of weakness in current psychology instruction, a key first step in advancing a more robust pedagogical approach.

Specific Aims. This study sought to determine whether implementation of teaching techniques varies across several domains, such as instructor experience and type of institution. The latter was separated based on the major Carnegie classifications (Carnegie Foundation for the Advancement of Teaching, 2012), categorizing respondents' institutions using the Basic Classification Categories (associate's colleges; doctorate-granting universities; master's colleges

and universities; and baccalaureate colleges), as well as more specific categories including Undergraduate Instructional Program Classification, Size and Setting Classification, and Enrollment Profile Classification. By identifying potential factors at both the individual and institution level, this survey sought to provide a basic understanding of the variables that may influence how psychology is taught.

Hypotheses. The primary purpose of this survey study was to benchmark the use of empirically supported teaching methods used in the teaching of psychology. Given this aim and the lack of existing information about this area, it was unnecessary to hypothesize about the general nature of data that was to be collected. However, while the primary purpose of this study was to provide a description of general teaching trends, a secondary goal was to evaluate differences between types of institutions based on a clear, measurable variable: testing frequency. This item is the best standard for comparison for several reasons: first, frequency of testing is the most reliable quantification with respect to teaching techniques as it provides an objective, discrete observation for measurement; second, the benefit of frequent testing is one of the longest standing techniques found in the teaching literature, with its efficacy clearly established nearly a century ago (e.g., Turney, 1931); and finally, testing is a fundamental technique employed by virtually every instructor of any subject, thereby reducing the likelihood of significant outliers.

Hypothesis 1. Respondents from institutions with a primary focus on undergraduate instruction (represented by the Baccalaureate and Associate's colleges groups) were thought to be more likely to endorse a higher mean rate of testing than those institutions with high- to very-high research activity (represented by the master's and doctoral-granting groups). It is believed that institutions that place an emphasis on pedagogy over research will display a consistent

pattern with respect to the use of a technique closely linked to effective teaching.

Hypothesis 2. Instructors with employment status considered typically lower in the academic hierarchy (represented by graduate student instructors, adjunct professors, and assistant professors) are thought to be more likely to endorse a higher mean rate of testing than more highly ranked instructors (represented as associate professors and full professors). It is believed that instructors for whom teaching is the primary obligation will have more time to devote to regular, frequent assessment than those instructors who are primarily concerned with individual and personal work, such as research and publications.

II. METHODS

Participants

Participants were instructors of undergraduate psychology courses, recruited via email from a pool of 3751 colleges and university that are listed in the Carnegie Classifications of Institutions of Higher Education (Carnegie Foundation for the Advancement of Teaching, 2012). This pool represents all institutions categorized by the Carnegie Foundation's Basic Classification category as one of four primary designations: associate's colleges, doctorate-granting universities, master's colleges and universities, and baccalaureate colleges. This classification system was chosen due to its status as the preeminent framework of categorizing and describing higher education institutions in the United States. This system has been used for decades in the study of higher education as a way to represent institutional diversity, as well as a measure to control for differences among institutions. Assuming a moderate effect size ($f^2 = 0.15$), a power level of 0.80, and an alpha level of 0.05, a total sample size of 122 participants was required. Participants were required to have experience teaching at least one section of an undergraduate psychology class; no other criteria were used to limit participation.

Materials

A brief, online survey containing 27 items was used to collect data from participants. This questionnaire, attached as Appendix A, was accessible online using Qualtrics and was distributed via email first to the indicated primary correspondent in the psychology department of each selected institution's website, and then subsequently to individual instructors of psychology courses. Respondents were asked to provide demographic information as well as

information about the type of courses taught and their teaching experience. Survey items were generated based on trends observed in the teaching strategies literature, created primarily around the three main domains of these techniques: presentation of material, classroom activities, and assessment of knowledge. Respondents provided information about their classroom presentation style, activities and assignments, and testing methods used. Questions were designed primarily as multiple-response items with the option to provide more lengthy descriptions and explanations for any techniques not specifically asked about. These questions were reviewed by two senior faculty members as well as a group of graduate instructors currently teaching introductory psychology at the University of Mississippi.

Procedure

Recruiting participants. A random sample of 448 institutions were contacted to participate in the survey. This number provided a sufficient sample size to account for the variability in response rates to web surveys, which range from 30-50% (Cook, Heath, & Thompson, 2000). Participants received an email inviting them to partake in the study with the following message: "We are conducting a survey to obtain information about the methods used in the teaching of undergraduate psychology courses, and your cooperation will be extremely helpful. Please distribute the following email to all instructors of psychology at your institution. Limited data is available about what sort of techniques are utilized by the very best instructors, and your responses are critically important to fill this gap and provide a more complete picture of how successful teachers structure their classes. Below is a link to a brief survey that should take no more than ten minutes to complete; all information provided will remain confidential. Your participation is greatly appreciated." The email contained a link directly to the self-paced Qualtrics questionnaire, and participants were thanked upon completion of the survey.

Data analysis. Following collection, data was entered into SPSS 22, and basic

descriptive and inferential statistics were computed. The majority of items asked about in the

survey were measured descriptively: teaching behaviors were tallied to provide an estimate of

how frequently specific techniques are used. The second aim of the study was measured based

on the responses to the testing frequency item. A one-way analysis of variance was conducted to

compare differences on the frequency of testing item (question #18) across the four Basic

Carnegie category designations, with each type of institution being compared to the others. The

purpose of this secondary analysis was to evaluate the research question hypothesizing

differences in teaching methodology based on institution type. In addition, the same analysis

was conducted with respect to employment status using the demographic information provided.

