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Psi Chi functions as a federation of chapters located at over 1,150 senior colleges and universities around the world. The Psi Chi Central Office is located in Chattanooga, Tennessee. A Board of Directors, composed of psychology faculty who are Psi Chi members and who are elected by the chapters, guides the affairs of the Organization and sets policy with the approval of the chapters.

Psi Chi membership provides two major opportunities. The first of these is academic recognition to all inductees by the mere fact of membership. The second is the opportunity of each of the Society's local chapters to nourish and stimulate the professional growth of all members through fellowship and activities designed to augment and enhance the regular curriculum. In addition, the Organization provides programs to help achieve these goals including conventions, research awards and grants competitions, and publication opportunities.

JOURNAL PURPOSE STATEMENT

The twofold purpose of the *Psi Chi Journal of Psychological Research* is to foster and reward the scholarly efforts of psychology students as well as to provide them with a valuable learning experience. The articles published in the *Journal* represent the work of undergraduates, graduate students, and faculty. To further support authors and enhance *Journal* visibility, articles are now available in the PsycINFO®, EBSCO®, and Crossref® databases. In 2016, the *Journal* also became open access (i.e., free online to all readers and authors) to broaden the dissemination of research across the psychological science community.

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Invited Editorial: Professors' Research Expectations for Admission to Psychology Graduate Programs

Jennifer L. Hughes, Mengyao Li, Erika R. McDonnell, and Elizabeth V. Engsborg
Agnes Scott College; Cheyenne S. Goss, Georgia State University

ABSTRACT. Students are not fully knowledgeable about what it takes to be strong applicants for psychology graduate programs and they often downplay the importance of research experience (Sanders & Landrum, 2012). However, graduate professors often expect applicants to have research skills because these skills have been found to be strong predictors of success for graduate students (Privitera, 2014). In this editorial, we first review the literature about expectations for research experience, and then we report the findings from a survey we used that asked graduate school professors about the research criteria they use to accept prospective students. Using one-way Analyses of Variance (ANOVAs), we found that faculty from PhD programs and higher ranked programs rated research experience as more important, and they expected a greater amount of research experience from applicants, a match between their research and applicants' research experience, and more independent research experience from applicants. All of our hypotheses were significant at the $p < .001$ level. When evaluating the subfields of psychology, we also found all of our one-way ANOVAs to be significant ($p < .001$), but our hypotheses were only partially supported. We found that clinical psychology PhD faculty had higher research expectations for the four areas listed above, as compared to faculty in a few subdisciplines, which were mostly housed in education departments. We also found that clinical psychology faculty had higher expectations compared to faculty from industrial/organizational psychology programs for matching research interests. Our findings could help applicants make more informed choices when applying to graduate programs.

Keywords: research experience, admission, psychology, graduate programs

Increasingly, both graduate schools and employers are looking for applicants who have skills that can be gained through conducting research (Dunn & Halonen, 2016; Silvia, Delaney, & Marcovitch, 2017). Benefits from undergraduate research include enhanced critical thinking skills, development of collaborative learning skills, improved communication skills, increased self-efficacy, stronger relationships with those writing recommendations, and improved data and statistical skills (Alderton & Manzi, 2017).

Students often think that research experience is

only needed for those who plan to attend graduate school. However, the competition for jobs among those with a bachelor's degree in psychology is difficult and highly competitive (Silvia et al., 2017). Those with research skills stand out from the competition and are much more likely to get jobs they want (Silvia et al., 2017). Silvia et al. (2017) adds that "they [employers] want to hire people who went beyond the minimum, who acquired skills, showed initiative, and interacted with professionals" (p. 7). Therefore, becoming involved in research can help undergraduate psychology students to be

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more successful after graduation, whether they seek employment or plan to attend graduate school.

Although we argue that research experience is important for all undergraduate students majoring in psychology, in this editorial we will focus on the research experience needed for those wanting to be accepted into graduate school. We were especially interested in evaluating whether the type of degree and rank of program had an impact on the expectations for admission and if the subfields for the PhD psychology programs differed. To investigate this, we employed a survey and sent it to graduate school professors who had been on committees to accept graduate students within the past 5 years. We asked these faculty about their expectations of applicants as far as research experience. Before we summarize the results of the survey, we will give some background information from the literature about the expected research experience for graduate school applicants.

The types of possible graduate degrees are defined first because the degrees will be referenced throughout the article. The American Psychological Association (2007) defines the types of doctoral degrees *for those studying psychology* as being the doctor of philosophy (PhD), the doctor of psychology (PsyD), and doctor of education (EdD). They state that the doctoral degree is generally a reflection of the training model and where the program is housed at the institution. For example, PhDs in psychology use the *research* or *scientist-practitioner* models, and they are typically granted by psychology departments, but some are granted in education departments (e.g., Educational Psychology PhD). PsyDs use the *practitioner-scholar* model and are housed in psychology departments, university-affiliated psychology schools, or independent professional schools of psychology. The models used for EdDs vary some, but most are *practitioner-scholar* with the others being *scientist-practitioner*. They are granted by education departments. Students accepted straight into PhD and PsyD programs often earn a master's degree along the way to their PhD, but some do not. However, most of the students accepted into EdD programs have a master's degree before applying.

The American Psychological Association (2007) notes that there are few differences between the master of arts (MA) and master of science (MS), and they often reflect the department or school that the degree came from. However, some argue that historically the MS degree has been more research focused and requires students to complete

a thesis, and that MA degrees are given in terminal programs (Adamés, 2008).

Psychology Graduate School Admission Criteria

Students often do not know that being accepted into graduate programs is much more difficult than being accepted into undergraduate colleges or universities (Dunn & Halonen, 2016). Before applying to graduate school, students should assess their strengths and weaknesses and develop a systematic plan for ensuring their acceptance (Dunn & Halonen, 2016). Consulting with a professor or advisor in psychology can be helpful in making this plan.

Dunn and Halonen (2016) recommend that potential applicants read the book *Graduate Study in Psychology*, which is published yearly, to evaluate the admission criteria for each individual graduate program. They advise applicants to take the data presented in the book seriously and to make sure that applicants understand that they need to exceed the minimum qualifications listed to have a chance to be admitted. Most graduate faculty evaluate applicants using the following criteria: (a) grade-point average (GPA), (b) standardized test scores, (c) course work in psychology, (d) research experience, (e) letters of recommendation, (f) personal statements, (g) psychology-related work experience, and (g) some hold interviews (American Psychological Association, 2007). However, admission committees' criteria vary when it comes to evaluating applicants and their method used depends on the type of degree, prestige of the program, and area of focus (American Psychological Association, 2007).

PhD and master's psychology programs often use GPA and Graduate Record Examination (GRE) scores to cut applicants who do not meet their cutoff scores and narrow the pool of applicants (American Psychological Association, 2007) because of large numbers of applicants (Walfish & Hess, 2001). Less is known about how PsyD and EdD programs evaluate their applicants, but PsyD and EdD programs at universities, as compared to for-profit programs, are more competitive and use some of the same criteria as PhD and master's psychology programs (Dunn & Halonen, 2016). Most of the PhD and master's psychology graduate admission committees expect to see high GPAs and GRE scores (Cynkar, 2018; Dunn & Halonen, 2016), and PhD programs and higher ranked programs expect the highest GPAs and GRE scores (American Psychological Association, 2007). For the PhD and

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master's applicants who meet the criteria set for GPA and GRE, research experience is often evaluated next (American Psychological Association, 2007; Buskist & Sherburne, 2007; Schultheiss, 2008) with letters of recommendation and personal statements after that (Collins, 2001).