The responses to this item (question #3) were separated into six groups based on respondent self-

identification; those who identified using the the remaining option ("Other") were evaluated by

two independent raters to determine their appropriate designation.

III. RESULTS

Survey Respondents. A total of 448 randomly selected institutions were contacted via email, and 136 individuals responded to the survey. To be included in the analyses, survey respondents must have completed at least 90% of the survey, leaving no more than 3 questions blank. Using this standard, 13 surveys were excluded from the final analyses. One hundred twenty-three surveys had sufficient data to be counted in the final analysis. Because there is no way to estimate the number of people to whom the survey was distributed within each institution selected, the survey response rate is impossible to calculate; however, in the sample of those who responded, sixty-eight of the institutions contacted were represented (15.2%). Of these respondents, the distribution across Basic Carnegie classification institution type indicated no significant differences. The modal number of respondents from any given institution was one, and no single school accounted for more than 9.8% of the overall responses. Groups did not differ on any significant demographic measures (see Table 1).

Demographic profile. Respondent data suggest the typical undergraduate psychology instructor is likely female (63.4%), Caucasian (92.7%), and a full professor (31.7%), who teaches between two and three courses per semester. The mean age of respondents was 46.7 ($n = 103$; range = 26-73 years; $SD = 12.62$), with a mean 16.6 years ($n = 122$; range = 1-47; $SD = 11.11$) of total teaching experience. Nearly half of instructors ($n = 60$; 48.8%) indicated receiving a teaching award or commendation at some point during their career; 66.7% ($n = 82$) indicated taking some sort of teaching preparation course or workshop.

The typical class described by respondents is an introductory or general level undergraduate course (49.6%) with an average size of approximately 54 students ($SD = 102.66$). Introduction to Psychology or General Psychology was the most commonly reported class about which respondents answered their survey items ($n = 37$; 30.1%), followed by Developmental Psychology and Research Methods/Statistics (each with $n = 13$; 10.6%). The majority of respondents indicated teaching a class that meets twice a week (61.8%); the second most common class described meets three times a week (21.1%).

Hypothesis testing. A one-way ANOVA was conducted to determine differences with respect to the primary research question - frequency of testing with follow-up t-tests to evaluate group differences. Between Basic Carnegie categories, there was a significant difference on the basis of institution type (F [3,122] = 4.15, $p = .008$). Instructors from associate's colleges reported a mean number of testing opportunities of 4.79 ($SD = 4.07$), significantly greater than doctoral universities ($M = 2.94$; $SD = 2.18$), master's colleges ($M = 3.14$; $SD = 1.64$), and baccalaureate colleges ($M = 2.62$; $SD = 1.60$). No difference was observed with respect to employment status (see Table 2).

In addition to traditional testing, frequencies of other types of assessment and graded feedback methods were calculated. Nearly three-quarters of the sample ($n = 89$; 72.4%) indicated using research papers or reports as part of students' grades. Less than half of respondents ($n = 60$; 48.4%) indicated using regularly scheduled quizzes, and even fewer ($n = 19$; 15.4%) reported using unannounced or pop quizzes. Many respondents provided an approximate range for the number of quiz opportunities per semester; these figures were averaged in order to conduct further analyses. Overall, of those who reported using quizzes as a method of assessment in their courses, the mean number of scheduled quizzes per semester was

10.56 (SD = 6.07), and the mean number of pop quiz opportunities was 5.26 (SD = 3.89). No

statistically significant differences were found based on institution type (see Table 3).

Respondents indicated using a variety of other empirically supported teaching techniques.

Most frequently endorsed were computer-enhanced lecturing techniques such as PowerPoint (n

= 112; 91.1%), in-class student discussions (n = 102; 82.9%), multimedia presentations (n =

101; 82.1%), peer groups or collaborative learning methods (n = 69; 56.1%), and lecture

supplements (n = 65; 52.8%). Most (n = 83; 67.5%) indicated dedicating more than half of class

time for traditional lecture. Overhead projectors (n = 28; 22.8%) and guest lecturers (n = 32;

26.0%) were among the least frequently endorsed methods, with the use of electronic clickers or

response cards being the most infrequent of all techniques (n = 14; 11.4%; see Table 4).

IV. DISCUSSION

Summary of findings. The purpose of this study was to examine the prevalence of empirically supported teaching techniques in the instruction of undergraduate psychology. The measure used to obtain this data was an online, 27-item survey created for this purpose and distributed to psychology instructors at 448 institutions of higher education. Despite a limited response rate, the survey provided a number of interesting findings. Most notably, instructors at associate's colleges report testing with significantly greater frequency than instructors at any other type of institution. One possible reason for this finding is the hypothesized difference of the academic responsibilities at each type of institution: instructors from associate's colleges generally have less pressure to publish research, supervise graduate students, and to oversee studies; accordingly, there may be a greater emphasis on coursework and teaching (Fairweather & Rhoads, 1995). Given this emphasis on pedagogy, it follows that instructors from associate's colleges report more frequent testing, which requires both in-class time to administer the examinations as well as time outside of class for grading.

Another surprising finding from this survey was the relatively low number of respondents who reported using quizzes as a regular part of classroom feedback. Given the hypothesis that greater emphasis on teaching would result in more frequent testing opportunities, one would expect to find that at least one group of instructors would endorse using quizzes at a statistically high rate. However, no significant differences were found between instructors from different institution types, faculty status categories, or level of course taught; no matter how they were

21

grouped, only about fifty percent of respondents indicated using quizzes in their courses. Explaining this finding with respect to the frequency of testing question may require an examination of the function that each type of assessment serves: while full-scale tests provide a way of both monitoring student progress and providing the foundation for graded assessment, quizzes may serve primarily as a means of ensuring student compliance with ongoing course goals (Burroughs, Kearney, & Plax, 1989). Alternatively, the relatively uncommon use of quizzes could signal an underlying attitude towards their utility as classroom tools; many instructors may not find the value added by frequently offering quizzes to be offset by the time commitment associated with creating, grading, and returning them to students, although methods for reducing this burden have been demonstrated (e.g., Dietz-Uhler & Lanter, 2009). Regarding those that did endorse using quizzes as a common assessment technique, however, the results were consistent with previous studies on the implementation for increasing the effectiveness for quizzing: namely, more frequent quiz opportunities tend to produce better outcomes (Kouyoumdjian, 2004; Ruscio, 2001). Instructors who reported offering quizzes did so at a rate of nearly one per week (M=10.56), suggesting a strategy consistent with the benefits illustrated by the testing effect (e.g., Angelo, 1995).

Other types of graded feedback were commonly endorsed, with research papers and projects chief among them (72.4%), consistent across institution types. Given the amount of time such assignments require for grading and feedback, this figure is surprising. However, the subjective and highly variable nature of this type of assignment makes inferring too much from this finding a risky proposition. It is noteworthy that such a large proportion of respondents seems to be motivated to incorporate some element of research awareness into their instruction. This initial finding merits a more substantial follow-up, using more specific and direct questions

aimed at understanding the type of research assignments typically incorporated into undergraduate psychology courses.

In addition to the results related to testing as a teaching technique, the current study demonstrated the prevalence of several other empirically supported techniques. Collaborative or group methods were endorsed with surprising frequency, a result not expected given the initial assumption that lecture would be the primary modality for instruction. More than half of respondents (56.1%) indicated using some type of group-based learning approach. Although the survey did not refer to interteaching directly, methods associated with this approach, including peer collaboration and lecture supplements, were endorsed by a majority of respondents.

The current study also demonstrated that the influence of technology in the classroom is somewhat limited. It was assumed, for example, that as methods for presentation have become more technologically advanced, older technologies would be less commonly used in contemporary classrooms. However, the 22.8% of respondents from the current study who endorsed using an overhead projector for their lecture is surprisingly similar to the 23% figure from the nearly two-decades-old economics survey of teaching methods (Becker & Watts, 1996). Given that over 90% of respondents from the present study also indicated using computer-based presentation software such as PowerPoint, it seems that older technologies have not been entirely abandoned even as new methods are being adopted. This resistance towards a more technologically advanced approach to classroom participation can be seen in the incredibly low endorsement of electronic clickers (11.4%). While a large majority of respondents (81.9%) indicated fostering in-class discussions, a very small subset use technological devices as a facilitator. Given the unique benefits that clickers offer with respect to student participation (Elicker & McConnell, 2011; Fallon & Forrest, 2011), it is surprising that they are so

infrequently incorporated into psychology instruction.

Strengths, limitations, and future directions. The current study provides a useful foundation for further research related to the dissemination and prevalence of empirically supported teaching techniques. Given the lack of any meaningful data about the current prevalence of teaching methods, the results from the current study help fill this knowledge gap by providing a preliminary picture of the modern teaching landscape. Knowing the relative frequency of the types of approaches used by current instructors of undergraduate psychology is valuable for two reasons:

First, the findings from the current study are fundamental to the dissemination of empirically supported methods. The extensive body of research that has demonstrated the value of various teaching techniques has no utility if these techniques are being ignored by psychology instructors. Knowing which methods are least commonly used (e.g., the use of electronic response devices in the classroom) should inform those invested in these techniques that there needs to be a more serious effort to disseminate materials and information to instructors. Conversely, follow-up research may investigate the potential reasons for the low rates of adoption of certain teaching methods, as well as what possible barriers exist to more prevalent use of these methods.

Second, the results from the current study are necessary for continued development of new and refined teaching techniques. By knowing which types of approaches are syntonic with current instructor behavior, future researchers can attempt to tailor their specific techniques to make adopting those methods easier. The current study also provides a framework for understanding what general methods are being utilized; future research on empirically supported teaching techniques can refine these methods and provide more specific guidelines for

psychology instructors. This type of information is also essential for developing more useful teaching preparation courses for graduate instructors and new professors.

One of the primary limitations of the current study is the sample itself: the homogeneity of demographic characteristics, the low response rate, and the small sample size all serve to weaken generalizing interpretations of the data. The sample may not be a truly representative one. For example, nearly half of all respondents reported receiving a teaching award at some point in their career, and two-thirds indicated taking some sort of teaching preparation course, and. Although this figure is consistent with previous findings on the availability of teaching courses (Boysen, 2011), it may indicate a response bias in terms of respondents. Those more invested in pedagogy may be more likely to respond to a survey about their teaching methods, so the respondents for the current study may not be representative of undergraduate psychology instruction as a whole. Another possible limitation for the present study is the measure used; since it was developed specifically for this purpose, its psychometric properties are unknown. Future research may focus on validating a more standardized measure to assess teaching techniques, either specifically in the instruction of psychology or more generally for application in other fields.

There is a strong interest in teaching research, and psychology has a particularly prominent role in that field. The types of techniques that have been researched have their basis in psychology and associated theories, so the lack of data regarding the prevalence of these techniques seems particularly grievous. The current study helps to describe the picture of contemporary undergraduate psychology instruction by providing the first meaningful data about what techniques are being used in colleges and universities. This foundation should be supplemented with further investigation into these techniques, as well as practical applications

for the continuing enhancement of pedagogy.