Research Criteria

The following research criteria is evaluated for most of the psychology graduate programs that emphasize research (Walfish & Hess, 2001): (a) the number of statistics and research design and methods courses taken, (b) the applicant's prior research experience as a research assistant or conducting independent research, (c) the applicant's skill set that would be brought to a research lab, and (d) the applicant's research presentations and/or publications. Applicants in research-based graduate programs are also evaluated on their research interests and their match with graduate professors (Wegenek & Buskist, 2010). Each of these categories will be reviewed next.

First type of criteria: Statistics and research design and methods courses. Walfish and Hess (2001) suggested that students who want to be accepted into psychology graduate programs take courses (e.g., research statistics, research design and methods, computer science) that strengthen their research skills, demonstrate an ability to think analytically, and show their preparedness for graduate study. They also suggested that students should learn statistical computer programs (e.g., SPSS, SAS, R) in order to be competitive.

Second type of criteria: Research experience. For students interested in graduate school, undergraduate research experience will help them to make better decisions when applying to graduate programs (Alderton & Manzi, 2017). Their research experience will help students to know if they like research or not and enable them to select the type of degree that fits their needs (Silvia et al., 2017). Another benefit of undergraduate research experience is that often applicants' strongest letters of recommendation come from the professors they conducted research with (Schultheiss, 2008). Research experience also allows graduate professors to see that students understand what the research process is like, that students have the ability and motivation to be a part of it (Walfish & Hess, 2001), and it shows students' promise as scientists (American Psychological Association, 2007).

Information about each degree and the research expectations will be reviewed next. After

that, ways to get involved with research will be presented. Finally, ideas will be given for those who want more research experience after graduation.

PhD. Seligman (2012) wrote that "there is no route to a PhD without research" (p. 130). PhD programs are dedicated to producing scientific research (Dunn & Halonen, 2016) and the typical applicant will have two to three years of research experience (Novacek, 2016). Substantial research experience is essential for applicants hoping to be admitted to these programs (Landrum & Davis, 2010; Morgan & Korschgen, 2009; Walfish & Hess, 2001) and especially for clinical applicants because the competition is stiff (American Psychological Association, 2007; Council of University Directors of Clinical Psychology, 2017; Dunn & Halonen, 2016; Prinstein, 2017; Wegenek & Buskist, 2010). Also, the higher ranked programs are more selective and expect to see the most research experience (Dunn & Halonen, 2016).

PsyD and EdD. The PsyD and EdD are considered to be professional degrees (Privitera, 2014), so often admissions committees appreciate seeing some research experience, but the expectations are not high (American Psychological Association, 2007). This research experience implies that the applicants are able to be critical consumers of research and possibly conduct research to finish their degree (American Psychological Association, 2007; Collins, 2001). The PsyD and EdD programs at universities will expect students to be more skilled at understanding research (Collins, 2001). Many of the accredited PsyD programs now require a dissertation, but the form of it often differs in focus from a PhD dissertation, and there is less of an emphasis on research and statistics (Adamés, 2008). The same is true for the EdD (Nelson & Coorough, 1994).

Master's degrees. Admissions committees for master's programs expect to see some research experience, but often not as much as PhD programs (Briehl & Wasieleski, 2004; Privitera, 2014). Students' research experience will help them to select master's programs that better fit their interests such as a research-focused program (i.e., students conduct a thesis and then possibly apply to PhD programs) or an applied program (i.e., most students do not conduct research or write a thesis and most do not expect to continue on to a PhD). The applied master's programs are often called terminal master's programs and prepare students for specific occupations (American Psychological Association, 2007; Dunn & Halonen,

2016). Undergraduate research experience is also important for students who attend these applied master's programs because students need to be able to read and critique research articles (McDonough, 2000).

Research assistants. It is recommended that students actively seek out research opportunities by being proactive and not being shy about asking about potential opportunities (Privitera, 2014). They can ask to volunteer in research labs at their college or university; additionally, they can find research assistant positions off-campus, or they can attend a summer research program (Collins, 2001; Dunn & Halonen, 2016; Prinstein, 2017). Dunn and Halonen (2016) add that it is ideal if students can select research labs that match their graduate school interests, but often students cannot find a direct match. If that is the case, experience from other research labs still looks good because the research process is often similar across the subfields in psychology. Students who enjoyed working in a lab, then can use their research experience to apply to conduct independent research on a topic that matches their graduate school interests. Finally, the quality of the research experience is most important and even more important than the quantity of those experiences, so students will want to take on more substantial tasks as they continue to accrue research experiences (Love, Bahner, Jones, & Nilsson, 2007). Walfish and Hess (2001) add that students should show great interest in the research and immerse themselves in every aspect of the process, which will make them stand out and get better graduate school recommendation letters.

Independent research. Students can gain independent research experience by completing a thesis or directed research (Collins, 2001; Dunn & Halonen, 2016; Prinstein, 2017). Theses and directed research projects help students to learn independent research skills in an area of interest to them (Prinstein, 2017). These are student-driven and involve carrying out the research from start (i.e., research idea and hypotheses) to finish (i.e., analyzing the results and writing the manuscript), which provides great preparation for graduate school (Dunn & Halonen, 2016). In addition, students who were involved in independent research have been found to have greater research self-efficacy (Huss, Randall, Patry, Davis, & Hansen, 2002).

Adding research experience after graduation. Applicants who want to attend graduate school and do not have much undergraduate research experience may want to delay applying to graduate

programs until they have the needed experience; during this time, they could work as a research assistant at a university or research institute (Cynkar, 2018; Keith-Spiegel & Wiederman, 2000). These gap years are becoming increasingly common and are especially common for those who plan to apply to PhD programs that expect to see several years of research experience (Novacek, 2016).

Applicants who want a PhD, but do not have extensive research experience, could consider applying to master's programs first. Applicants should look for master's programs that emphasize research skills (e.g., experimental or general psychology programs), programs that work with students to write a thesis, programs that allow students to get involved in research, and programs that have statistics and research design and methods courses for students to take (Collins, 2001; Leary, n.d.). Applicants with master's degrees end up having proof that they can do graduate-level work and additional research experience, which makes them competitive for PhD programs (Leary, n.d.).

Third type of criteria: Research skill sets. Selection committees look for applicants who are prepared to take on graduate-level work and therefore are more likely to succeed in graduate school (Wegenek & Buskist, 2010). Strong writing skills are important for acceptance to graduate programs (Keith-Spiegel, Tabachnick, & Spiegel, 1994). Research papers demonstrate that students can search for research literature, think about the literature, integrate information on a topic, and write effectively about that topic (Keith-Spiegel & Wiederman, 2000). In addition to writing skills, students who conduct research learn how to collect data, enter data, run statistical analyses, and interpret the findings (Dunn & Halonen, 2016). Munsey (2007) interviewed Professor Mitch Prinstein and he said that he looks for the following skills when reviewing PhD applicants: "some independent research experience, an ability to think like a scientist, someone who can generate hypotheses, who is familiar with research literature, who can understand the limits to prior research, and maybe someone with some ability for scientific writing" (para. 7).

Fourth type of criteria: Presentations and publications. Working in a research lab looks good on a curriculum vitae but being an author for a presentation or publication is even more impressive (Buskist & Sherburne, 2007; Keith-Spiegel & Wiederman, 2000; Schultheiss, 2008; Walfish & Hess, 2001). Students should get involved with

research early in their undergraduate career because that will give them time to see the results of their labor (i.e., presentations or publications; Buskist & Sherburne, 2007; Cynkar, 2018; Dunn & Halonen, 2016; Schultheiss, 2008).