LIST OF REFERENCES

American Psychological Association. (2013). *Graduate study in psychology (2013 ed.)*.

Washington, DC: Author.

Angelo, T.A. (1995). Classroom assessment for critical thinking. *Teaching of Psychology, 22*(1),

6-8.

Austin, J.L., Thiebealt, M., Carr, J.E., & Bailey, J. S. (2002). Effects of guided notes on student

responding and recall in a university classroom. *Journal of Behavioral Education*, *11*,

243-254.

Banyard, V.L. (2000). Using first-person accounts to teach students about psychological

disorders. *Teaching of Psychology, 27*(1), 40-43.

Bartlett, R.M., & Strough, J. (2003). Multimedia versus traditional course instruction in

introductory social psychology. *Teaching of Psychology, 30*(4), 335-338.

Becker, A.H., & Calhoon, S.K. (1999). What introductory psychology students attend to on a

course syllabus. *Teaching of Psychology, 26*(1), 6-13.

Becker, W.E., & Watts, M. (1996). Chalk and talk: a national survey on teaching undergraduate

economics. *The American Economic Review, 86*(2). 448-453.

Becker, W.E., Watts, M., & Becker, R.B. (Eds.) (2006). *Teaching economics: more alternatives

to chalk and talk*. Northampton, MA: Edward Elgar Publishing.

Benjamin Jr., L.T. (1991). Personalization and active learning in the large introductory

psychology class. *Teaching of Psychology, 18*(2), 68-75.

Bonwell, C.C., & Eison, J.A. (1991). *Active learning: Creating excitement in the classroom

(ASHE ERIC Higher Education Rep. No. 1). Washington, DC: The George Washington

University, School of Education and Human Development.

Boyce, T.E., & Hineline, P.N. (2002). Interteaching: a strategy for enhancing the user-

friendliness of behavioral arrangements in the college classroom. *Behavior Analyst, 25*, 215-226.

Boysen, G.A. (2011). The prevalence and predictors of teaching courses in doctoral psychology programs. *Teaching of Psychology*, *38*(1), 49-52.

Brewster, J. (1996). Teaching abnormal psychology in a multimedia classroom. *Teaching of Psychology, 23*(4), 249-252.

Bugg, J.M., DeLosh, E.L., & McDaniel, M.A. (2008). Improving students' study habits by demonstrating the mnemonic benefits of semantic processing. *Teaching of Psychology, 35*(2), 96-98. doi:http://dx.doi.org/10.1080/00986280801977519

Burchfield, C.M., & Sappington, J. (2000). Compliance with required reading assignments. *Teaching of Psychology, 27*(1), 58-60.

Burroughs, N.F., Kearney, P., & Plax, T.G. (1989). Compliance resistance in the college classroom. *Communication Education, 38*(3), 214-229.

Carnegie Foundation for the Advancement of Teaching. (2012). The Carnegie classification of institutions of higher education. Retrieved 12 June 2013.

Carpenter, S.K. (2012). Testing enhances the transfer of learning. *Current Directions in Psychological Science, 21*(5), 279-283.

Ciarocco, N.J., Lewandowski, G.W., & Van Volkom, M. (2013). The impact of a multifaceted approach to teaching research methods on students' attitudes. *Teaching of Psychology*, *40*(1), 20-25. doi:http://dx.doi.org/10.1177/0098628312465859

Connor-Greene, P.A. (2000). Making connections: evaluating the effectiveness of journal writing in enhancing student learning. *Teaching of Psychology, 27*(1), 44-46.

Cook, C., Heath, F., & Thompson, R. (2000). A meta-analysis of response rates in web- or

internet-based surveys. *Educational & Psychological Measurement, 60*(6), 821-837.

Craig, R.J., & Amernic, J.H. (2006). PowerPoint presentation technology and the dynamics of

teaching. *Innovative Higher Education, 31*, 147-160.

Dietz-Uhler, B., & Lanter, J.R. (2009). Using the four-questions technique to enhance learning.

Teaching of Psychology, 36(1), 38-41.

Dustin, D.S. (1971). Some effects of exam frequency. *The Psychological Record, 21*, 409-414.

Einstein, G.O., Mullet, H.G., & Harrison, T.L. (2012). The testing effect: illustrating a

fundamental concept and changing study strategies. *Teaching of Psychology, 39*(3), 190-

193.

Elicker, J.D., & McConnell, N.L. (2011). Interactive learning in the classroom: is student

response method related to performance? *Teaching of Psychology, 38*(3), 147-150.

Erwin, T.D., & Rieppi, R. (1999). Comparing multimedia and traditional approaches in

undergraduate psychology classes. *Teaching of Psychology*, *26*(1), 58-62.

Fairweather, J.S., & Rhoads, R.A. (1995). Teaching and the faculty role: enhancing the

commitment to instruction in American colleges and universities. *Education Evaluation

and Policy Analysis, 17*, 179-194.

Fallon, M., & Forrest, S.L. (2011). High-tech versus low-tech instructional strategies: a

comparison of clickers and handheld response cards. *Teaching of Psychology, 38*(3), 194-

198.

Fitch, M.L., Drucker, A.J., & Norton, J.A. (1951). Frequent testing as a motivating factor in

large lecture classes. *Journal of Educational Psychology, 42*(1), 1-20.

Fulkerson, F.E., & Martin, G. (1981). Effects of exam frequency on student performance,

evaluation of instructor, and test anxiety. *Teaching of Psychology, 8*(2), 90-93.