Presentations. Dunn and Halonen (2016) describe two types of convention presentations including oral presentations and poster presentations. The oral presentation often involves a 15- to 20-minute talk, and the researchers present their research in the same order as a traditional research paper. A poster is considered to be a visual representation of the research, and the sections also follow the traditional research paper. Students stand by their posters and convention attendees can ask them about their research.

Presenting at conventions often marks the beginning of a professional identity for students (Keith-Spiegel & Wiederman, 2000), and presenting is great training for graduate school (Morgan & Korschgen, 2009). Conventions can bring students in contact with graduate faculty who have similar research interests as they do (Keith-Spiegel & Wiederman, 2000). Also, conventions that are designed specifically to include undergraduate students (e.g., Southeastern Psychological Association convention) are great to submit to when students are new to presenting (Keith-Spiegel & Wiederman, 2000).

A publication in a scholarly journal is impressive to admission committees and indicates the applicant's commitment to and involvement in research (Buskist & Sherburne, 2007; Keith-Spiegel & Wiederman, 2000; Walfish & Hess, 2001). Privitera (2014) writes that peer-reviewed journals in psychology average rejection rates of 85–90% and, because of this, graduate professors find publications to be impressive. The *Psi Chi Journal of Psychological Research* is a great place for students to submit their research. This peer-reviewed journal publishes work from undergraduate students, as well as graduate students and professors and, because of this, their approach is developmental in nature (Brannan, 2018).

Additional criteria for graduate students: Research match. As students progress through their undergraduate education, they should narrow their focus in psychology (Privitera, 2014). Through their research experience and courses, students should learn the research areas that interest them most (Prinstein, 2017). They should look for graduate programs that match those interests.

Students who are planning to attend research-based programs should investigate specific faculty's

interests to see if those align with their own interests and then apply to work with faculty who match their interests (Council of University Directors of Clinical Psychology, 2017; Dunn & Halonen, 2016). Most professors who sponsor students for research see their roles as being based on an apprenticeship model, and they want to teach their students about their specific research area (Dunn & Halonen, 2016).

When it comes to evaluating research experience, some faculty will often want that experience to be in the same specific area that they study, while others will be less concerned with the experience being in the same area but will focus on interests (Council of University Directors of Clinical Psychology, 2017). Most faculty will expect students' interests to match their research interests, so it is important that students clearly state their interests in their personal statements (Council of University Directors of Clinical Psychology, 2017; Walfish & Hess, 2001).

Current Research

The research literature points to the fact that research experience is important for admission to graduate programs. Several authors (i.e., Landrum & Davis, 2010; Morgan & Korschgen, 2009; Novacek, 2016; Walfish & Hess, 2001) mentioned that faculty in PhD programs will expect to see substantial research experience for applicants to be admitted. Other authors mentioned that this is particularly true for clinical psychology PhD programs, which are seen as the most competitive programs to get into (American Psychological Association, 2007; Council of University Directors of Clinical Psychology, 2017; Dunn & Halonen, 2016; Prinstein, 2017; Wegenek & Buskist, 2010). Finally, Dunn and Halonen (2016) stated that higher ranked programs are more selective and expect to see the most research experience. We based our hypotheses on these authors' statements.

First, we evaluated types of degrees including rankings. We expected to find the following: (a) faculty from higher ranked programs/PhD programs in psychology as compared to lower ranked programs and other types of degrees would rate research experience as more important, (b) would expect applicants to have more research experience, (c) would expect more of a match between their research and applicants' research experience, and (d) would expect to see more independent research experience from applicants.

Second, we evaluated the psychology subfields for PhD programs. We expected to find the

following: (e) faculty from clinical psychology PhD programs would rate research experience as more important as compared to other subfields, (f) would expect applicants to have more research experience, (g) would expect more of a match between their research and applicants' research experience, and (h) would expect to see more independent research experience from applicants.

Method

Procedure

After receiving institutional review board approval, we used the following procedure for collecting data. First, we used the ranked list of 219 accredited psychology graduate programs from the *US News and World Report Best Graduate Psychology Programs* (2018) to determine the rankings of graduate programs. We used the top 52 programs for the top rank (i.e., Tier 1), 59 programs for the second rank (i.e., Tier 2), 54 programs for the third rank (i.e., Tier 3), and 54 programs for the fourth rank (i.e., Tier 4). We did not have an even number of programs at each rank because often the programs tied, and we did not want to split the tied programs. That accounted for the uneven numbers in each of the four ranks. We decided to break the programs up into four tiers and to send surveys to participants that matched their ranking. We did this because we wanted participants to feel that their responses could not be tied to their specific university. We acknowledge that breaking the programs into four tiers only gives a rough estimate of differences among the four groups. Also, note that we did not rank the PsyD programs, the EdD programs, or the master's programs because we could not find lists of the rankings for these programs.

Next, we used the *Graduate Study in Psychology* book by the American Psychological Association (2018) to make a list of psychology programs in the United States. This list included PhD programs in psychology, PsyD programs, PhD/EdD programs in education, and master's programs in psychology. Then we compiled a list of psychology faculty by going to the webpages of the universities and selected every third faculty member listed. We excluded retired faculty, instructors, adjuncts, and staff. This resulted in 3,050 e-mail addresses. We used an app called GMass to track the opened e-mails. Of the 3,050 e-mails sent, 47% (1,433) were opened. The number of unopened e-mail was partly because of e-mails not working (2%) and faculty having autoresponder messages saying they were not checking e-mail due to vacations,

not working in the summer, sabbaticals, maternity or paternity leave, recently retiring, or quitting academia (19.8%).

From the opened e-mails, we had a 59% response rate, but we removed 73 of 838 participants because they had not accepted graduate students in the past 5 years. We had a total of 765 participants complete the survey including 224 participants from Tier 1 PhD programs in psychology, 108 participants from Tier 2 PhD programs in psychology, 95 participants from Tier 3 PhD programs in psychology, and 105 from Tier 4 PhD programs in psychology. We had another 32 participants from PsyD programs, 99 participants from PhD/EdD programs in education departments, and 102 participants from master's programs in psychology.

Measures

Demographics. Of the participants, 54.0% of them were women, 45.4% were men, and .6% identified as genderqueer, nonbinary, or agender. Eighteen participants did not report gender identity. The average age of the sample was 48.15 ($SD = 11.86$). Thirty-six participants did not report their age. The majority of the sample reported that they were White (81.7%) and had earned tenure (72.5%). As for rank, 45.9% reported being a professor, 30.0% reported being an associate professor, and 24.1% reported being an assistant professor. Nine of the respondents did not list their rank. The participants lived in the Midwest (27.3%), Northeast (22.7%), South (34.0%), and West (16.0%).

To evaluate our hypotheses, we developed a SurveyMonkey survey to assess the following areas.

Importance of research experience. To evaluate the importance of research experience we used the question: "Assuming an applicant's GRE and GPA are within range of your program standards, how important is the applicant's research experience in order for the applicant to be accepted by you?" Faculty were asked to use the following scale: 1 (*it is not important*), 2 (*it is minimally important*), 3 (*it is somewhat important*), 4 (*it is important*), and 5 (*it matters the most*).

Amount of research experience. Faculty were asked about their expectations for applicants' amount of research using this question: "For you to accept an applicant (either with a bachelor's or master's degree), how much research experience do you expect to see? Faculty were asked to use the following scale: 1 (*no research experience is expected*), 2 (*a semester or summer of research experience*), 3 (*a year of*

research experience), 4 (2–3 years of research experience), and 5 (more than 3 years of research experience).

Research match. Faculty were asked about the importance of the applicant matching them by using this question: “How important is it that applicants (whether they have a bachelor’s or master’s degree) have research experience in your area of expertise or an area that complements your research?” Faculty were asked to use the following scale: 1 (not important), 2 (a little important), 3 (somewhat important), 4 (important), and 5 (very important).

Independent research experience. Faculty were asked about the importance of applicants having independent research experience using this question: “How important is it that applicants (whether they have a bachelor’s or master’s degree) have independent research experience (i.e., a thesis or first author publication)?” Faculty were asked to use the following scale: 1 (not important), 2 (a little important), 3 (somewhat important), 4 (important), and 5 (very important).

Results

We used one-way Analyses of Variance to evaluate

our hypotheses. Our first hypothesis was supported, $F(6, 758) = 22.13, p < .001, \eta^2 = .14$. We found that faculty from PhD programs in psychology departments and higher ranked programs rated research experience as more important. See Figure 1 for a visual representation of the data. Post-hoc analyses, using Scheffé’s test, showed that Tier 1 PhD programs in psychology departments and Tier 4 PhD programs in psychology departments were statistically different ($p = .04$). Tier 1–4 PhD programs in psychology departments were significantly different than the PhD/EdD programs in education departments ($p < .001$). Tier 1, 2, and 3 PhD programs in psychology departments were statistically different from the master’s programs in psychology departments ($p < .002$ or lower).

Our second hypothesis was supported, $F(6, 758) = 22.67, p < .001, \eta^2 = .15$. Faculty from PhD programs in psychology departments and higher ranked programs expected applicants to have more research experience. See Figure 1. Post-hoc analyses, using Scheffé’s test, showed that Tier 1 PhD programs in psychology departments significantly differed from Tier 4 PhD programs in psychology departments ($p = .045$), PsyD programs ($p = .007$), and PhD/EdD programs in education departments ($p < .001$). Tier 2, 3, and 4 PhD programs in psychology departments also significantly differed from the PhD/EdD programs in education ($p < .001$) and master’s programs in psychology departments ($p = .015$ or lower).

Our third hypothesis was supported, $F(6, 755) = 15.86, p < .001, \eta^2 = .11$. Faculty from PhD programs in psychology departments and higher ranked programs expected more of a match between their research and applicants’ research experience. See Figure 1. Post-hoc analyses, using Scheffé’s test, showed that Tier 1 and Tier 2 PhD programs in psychology departments significantly differed from Tier 4 PhD programs in psychology departments ($p = .013$ or lower). Tier 1 PhD programs in psychology departments also significantly differed from the PsyD programs ($p = .048$). Tier 1, Tier 2, and Tier 3 PhD programs in psychology departments differed from PhD/EdDs from education departments ($p = .017$ or lower), and master’s programs in psychology departments ($p < .001$).

Our fourth hypothesis was supported, $F(6, 756) = 13.40, p < .001, \eta^2 = .10$. Faculty from PhD programs in psychology departments and higher ranked programs expected to see more independent research experience from applicants. See Figure 1. Post-hoc analyses, using Scheffé’s test,

FIGURE 1

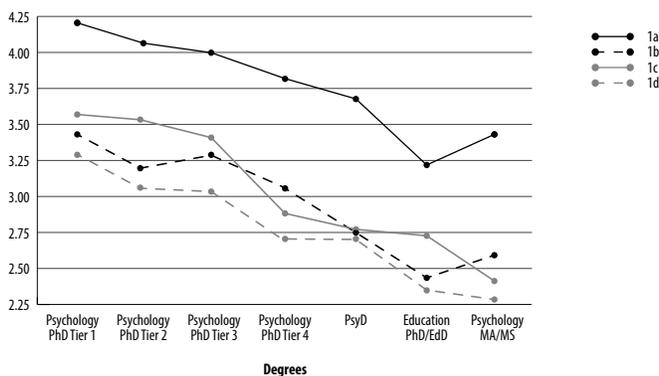


Figure 1a. Mean differences for ratings of research importance from faculty representing different types of degree programs. The total number of participants was 765 with 224 representing psychology PhD tier 1, 108 representing psychology PhD tier 2, 95 representing psychology PhD tier 3, 105 representing psychology PhD tier 4, 32 representing PsyD, 99 representing education PhD and EdD, and 102 representing master’s in Psychology.

Figure 1b. Mean differences for ratings of the amount of research expected from faculty representing different types of degree programs. The total number of participants was 765 with 224 representing psychology PhD tier 1, 108 representing psychology PhD tier 2, 95 representing psychology PhD tier 3, 105 representing psychology PhD tier 4, 32 representing PsyD, 99 representing education PhD and EdD, and 102 representing master’s in Psychology.

Figure 1c. Mean differences for ratings of importance of research match from faculty representing different types of degree programs. The total number of participants was 762 with 224 representing psychology PhD tier 1, 108 representing psychology PhD tier 2, 95 representing psychology PhD tier 3, 103 representing psychology PhD tier 4, 31 representing PsyD, 99 representing education PhD and EdD, and 102 representing master’s in Psychology.

Figure 1d. Mean differences for ratings of importance of independent research experience from faculty representing different types of degree programs. The total number of participants was 763 with 224 representing psychology PhD tier 1, 107 representing psychology PhD tier 2, 95 representing psychology PhD tier 3, 104 representing psychology PhD tier 4, 32 representing PsyD, 99 representing education PhD and EdD, and 102 representing master’s in Psychology.

showed that Tier 1 PhD programs in psychology departments differed from Tier 4 ($p = .017$). Tier 1, Tier 2, and Tier 3 PhD programs in psychology departments differed from the PhD/EdD programs in education departments ($p \leq .008$) and the master's programs in psychology departments ($p = .005$ or lower).

We also evaluated the subfields within PhD programs in psychology and education departments. We used the following subfields: clinical psychology, cognitive psychology, counseling psychology, developmental psychology, educational psychology, industrial/organizational psychology, neuroscience, school psychology, social psychology, and quantitative psychology. However, we recognize that more fields are becoming interdisciplinary and therefore these categories may be somewhat artificial. A few of the participants listed working in two areas (e.g., clinical and neuroscience), so they were not included. We also did not analyze subfields that had less than 15 participants. Those included community psychology, evolutionary psychology, experimental psychology, forensic psychology, health psychology, human factors, and personality psychology. We did keep quantitative psychology with only 18 respondents and recognize that the sample size is somewhat low for that subfield.

Our fifth hypothesis was partially supported because we found that faculty in clinical PhD psychology programs only rated research importance as higher than a few of the other subfields, $F(9, 558) = 5.96, p < .001, \eta^2 = .11$. Post-hoc analyses, using Scheffé's test, revealed that faculty from clinical programs rated research experience as more important than faculty in counseling psychology ($p = .02$) and school psychology ($p < .001$), but clinical psychology was not significantly different from the other subfields. See Figure 1. It was interesting to find that average ratings for all of the subfields was 3.95 ($SD = 0.84$), which indicates that the disciplines overall think research experience is *important* when making admissions decisions. Many of our respondents reinforced this by writing about how important this is to them in the comment section of the survey. When we took out the programs typically from education departments (i.e., counseling psychology, educational psychology, and school psychology) and recalculated the mean, we found that number increased to 4.07 ($SD = 0.85$) meaning that faculty from psychology departments thought research was *important* and some thought *it mattered the most*.