Gardner, R., Heward, W.L., & Grossi, T.A. (1994). Effects of response cards on student

    participation and academic achievement: a systematic replication with inner-city students

    during whole-class science instruction. *Journal of Applied Behavioral Analysis, 27*, 63-

    71.

Gier, V.S., & Kreiner, D.S. (2009). Incorporating active learning with PowerPoint-based lectures

    using content-based questions. *Teaching of Psychology, 36*(1), 134-139.

Gotsick, J.E., & Gotsick, P.S. (1996). Multimedia in the classroom. *Behavior Research Methods,*

    Instruments, & Computers, 28(2), 291-294.

Graham, R.B. (1999). Unannounced quizzes raise test scores selectively for mid-range students.

    Teaching of Psychology, 26(4), 271-273.

Hake, R.R. (1998). Interactive-engagement versus traditional methods: a six-thousand student

    survey of mechanics test data for introductory physics courses. *American Journal of*

    Physics, 66(1), 64-74.

Hettich, P. (1976). The journal: an autobiographical approach to learning. *Teaching of*

    Psychology, 3(2). 60-64.

Isbell, L.M., Tyler, J.M., & Burns, K.C. (2007). An activity to teaching students about schematic

    processing. *Teaching of Psychology, 34*(4). 241-244.

    doi:http://dx.doi.org/10.1080/00986280701700292

    Johnson, D.A., & Christensen, J. (2011). A comparison of simplified-visually rich and

    traditional presentation styles. *Teaching of Psychology, 38*(4), 293-297.

Karpicke, J.D., Butler, A.C., & Roediger, H.L. (2009). Metacognitive strategies in student

    learning: do students practice retrieval when they study on their own? *Memory, 17*(4),

    471-479.

Keys, N. (1934). The influence of learning and retention of weekly as opposed to monthly tests. *Journal of Educational Psychology, 25*(6), 427-436.

Kolar, D.W. & McBride, C. A. (2003). Creating problems to solve problems: An interactive teaching technique for statistics courses. *Teaching of Psychology, 30*(1), 67-68.

Kouyoumdjian, H. (2004). Influence of unannounced quizzes and cumulative exam on attendance and study behavior. *Teaching of Psychology, 30*(2), 110-111.

Martin, C.B., Schmidt, M., & Soniat, M. (2011). A survey of the practices, procedures, and techniques in undergraduate organic chemistry teaching laboratories. *Journal of Chemical Education, 88*(12), 1630-1638. doi:http://dx.doi.org/10.1021/ed200234f

McKeachie, W.J., Pintrich, P.R., & Lin, Y.G. (1985). Teaching learning strategies. *Educational Psychologist, 20*(3), 153-161.

McKeachie, W.J., & Svinicki, M. (2006). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers* (12th ed.). Boston: Houghton-Mifflin.

Meyers, S.A., & Prieto, L.R. (2000). Training in the teaching of psychology: what is done and examining the differences. *Teaching of Psychology*, *27*(4), 258-261. doi://dx.doi.org/10.1207/S15328023TOP2704_03

Middlecamp, M.K. (2003). Uncover the disorder: a review activity for abnormal psychology courses. *Teaching of Psychology, 30*(1), 62-63.

Murray, G. L. (1999). Exploring learners' CALL experiences: a reflection on method. *Computer Assisted Language Learning, 12*(3), 179-195.

Norcross, J.C., & Karpiak, C.P. (2013). Teaching clinical psychology: four seminal lessons that all can master. *Teaching of Psychology, 39*(4). 301-307.

Owen, W. J. & Siakaluk, P.D. (2011). A demonstration of the analysis of variance using physical

32

movement and space. *Teaching of Psychology, 38*(3). 151-154.

doi:http://dx.doi.org/10.1177/0098628311411779

Paul, S.T., Messina, J.A., & Hollis, A.M. (2006). A technology classroom review tool for general

psychology. *Teaching of Psychology*, *33*(4), 276-279.

doi:http://dx.doi.org/10.1207/s15328023top3304_8

Roberts, M.S., Fulton, M., & Semb, G. (1988). Self-pacing in a personalized psychology course:

Letting students set the deadlines. *Teaching of Psychology*, *15*(2), 89-92.

Roediger, H.L., & Karpicke, J.D. (2006). The power of testing memory: basic research and

implications for educational practice. *Perspectives on Psychological Science, 1*(3), 181-

210.

Ruscio, J. (2001). Administering quizzes at random to increase students' reading. *Teaching of

Psychology, 28*(3), 204-206.

Sappington, J., Kinsey, K., & Munsayac, K. (2002). Two studies of reading compliance among

college students. *Teaching of Psychology, 29*(4), 272-274.

Saville, B.K., Zinn, T.E., and Elliott, M.P. (2005). Interteaching versus traditional methods of

instruction: a preliminary analysis. *Teaching of Psychology, 32*(3), 161-163.

doi:http://dx.doi.org/10.1207/s15328023top3203_6

Saville, B.K., & Zinn, T.E. (2011). Interteaching. *New Directions for Teaching & Learning, 128*,

53-61. doi:http://dx.doi.org/10.1002/tl.468

Smith, S. M., & Woody, P.C. (2000). Interactive effect of multimedia instruction and learning

styles. *Teaching of Psychology, 27*(3), 220-223.

Stowell, J.R., & Nelson, J.M. (2007). Benefits of electronic response systems on student

participation, learning, and emotion. *Teaching of Psychology, 34*(4), 253-258.

Thorne, B.M. (2000). Extra credit exercise: a painless pop quiz. *Teaching of Psychology, 27*(3), 204-205.

Turkle, S. (2004). How computers change the way we think. *The Chronicle of Higher Education, 50*, B26-B28.