Our sixth hypothesis was partially supported because we found that faculty in PhD clinical

psychology programs only had higher expectations for the amount of research experience than a few of the other subfields, $F(9, 559) = 9.60, p < .001, \eta^2 = .17$. Post-hoc analyses, using Scheffé's test, revealed that faculty from clinical programs rated the amount of research experience as more important than faculty in counseling psychology ($p < .001$), educational psychology ($p < .001$), and school psychology ($p < .001$), but the other subfields were not significantly different. See Figure 2. When we looked at how the faculty in the subfields rated the amount of research expected, we found the average to be 3.19 ($SD = 0.85$) for all of the disciplines, meaning that at least *a year* of research experience was expected from applicants across disciplines. When we took out the programs typically from education departments (i.e., counseling psychology, educational psychology, and school psychology), we found that number increased to 3.33 ($SD = 0.83$), meaning that many of the faculty expect *a year* of

FIGURE 2

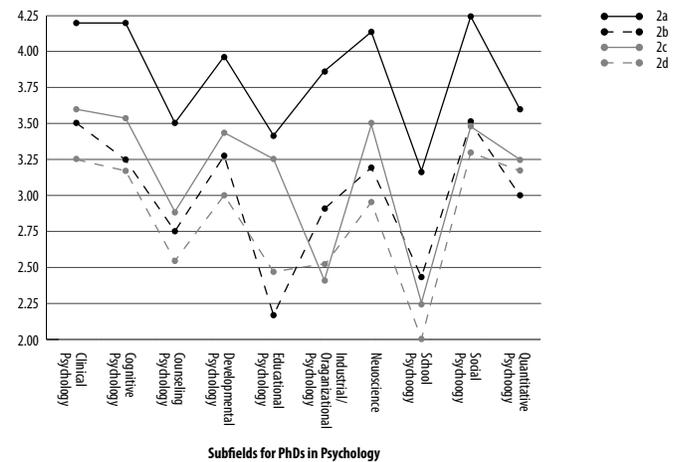


Figure 2a. Mean differences for ratings of research importance as evaluated from faculty representing different subfields for PhDs in psychology. The total number of participants was 568 with 147 in clinical psychology, 66 in cognitive psychology, 45 in counseling psychology, 82 in developmental psychology, 23 in educational psychology, 35 in industrial/organizational psychology, 55 in neuroscience, 27 in school psychology, 70 in social psychology, and 18 in quantitative psychology.

Figure 2b. Mean differences of the amount of research expected from faculty representing different subfields for PhDs in psychology. The total number of participants was 569 with 147 in clinical psychology, 67 in cognitive psychology, 45 in counseling psychology, 82 in developmental psychology, 23 in educational psychology, 35 in industrial/organizational psychology, 55 in neuroscience, 27 in school psychology, 70 in social psychology, and 18 in quantitative psychology.

Figure 2c. Mean differences for ratings of importance of research match from faculty representing different subfields for PhDs in psychology. The total number of participants was 568 with 147 in clinical psychology, 67 in cognitive psychology, 45 in counseling psychology, 82 in developmental psychology, 23 in educational psychology, 35 in industrial/organizational psychology, 55 in neuroscience, 27 in school psychology, 69 in social psychology, and 18 in quantitative psychology.

Figure 2d. Mean differences for ratings of importance of independent research experience from faculty representing different subfields for PhDs in psychology. The total number of participants was 567 with 147 in clinical psychology, 66 in cognitive psychology, 45 in counseling psychology, 82 in developmental psychology, 23 in educational psychology, 35 in industrial/organizational psychology, 55 in neuroscience, 27 in school psychology, 69 in social psychology, and 18 in quantitative psychology.

research experience, but some expected 2–3 years of research experience.

Our seventh hypothesis was partially supported because we found that faculty in PhD clinical psychology programs only had higher expectations for matching than a few of the other subfields, $F(9, 559) = 11.47, p < .001, \eta^2 = .12$. Post-hoc analyses, using Scheffé's test, showed that faculty from clinical programs rated the research match as more important than faculty in counseling psychology ($p = .47$), industrial/organizational psychology ($p < .001$), and school psychology ($p < .001$). See Figure 2. The faculty in the subfields rated their expectations for applicants matching their research interests with their research experience as 3.33 ($SD = 1.23$), meaning that they felt this was *somewhat important* or *important*. When we took out the programs typically from education departments (i.e., counseling psychology, educational psychology, and school psychology), we found that number increased to 3.45 ($SD = 1.22$).

Our eighth hypothesis was partially supported because we found that faculty in PhD clinical psychology programs only had higher expectations for independent research experience than one other subfield, $F(9, 557) = 7.64, p < .001, \eta^2 = .08$. Post-hoc analyses, using Scheffé's test, revealed that faculty from clinical programs rated their expectations for independent research as more important than faculty in school psychology ($p = .004$). See Figure 2. The faculty from all of the subfields reported their expectations for applicants having conducted independent research as 2.98 ($SD = 1.22$), meaning that they felt it was *somewhat important*. When we took out the programs typically from education departments (i.e., counseling psychology, educational psychology, school psychology), we found that number increased to 3.11 ($SD = 1.21$).

Discussion

Our first four hypotheses were supported. We found that faculty from PhD programs in psychology departments and higher ranked programs rated research experience as more important, they expected applicants to have more research experience, they expected more of a match between their research and applicants' research experience, and they expected to see more independent research experience from applicants. This tells us that, when applicants are looking at the various types of degrees, they should make sure their research experience (i.e., the amount of research, the research match, and independent research) fit

the expectations of the faculty in those programs.

We also evaluated the subfields of psychology PhD programs. Those hypotheses were partially supported. Overall, we only found a few differences in expectations from the faculty in clinical psychology PhD programs as compared to faculty in other subdisciplines for seeing research experience as more important, expecting applicants to have more research experience, expecting more of a match between their research and applicants' research experience, and expecting to see more independent research experience from applicants. The differences were mostly found from programs that are traditionally housed in education departments (i.e., counseling psychology, educational psychology, school psychology) and, when those programs were removed, the mean expectations went up for each category. We also found that clinical psychology programs significantly differed from those in industrial/organizational psychology programs when it came to matching research interests. This makes sense because many schools do not have industrial/organizational psychology faculty because it is a small subfield, so students are not exposed to those areas and do not have opportunities to conduct research in those specific areas. Therefore, when applicants apply to those graduate programs, they may not have had research experience in the faculty's area of interest. Knowing their typical applicant pool, faculty in industrial/organizational psychology might have considered this when answering the question about match.

Many of the participants who took our survey added comments about how they select applicants for their programs. They explained that, after an applicant meets the standard criteria and has been deemed to have a strong research background, faculty often differ on what they look for. Several of the respondents felt strongly that applicants should know that it is wise to apply to multiple programs because it is hard for applicants to predict what a professor will be looking for in applicants. Many of the survey participants noted that, when it comes to the final group of applicants being considered, they know that all of the applicants could be successful, but they have to select someone and often that is done by going with a general feeling about the applicant's fit with the program. Many of the survey participants said that personality of the applicant was their deciding factor. Personality traits often mentioned were: maturity, ability to handle stress, curiosity, grit, a growth mindset, ability to

take criticism, independence, time management, commitment, sense of humor, being a team player, being polite, diligence, initiative-taking, resilience, conscientiousness, motivation, humility, and an ability to take direction. One other participant noted two other factors that students often do not consider. First, the criteria for many faculty changes from year to year according to the type of student they perceive their lab needs. Second, the quality of the applicant pool in a particular year can affect whether or not an applicant is accepted. The respondent added that some years programs receive many more strong applicants than other years. For those years, some very talented applicants are rejected.

In conclusion, our results support that undergraduate research is important to faculty when accepting graduate students and especially for those in PhD programs and higher ranked programs, as well as those in PhD psychology subfields housed in psychology departments. This information should help applicants to make more informed choices when selecting graduate programs to apply to.

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Invited Editorial: Psi Chi Is Engaging Undergraduate Students in Publishable Research

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Supporting undergraduate student research can be quite daunting for faculty at many universities. Faculty may feel like they lack the time, funds, or specific expertise to support student-initiated projects. Fortunately, Psi Chi can help faculty and students engage in cutting-edge psychological research.