Turney, A.H. (1931). The effects of frequent and short objective tests upon the achievement of college students in educational psychology. *School and Society, 33*. 760-762.

Williams, W.L., Weil, T.M., & Porter, J.C.K. (2012). The relative effects of traditional lectures and guided notes lectures on university student test scores. *Behavior Analyst Today, 13*(1), 12-16.

Yanowitz, K. L. (2001). Looking to the future: students' evaluations of generating lifelines. *Teaching of Psychology, 28*(3), 209-210.

Zehr, D. (2000). Teaching psychology's history through a comparative analysis of introductory psychology texts. *Teaching of Psychology, 27*(1), 31-33.

Zehr, D. (2004). Two active learning exercises for a history of psychology class. *Teaching of Psychology, 31*(1). 54-56.

LIST OF APPENDICES

APPENDIX A: RESPONDENT DATA

Table 1

Background and demographic information as a function of group

	Associate's (*n* = 28)	Master's (*n* = 32)	Doctoral (*n* = 37)	Bacc. (*n* = 26)
Age (in years)	47.32 (*n* = 25; *SD* = 11.81)	46.15 (*n* = 26; *SD* = 15.90)	45.55 (*n* = 31; *SD* = 12.21)	48.19 (*n* = 21; *SD* = 9.96)
Gender				
Female	24	18	19	9
Male	4	13	18	17
Transgender	0	1	0	0
Ethnicity				
African American	0	0	0	0
Asian	0	1	1	1
Caucasian	25	30	35	24
Latino/Hispanic	0	0	0	1
Mixed	2	1	1	0
Other	1	0	0	0
Employment Status				
Full Professor	8	8	11	12
Associate Professor	2	6	11	6
Assistant Professor	7	4	6	6
Adjunct Professor	5	2	2	2
Graduate Instructor	0	6	1	0
Lecturer	0	5	6	0
Other	6	1	0	0

Table 2

Mean number of tests offered per semester
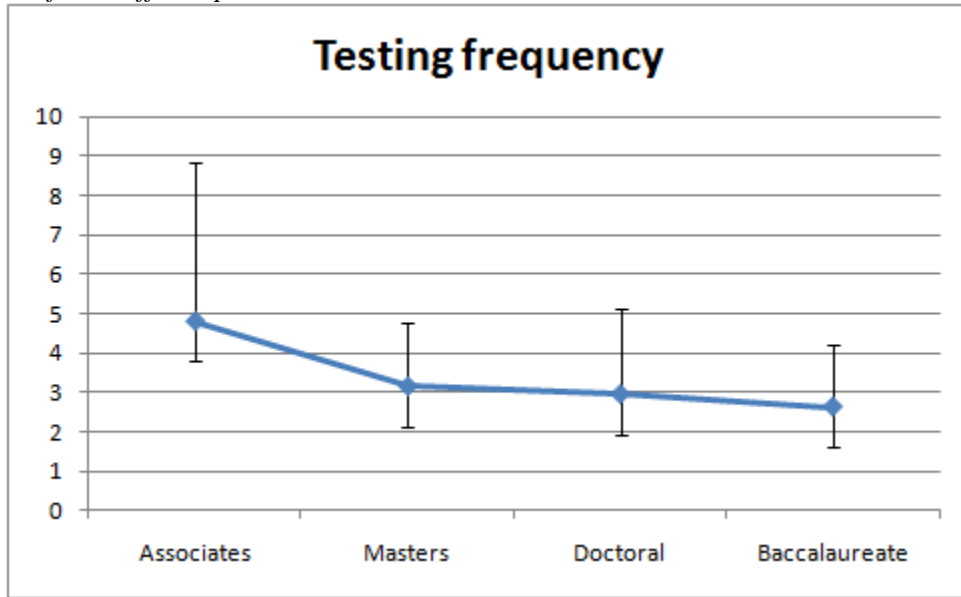
Category	N	Mean number of tests per semester	SD
Associates	28	4.79	4.07
Masters	32	3.14	1.64
Doctoral	37	2.18	2.18
Baccalaureate	26	2.62	1.60
Full professor	42	3.17	2.92
Associate professor	25	3.20	1.71
Assistant professor	23	2.87	1.66
Adjunct professor	11	3.36	2.20
Grad Instructor	8	3.13	1.36
Lecturer	14	5.07	4.32

Table 3

Other assessment and graded feedback opportunities

	Associate's ($n = 28$)	Master's ($n = 32$)	Doctoral ($n = 37$)	Bacc. ($n = 26$)
Scheduled quizzes				
Yes	16	12	19	13
No	12	20	18	13
Missing	0	0	0	0
Mean quizzes per semester	12.5 ($n = 15$; $SD = 8.74$)	9.8 ($n = 11$; $SD = 6.15$)	9.7 ($n = 18$; $SD = 4.17$)	10.1 ($n = 13$; $SD = 4.48$)
Pop quizzes				
Yes	3	4	8	4
No	24	28	29	22
Missing	1	0	0	0
Mean pop quizzes per semester	4 ($n = 2$; $SD = 1.41$)	6.3 ($n = 3$; $SD = 3.21$)	5.8 ($n = 8$; $SD = 5.32$)	4 ($n = 4$; $SD = 1.41$)
Research papers				
Yes	18	24	27	20
No	10	8	10	5
Missing	0	0	0	1
Individual presentations				
Yes	4	5	10	7
No	24	27	27	19
Missing	0	0	0	0
Group presentations				
Yes	5	5	8	11
No	23	27	29	12
Missing	0	0	0	3
Student discussions				
Yes	15	20	16	14
No	13	12	21	12
Missing	0	0	0	0
Experiential learning				
Yes	15	16	19	12
No	13	16	18	14
Missing	0	0	0	0