Many faculty are familiar with Psi Chi as an international honor society focused on psychology. Indeed, with over 1,150 chapters and 780,000 members inducted worldwide since 1929, Psi Chi is one of the largest honor societies in the world. In fact, a common misperception of Psi Chi is that it is an induct-and-done society where students gain a line on their resumes/vitas, but nothing else. That perception could not be further from the truth. In reality, Psi Chi provides many resources that can help students and faculty engage in high quality, publishable research. The organization was an early adopter of open science practices and developed a number of different programs in the past six years that have evolved into a suite of critical resources for students and faculty. These resources include assisting students getting the funds to do research, designing quality studies, collecting data, and helping the students publish their data.

Often, one of the first challenges undergraduates face is getting money to facilitate their research. To this end, Psi Chi offers a number of research grants to help members collect data. Importantly, not only do these grants give students funding, they also provide the students with a rigorous initial experience with peer review. The grants are also generally well-funded; in fiscal year 2017–2018, there were 68 undergraduate research grant recipients out of 119 applicants for a total of 57.1% funded. Of the 68 grants awarded, 25% (17) of the grants were Mamie Phipps Clark Diversity Research Grants, the purpose of which is to support research that emphasizes diversity. Any undergraduate,

graduate, or faculty advisor research grant that is submitted is automatically considered for it. Beyond the research grants, Psi Chi also offers a number of awards and scholarships that students are often eligible for.

Another major challenge faced by many researchers, including undergraduates, is choosing appropriate materials for a study. Many undergraduates may erroneously believe that they need to create their own materials, but it is relatively common in psychology to use measures with established reliability that have been validated by other researchers. Of course, finding these appropriate measures and materials can be relatively time consuming. Recently, Psi Chi created a materials repository database where faculty and students can search for different kinds of free scales and stimuli that are available online (e.g., normed word lists, questionnaires, emotional stimuli) using keywords or categories (www.psichi.org/page/researchlinks). Although this database does not contain an exhaustive list of previously used and freely available materials, it offers a breadth of possible options to help researchers begin to construct their study. Psi Chi also provides a number of resources to help members collect their data. Psi Chi hosts a list of studies for which researchers need participants (https://www.psichi.org/page/study_links).

Beyond resources on the website, another option in the design and recruitment/participation in studies involves a program called the Network for International Collaborative Exchange (NICE; <https://osf.io/juupx/>). The NICE assists faculty with fostering publishable undergraduate research through collaborative efforts that significantly reduce the time and cost it takes to design a study, find materials, recruit participants, and publish results. The NICE initiative involves multiple components where faculty and students can connect with diverse faculty from across the globe

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to engage in small or large collaborations focused on cross-cultural questions. NICE allows faculty to mentor students on topics across many areas while helping students to see the complete cycle of the scientific method from hypothesis formation to peer review. There are two components of NICE that faculty can utilize, CROWD and CONNECT.

CROWD is a crowdsourcing initiative where researchers from around the globe gather to answer one research question through the use of a common protocol. The first CROWD project (Rogers et al., 2018) is currently in progress and can be reviewed by current and future contributors (<https://osf.io/qba7v>). CROWD can be used for either students' independent studies or classroom-based projects with contributors cooperatively conducting research using a standardized protocol. The protocol and measures needed to conduct the project are provided to contributors so that the project can be implemented uniformly at their home institution. The accessibility of the protocol and materials significantly reduces time and financial barriers related to designing a study and finding measures and their associated scoring procedures. The removal of time and financial barriers provides faculty with more time to teach students about the research process and conducting quality research while concurrently allowing students to make a meaningful research contribution. Students can become coauthors on a publication through significant contributions to data collection and/or through other major contributions to the research such as assembling IRB documents and editing the manuscript.

The datasets from the CROWD projects will also be made publicly available for secondary data analyses. This provides a unique opportunity for faculty to have students come up with a research question, develop hypotheses, craft an analysis plan, and use a cross-cultural data set, without the time and funding restraints imposed by geographical location, institutional endowments, finding materials, and collecting data. Given the diversity of the data set, the large sample size, and wide range of variables available for analyses, it is not only easy to develop an offshoot project, but these offshoot projects may also be publishable.

The NICE component called CONNECT is a researcher network that aims to facilitate smaller collaborative projects by pairing up researchers who are willing to share resources with those who need them. CONNECT employs the StudySwap web platform to foster more intimate and specialized

research collaborations, with a focus on exchanging resources and building professional working relationships between researchers. Collaborating through CONNECT facilitates publishable research by enabling larger and more diverse sample sizes to be recruited, providing access to specific samples, materials, and technologies of interest, while concurrently assisting in the development of working relationships. The collaborative relationships formed can additionally provide support during the publication process. In addition, CONNECT provides an avenue for students to connect with experts in particular research areas that may be of interest to them.

Beyond specific research project offerings, Psi Chi offers a number of resources that help faculty and students publish their findings. For many researchers, the first publication experience is to present at conferences. This provides a step toward writing a manuscript for submission as the researcher needs to compile information into a report form to author either an oral or poster presentation. Psi Chi hosts poster sessions at every American Psychological Association (APA) regional convention, as well as APA and the Association for Psychological Science convention. Additionally, Psi Chi sessions regularly include student speakers at the Eastern, Southeastern, Rocky Mountain, and Southwestern Psychological Association conventions. This process invites and encourages students to move along the research path by presenting competitive research. Further, Psi Chi officers and faculty advisors often nudge students to apply for travel grants, present their research, and convert their poster to a submission to the *Psi Chi Journal of Psychological Research* or elsewhere.

The *Psi Chi Journal* publishes peer-reviewed research articles from any discipline in psychology with the only caveat that the first author must be a Psi Chi member. The *Psi Chi Journal* has been at the forefront of making changes (e.g., adopting open science badges) as the field has evolved to become more transparent in planning and reporting, and transformed the journal to become open-access so anyone has access to the articles. The *Psi Chi Journal* specifically welcomes replications, awards open science badges, and offers a number of unique support services to students including assistance along the entire publishing process. With a diverse team of faculty serving as associate editors and a large pool of supportive reviewers, students, as well as faculty, can learn the publishing process in a supportive, educational manner with all manuscripts receiving

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three peer reviews and a review from the associate editor. This is to further enhance the learning experience. Whether students' submissions are ultimately rejected or accepted for publication, those completing the research cycle firsthand experience professional development benefits. The *Psi Chi Journal* also invites editorials to support Psi Chi members in their academic pursuits. A brief set of examples includes multiple articles on how to conquer APA style (Hughes, Brannan, Cannon, Camden, & Anthenien, 2017), how to read and write academic manuscripts (Fallon, 2018), how to integrate qualitative and quantitative methods (Brannan, 2015), as well as how to publish a thesis or dissertation (Ayala, 2018). The journal will continue these and other activities to support Psi Chi members in meeting their publishing pursuits.

Another resource Psi Chi provides is the *Eye on Psi Chi* magazine. Many of the articles deal with challenges and successes associated with undergraduate research—from both the perspective of faculty and of students. For instance, there are *Eye on Psi Chi* articles that deal with publishing both posters and presentations at conferences, as well as publishing in journals (https://www.psichi.org/page/eye_main).

Psi Chi is committed to helping students and alumni members' pursuit of psychological knowledge. Beyond the resources we detailed on helping students engage in publishable research, Psi Chi provides many other resources valuable to students and instructors of psychology. For instance, Psi Chi is committed to improving diversity in psychology (and as such, has a committee focused

on this challenge, as well as a committee focused on research in general). Psi Chi is also committed to helping students with their studies such as by offering a number of grants and scholarships to help with further study in psychology. Across many domains, Psi Chi is committed to engaging undergraduate students in high quality publishable research.