Table 4

Frequency of miscellaneous survey items

Item	*n*	%
Received a teaching award	60	48.8
Taken teaching prep course	82	66.7
Scheduled quizzes	60	48.8
Pop quizzes	19	15.4
Research papers	89	72.4
Individual student presentations	26	21.1
Group presentations	29	23.6
Graded classroom participation/discussions	65	52.8
Experiential learning exercises	62	50.4
Chalk/whiteboard	91	74.0
Computer-presentation software	112	91.1
Overhead projector	28	22.8
Multimedia presentations	101	82.1
Guest lecturers	32	26.0
Non-graded student participation	102	82.9
Cooperative learning/peer groups	69	56.1
Clickers/response cards	14	11.4
Guided notes/prep guides	65	52.8

APPENDIX B: SURVEY

TEACHING METHODS SURVEY

1 What is your gender?
- ○ Male (1)
- ○ Female (2)

2 What is your age?
- ○ Under 25 (1)
- ○ 25-29 (2)
- ○ 30-39 (3)
- ○ 40-49 (4)
- ○ 50-59 (5)
- ○ 60+ (6)

3 What is your employment status as a teacher?
- ○ Full professor (1)
- ○ Associate professor (2)
- ○ Assistant professor (3)
- ○ Adjunct professor (4)
- ○ Graduate Student Instructor (5)
- ○ Lecturer (6)
- ○ Other (7) _____

4 At which institution(s) are you currently an instructor of psychology?

5 How many years have you been teaching at your current institution?
- ○ This is my first year (1)
- ○ 1-2 years (2)
- ○ 3-5 years (3)
- ○ 6-10 years (4)
- ○ 11-15 years (5)
- ○ 16-20 years (6)
- ○ 20+ years (7)

6 How many years of teaching experience to you have in total?
- ○ This is my first year (1)
- ○ 1-2 years (2)
- ○ 3-5 years (3)
- ○ 6-10 years (4)
- ○ 11-15 years (5)
- ○ 16-20 years (6)
- ○ 20+ years (7)

7 Does your institution offer a teaching preparation course of some kind?
- ○ Yes (1)
- ○ No (2)

8 Did you take a teaching preparation course?
- ○ Yes (1)
- ○ Yes, but not from my institution (2)
- ○ No (3)

9 Which course(s) in psychology have you taught in the past year?

10 The following questions ask about specific methods used in the instruction of psychology. If you've taught more than one course, please choose one, list its title below, and answer with respect to that class.

11 Do you offer regular, scheduled quizzes on assigned readings?
- ○ Yes (1)
- ○ No (2)

If No Is Selected, Then Skip To Do you employ the use of unannounced ...

12 Approximately how many of these quizzes do you typically plan for a semester?
- ○ 1-4 (1)
- ○ 5-10 (2)
- ○ 10 or more (3)

13 What format do you use for these quizzes? Choose all that apply.
- ❑ Multiple choice (1)
- ❑ Fill-in-the-blank (2)
- ❑ Free response/essay (3)
- ❑ Other (4) _____

14 Do you employ the use of unannounced or pop quizzes?
- ○ Yes (1)
- ○ No (2)

If No Is Selected, Then Skip To Do you employ the use of non-graded q...

15 Approximately how many of these pop quizzes do you typically plan for a semester?
- ○ 1-4 (1)
- ○ 5-10 (2)
- ○ 10 or more (3)

16 What format do you use for these pop quizzes? Choose all that apply.
- ❑ Multiple choice (1)
- ❑ Fill-in-the-blank (2)
- ❑ Free response/essay (3)
- ❑ Other (4) _____

17 Do you employ the use of non-graded quizzes or assignments in your class?
- ○ Yes (1)
- ○ No (2)

18 How many tests or exams do you typically plan for a semester?
- ○ Final only (1)
- ○ Midterm and final (2)
- ○ 3-4 (3)
- ○ 5-6 (4)
- ○ 7+ (5)
- ○ Other (6) _____

19 What format do you use for these exams? Choose all that apply.
- ❏ Multiple choice (1)
- ❏ Fill-in-the-blank (2)
- ❏ Free response/essay (3)
- ❏ Other (4) _____

20 What other ways do you provide graded feedback to students? Choose all that apply.
- ❏ Research papers/reports (1)
- ❏ Individual student presentations (2)
- ❏ Group student presentations (3)
- ❏ Classroom discussions (4)
- ❏ Experiential learning assignments (please describe) (5) _____
- ❏ Other (6) _____

21 Approximately what percentage of time do you spend lecturing for this class?
- ❍ Less than 25% (1)
- ❍ 25%-49% (2)
- ❍ 50%-74% (3)
- ❍ 75%-100% (4)

22 What resources do you use when lecturing for your course? Choose all that apply.
- ❏ Chalk/white board (1)
- ❏ Computer-generated display (e.g., Powerpoint) (2)
- ❏ Overhead projector (3)
- ❏ Multimedia presentations (e.g., videos) (6)
- ❏ Guest lecturers (4)
- ❏ Other (5) _____

23 Do you typically plan time for student discussions in your class?
- ❍ Yes (1)
- ❍ No (2)

24 Do you typically incorporate peer groups, collaborative learning, or cooperative methods in your class?
- ❍ Yes (please briefly describe) (1) _____
- ❍ No (2)
- ❍ I don't know what this means (3)

25 Do you employ the use of electronic clickers or response cards in your class?
○ Yes (please briefly describe) (1) _____
○ No (2)
○ I don't know what this means (3)

26 Do you use guided notes, prep guides, or other lecture supplements in your class?
○ Yes (please briefly describe) (1) _____
○ No (2)
○ I don't know what this means (3)

27 Please describe any additional techniques, methods, or strategies your employ in your class that you believe enhance the teaching of psychology.

VITA

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Education

Master of Arts
 University of Mississippi, August 2014
 Clinical Psychology
 Advisor: Thomas W. Lombardo, Ph. D.
Bachelor of Arts
 Tulane University, New Orleans, LA
 Major: Political Economy
 Degree awarded: May 2007

Work Experience

University of Mississippi: Graduate Instructor
 Course: PSY 201 – General Psychology
 2013-2014 Academic Year
 Taught one section of introductory psychology to undergraduate students, with
 approximately 100 students in each the Fall and Spring semesters. Duties included
 developing a course curriculum, lecturing, and preparing examinations.

University of Mississippi Psychological Services: Graduate Level Therapist
 Supervisors: Thomas W. Lombardo, Ph.D; Scott Gustafson, Ph.D.; John Young, Ph.D.
 August 2011-Present
 Responsibilities included conducting screenings and intake interviews, seeing clients for
 individual therapy sessions, and attending weekly supervision meetings.

The Baddour Center: E&R Research Assistant
 Supervisor: Shannon Hill, Ph.D.
 August 2013-Present
 The Baddour Center is a private residential facility for adults with mild to moderate
 intellectual disabilities. My responsibilities in this position include providing therapy
 services as well as overseeing the work of current interns, coordinating assessments, and
 collaborating with other medical professionals to manage the treatment of clients.

The Autism Center of North Mississippi
>Supervisor: Scott Bethay, Ph.D.
>August 2012-July 2013
>The Autism Center of North Mississippi (formerly The Autism Center of Tupelo) provides therapy services based on applied behavioral analysis to children with autism spectrum and other developmental disorders. Duties included one-on-one therapy work, group social skills groups, consultations with parents, school visits and classroom-based interventions, and diagnostic assessment.s

The Baddour Center: Education and Research Intern
>Supervisor: Shannon Hill, Ph.D.
>July 2011-August 2012
>My responsibilities included seeing clients for both individual therapy sessions as well as group therapy, writing reports on behavioral and medical histories, and administering assessments of intellectual, adaptive, and neurological functioning.

Pelts, Kirkhart, Major, & Associates: Clinic Intern and Office Assistant
>Supervisor: Kathryn Kirkhart, Ph.D., Michael Major, Psy.D.
>May 2007- July 2009
>PKM & Associates is a private mental health consortium in New Orleans, Louisiana providing psychological services to adults and children. My responsibilities included leading and assisting with a social skills group for adolescents with Asperger's syndrome, scoring various assessment measures, and providing support to the office staff in a variety of ways.

Stanford National Forensics Institute: Program Administrator
>Supervisor: Jon Gegenheimer
>Summer, 2003-2008
>SNFI is an educational summer program for high school students seeking to improve their skills in public speaking and debate, as well as to increase their knowledge of subjects pertaining to philosophy, social issues, and morality. In addition to overseeing the logistics of the program, I was responsible for leading a lab of students and lecturing daily on various topics.

Presentations

Fulwiler, J.C., Lombardo, T.W., Smitherman, T.A., & Kellum, K.K. (2014, April). How We Teach Psychology: A National Survey of Empirically Supported Teaching Techniques in Undergraduate Instruction. Talk presented at the 1st Annual University of Mississippi Conference on Psychological Science, Oxford, MS.

Hollis, S., Lombardo, T., McIlveene, A., Grigg, J., & **J. Fulwiler** (2014, April). Cognitive effects and academic consequences of video game playing in college students. Poster presented at the 4th Annual University of Mississippi Graduate School Research Forum, Oxford, MS.

Hollis, S., Lombardo, T., McIlveene, A., Grigg, J., & **J. Fulwiler** (2014, April). Cognitive effects of video game playing. Poster presented at the 1st Annual University of Mississippi Conference on Psychological Science, Oxford, MS.

McDermott, M.J., **Fulwiler, J.C.**, Tull, M.T., Gratz, K.L., & Smitherman, T.A. (2013, November). *Migraine and PTSD symptoms among inpatients with substance use disorders.* In M. J. McDermott (Chair), *New directions in the multidisciplinary study of PTSD: An examination of novel and understudied risk and resiliency factors.* Symposium submitted for presentation at the 47th annual meeting of the Association for Behavioral and Cognitive Therapies, Nashville, TN.

Bentley, S., Grigg, J., Hollis, S., McIntire, L., **Fulwiler, J.**, & Lombardo, T. (2013, November). College students' smoker identity varies with physical activity levels. Poster session presented at the 2013 American Public Health Association's Annual Meeting, Boston, MA.

Professional Activities

Ad hoc reviewer for manuscript submitted to *American Journal of Public Health*, 2013
Ad hoc reviewer for two manuscripts submitted to *Behavior Modification*, 2012
Ad hoc reviewer for manuscript submitted to *Journal of Traumatic Stress*, 2012
Ad hoc reviewer for manuscript submitted to *Journal of Epidemiology & Community Health*, 2012
Ad hoc reviewer for manuscript submitted to *Journal of American College Health* 2010
Edited three textbook chapters for Jerome Sattler, Ph. D., 2010

Honors and Awards

- Best Presentation Award, 1st Annual University of Mississippi Conference on Psychological Science, 2014
- Dean's Honor Scholar – Fall '03-Fall '07

References

*Available upon request.