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The authors of this article wish to note the following details of affiliation. All current authors are affiliated with Psi Chi, the International Honor Society in Psychology, and maintain various leadership roles within the organization. Further, many of the authors have been paid by Psi Chi for their expertise and services to the organization through salary, stipends, or travel funding.

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Invited Editorial: Psi Chi Journal Practices That Foster Publishable Student Research Articles

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ABSTRACT. The *Psi Chi Journal of Psychological Research* is a journal that is peer-reviewed and published quarterly for student and faculty authors. The Journal is a channel for researchers to publish high-quality research in any field of psychology. For many, publishing scientific work can be overwhelming and we understand that. As the editorial team, we have spent significant time making resources available to authors so that the peer-review process is educational, supportive, and rigorous. Our goal is that our authors will gain the skills that are needed to publish in the field of psychology. In this article, we offer eight Journal practices that are intended to nourish quality, publishable research articles.

Keywords: student research, publishing guidance, open science

The *Psi Chi Journal of Psychological Research* is a quarterly, peer-reviewed journal that supports and facilitates undergraduate student, graduate student, and faculty authors. Submitting a manuscript to a journal can be overwhelming and convoluted, particularly for those who are new to the process. The leadership of Psi Chi, the International Honor Society in Psychology, recognized the need for authors to have an outlet to publish diverse, high-quality research with a Journal that would support authors through the nuanced and at times ambiguous/challenging process of publication. We, the Journal's editorial team, believe that the peer-review process for our authors should be supportive and educational, but also rigorous so that authors can gain the skills necessary for their research to advance the science of psychology. The editorial team at the *Psi Chi Journal* has made strategic changes in order to enhance and promote the publishing experience. Students are encouraged to submit to the Journal to benefit from the following eight *Psi Chi Journal* practices, all of which are intended to nourish quality, publishable research articles.

The first practice is to be transparent and clear

about the requirements and goals for the *Psi Chi Journal*. These can be found inside the first page of each issue. Our mission statement asserts: "The twofold purpose of the *Psi Chi Journal of Psychological Research* is to foster and reward the scholarly efforts of Psi Chi members, whether students or faculty, as well as to provide them with a valuable learning experience." Further, care is taken to ensure that details about the *Psi Chi Journal* on the Psi Chi website, official flyer (Psi Chi, n.d.), member e-mails, and social media posts prominently and consistently identifies this same information. In any of these locations, interested readers will quickly learn that student and faculty authors are welcome to submit, only the first author is required to be a Psi Chi member, and other basic facts. Clear submission guidelines also help students know what research practices are expected of them (e.g., effect sizes must be included with any *p* values; Psi Chi, n.d.-a).

Moreover, our second practice requires that all submissions be reviewed by an APA-style reviewer and three doctoral-level reviewers. Although this is not necessarily the norm within the publishing community, we believe that the more support and feedback that we can provide our authors, the better the

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publishing experience will be. Our doctoral-level reviewers understand that this is a learning process for the authors, and subsequently include specific and constructive feedback in comprehensive reviews. The reviewers for the Journal are a diverse group of volunteers who are committed to assisting the student or faculty researcher through what can be a challenging process.

A third practice to foster publishable student and faculty research articles is to constantly pursue new strategies and opportunities that will encourage authors of scientifically sound articles to choose *Psi Chi Journal* as a publication outlet. In recent years, many benefits of submitting to *Psi Chi Journal* have been launched and featured. For example, to enhance the visibility of our authors' research across the psychological community, *Psi Chi Journal* is now indexed in PsycINFO, EBSCO, Crossref, and Google Scholar databases. All published articles are free to members and nonmembers alike, and they all receive a unique hyperlink DOI number; thus, the likelihood of articles being read and cited from the *Psi Chi Journal* is much higher than in the past. Similar to other journals, we now invite authors to sync their accounts with ORCID, which creates a more streamlined experience by keeping scholarly activities attached to one professional ID. Also, to incentivize authors to submit quality research, *Psi Chi Journal* specially awards Open Science Badges for submissions that provide Open Data, Open Materials, and/or Preregistration of their research. To our knowledge, *Psi Chi Journal* is also the first to create and award a special Replications badge to authors who publish replication studies, which are crucial to the field of psychology (Psi Chi, n.d.-b).

Our fourth, and very important practice, is that the *Psi Chi Journal* seeks to be as diverse and inclusive as possible by inviting authors to submit manuscripts on any topic area in psychology. The *Psi Chi Journal* represents a collaboration of researchers from every field of psychological research; this collaboration allows us to provide varied and comprehensive feedback that is ideal for developing researchers. That being said, allowing authors to submit from any field in psychology requires a significant amount of resources in order to properly review and edit manuscripts from every possible area in psychology. Because of this complexity, the editor has assembled a group of associate editors with a variety of backgrounds and skills. We have also recruited a diverse group of nearly 300 active reviewers who are experts in a

variety of disciplines within psychology.

Fifth, our associate editors strive to make the publishing process positive and informative for all involved. Although reviewers offer advice on missing components in a manuscript, or methodological and statistical issues, our associate editors are the important people who pull it all together so that the author(s) can fully understand all the feedback that they receive. The associate editors accomplish this by "softening" any harsh reviewer feedback, condensing any repetitive suggestions, and clarifying any contradictory instructions. Additionally, associate editors offer their own review of the paper, as well. Their reviews are generally a summary of the other reviews organized in a way that assists with understanding the overarching issues with the manuscripts.

Sixth, it is never assumed that any author has previous experience with publishing in a peer-reviewed journal. Consequently, we offer the authors a "timeline" when their new submissions pass our Quality Control stage, as well as information about what they should expect during the process ahead. The first time submitting a manuscript can be daunting. Thus, we do not want authors to feel "out of the loop" (Brannan, 2018). Detailed submission guidelines and an example cover page, manuscript, and sponsor statement are available to help student and faculty authors (Psi Chi, n.d.-a). Further, multiple Psi Chi blog and magazine articles have been released to make information about the journal more accessible to new researchers such as "The Peer-Review Process Explained in Just Over 1,000 Words" (Cannon, 2018b), "Why Choose Our Journal First" (Brannan, 2018), "Our First Replication Badge" (Rouse, 2018), and "How (and Why) to Preregister Your Research" (Cannon, 2018a).

Seventh, to support authors' during the review process, we are similarly passionate about teaching reviewers how to communicate with our authors during the review process. When reviewers agree to conduct a review, they receive an e-mail with specific instructions of what to look for in the manuscript. Reviewer instructions are available on the submission portal too, along with hyperlinks to specific reviewer resources.

Eighth, in the past 3 years, the Journal has published educational invited editorials in every issue. For example, our latest editorial describes how to prepare theses and dissertations for publication (Ayala, 2018). Other recent editorials explain how to create and understand an empirical article (Fallon, 2018), *p* hacking (Rouse, 2016),

integrating quantitative and qualitative methods (Brannan, 2015), and what the institutional review board's job is and why they are needed (Domenech Rodríguez, Corralejo, Vouvalis, & Mirly, 2017). Further, to promote research related to greater Psi Chi educational endeavors, the *Psi Chi Journal* released its first special issue in spring 2018. The focus was on Open Science Badges, and Steven V. Rouse from Pepperdine University was the Special Invited Editor. He reviewed and accepted eight manuscripts for the special issue, all of which received at least one Open Science Badge. This issue was met with much enthusiasm. Thus, a second issue on "Education, Research, and Practice for a Diverse World" is anticipated for release in summer 2019.

In sum, it is our goal to support authors in the publishing process by offering a supportive and educational platform in which each step of the process is transparent and clear. Moreover, the *Psi Chi Journal* editor and team recognize that embracing diversity and inclusion leads to increased growth and sustainability as a whole. Acceptance of diverse individuals is necessary, and their participation is needed. To make this point clear, we recently added a sentence about diversity to our purpose statement: "the *Psi Chi Journal* is dedicated to increasing its scope and relevance by accepting and involving diverse people of varied racial, ethnic, gender identity, sexual orientation, religious, and social class backgrounds, among many others." We proudly believe that the eight publishing practices described above have made the *Psi Chi Journal* a priceless resource to help our diverse members become the best generation of psychologists yet.

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Interpersonal Contact, Stereotype Acceptance, Gender Role Beliefs, Causal Attribution, and Religiosity as Predictors of Attitudes Toward Transgender Individuals

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ABSTRACT. Previous research has shown that members of the transgender community are often the victims of prejudice and discrimination (e.g., Grant et al., 2011; James et al., 2016). However, because transgender identity is still an emerging topic, relatively few studies have exclusively examined predictors of attitudes toward transgender individuals. The present study of undergraduates ($N = 110$) built on previous research by exploring the role of interpersonal contact, acceptance of stereotyping, traditional gender roles, causal attribution, religiosity, and gender in attitudes toward transgender persons. As hypothesized, one-way ANOVA and multiple regression indicated that interpersonal contact with transgender individuals and attributing transgender orientation to biological factors predicted lower levels of genderism/transphobia; whereas greater acceptance of stereotyping, endorsement of traditional gender roles, and greater religiosity predicted higher levels of genderism/transphobia. Men reported higher genderism/transphobia scores than women. Findings provided insight into how attitudes toward transgender individuals may be conceptualized and shaped by social and cognitive processes. Understanding these mechanisms is an important step in reducing prejudice and minimizing its adverse effects.

Keywords: transgender, gender identity, prejudice, discrimination, stereotypes

Previous research has found that transgender individuals often experience prejudice and discrimination on the basis of their gender identity (Grant et al., 2011; James, et al., 2016; Whittle, Turner, & Al-Alami, 2007). A relatively limited but growing body of research has suggested several predictors for transgender attitudes, or “transphobia,” including beliefs about gender, interpersonal contact, religiosity, and attribution of transgender identity (Claman, 2008; Nagoshi et al., 2008; Norton & Herek, 2012; Tee & Hegarty, 2006). However, much of this research has examined prejudice toward the general LGBTQ (i.e., lesbian, gay, bisexual, transgender, queer) community rather than attitudes specifically directed toward

transgender individuals. Although there is evidence that attitudes toward these groups share predictors (e.g., Nagoshi et al., 2008; Worthen, 2012), gender identity is a separate construct from sexual orientation and should be examined as such (American Psychological Association, 2014). The present study aimed to further explore the predictors of attitudes toward transgender individuals in a sample of undergraduates.

Much of traditional psychological research has assumed two discrete categories of sex and gender: male and female. This gender distinction resulted in a binary understanding of gender and led to numerous studies that focused on gender differences between men and women (Hyde, Bigler, Joel,

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Tate, & van Anders, 2018). Studies have indicated that individuals often negatively judge those who express nonconforming gender behaviors that do not fit within this binary conception (e.g., Auster & Ohm, 2000; Eagly, Makhijani, & Klonsky, 1992; Rudman & Fairchild, 2004). More recently, there has been a movement within the scholarly community to redefine gender identity along a spectrum and as more fluid than the original binary construct (Evans, 2014). Within this new conceptualization of gender identity, research in transgender studies has emerged as an area of serious research within psychology and other academic disciplines (Martinez-San Miguel & Tobias, 2016).

Transgender is a term used to describe individuals whose gender identity does not coincide with the sex they were assigned at birth, whereas *cisgender* describes people whose gender identity and expression do correspond with their assigned sex (American Psychological Association, 2018). The term *transgender* includes individuals who identify as transsexual, genderqueer, as well as a variety of other identities (American Psychological Association, 2014). Although some measures of antitrans attitudes use the term “transsexual,” many members of the transgender community do not prefer this language because it is not an umbrella and inclusive term (GLAAD, 2016). For the purposes of this article, the terms *transgender* and *trans* will both be used as descriptors for the multitude of gender nonconforming identities. Because identifying as trans is a personal and often private experience for many people, it is difficult to determine the number of individuals who identify as such. Meerwijk and Sevelius (2017) reported that their best estimate is that 0.39% of the U.S. population identify as transgender. This was relatively consistent with a previous report that approximately 0.3% of U.S. adults indicated transgender identity (Gates, 2011).

Prejudice and Discrimination Against Transgender Individuals

Unfortunately, transgender individuals are subjected to a wide range of prejudice, harassment, and discrimination. The 2015 U.S. Transgender Survey (USTS) of 27,715 transgender individuals in the United States revealed the high prevalence of mistreatment and discrimination of children, adolescents, and adults who identify as transgender (James et al., 2016). Respondents indicated that they had experienced verbal harassment, physical and sexual assault, and general maltreatment due to their transgender identity. Fifty-four percent

of respondents who identified or were perceived as transgender had been bullied and harassed while in school (K–12). Others reported being the survivors of physical (24%) and sexual (13%) assault, and 17% percent indicated that they had left K–12 school due to harassment and mistreatment. Harassment and abuse also took place in the home. In fact, 10% of respondents reported that a family member was responsible for the mistreatment, and 8% of respondents said they had to leave home for being transgender (James et al., 2016). In another study, 37% of adult transgender individuals surveyed reported at least one physical attack since they were 13 years old (Barboza, Dominguez, & Chance, 2016).

Discrimination against trans individuals extends to economic difficulties and is related to limited access to healthcare. Trans individuals reported unemployment at twice the rate of the general population and experienced severe maltreatment in the workplace due to their transgender identity and expression (James et al., 2016). Furthermore, 30% of adults reported being harassed, losing their jobs or being denied a promotion, or being physically or sexually assaulted while at work. Another study indicated that 26% of respondents had lost a job due to being transgender, and 50% had been harassed in their workplace (Grant et al., 2011). These hardships are exacerbated within minority populations (James et al., 2016).

Not all acts of discrimination against transgender individuals are explicit, however. Transgender individuals often experience what are called “microaggressions” (Galupo, Henise, & Davis, 2014). Sue (2010) described microaggressions as subtle forms of discrimination that may be intentional or unintentional offenses that occur in everyday life. Nadal, Skolnik, and Wong (2012) identified eight categories of microaggressions directed toward trans individuals including the use of transphobic and/or incorrectly gendered terminology, endorsement of a gender normative and binary culture or behaviors, denial of personal body privacy, and an assumption of a universal transgender experience. Nadal, Davidoff, Davis, and Wong (2014) examined the emotional consequences of these microaggressions. They found that transgender individuals react to these subtle forms of discrimination with feelings of anger, betrayal, hopelessness, and distress. Further, trans individuals described such microaggression experiences as being emotionally and physically taxing (Nadal et al., 2014). Harassment

is evident even in places that are considered relatively tolerant such as college campuses. McKinney (2005) conducted a qualitative study that assessed transgender individuals' experiences in a university setting. The results demonstrated overarching themes that included feelings of misunderstanding and lack of support from faculty and students. In 2015, 24% of transgender respondents in college or vocational schools reported verbal, physical, and sexual harassment (James et al., 2016).

Other research has identified negative physical and psychological consequences related to the wide range of discrimination against those who identify as trans. Over the course of their lives, trans individuals were more likely to have attempted suicide than the general population (Grant et al., 2011; James et al., 2016). In both Grant et al. (2011) and James et al. (2016), more than 40% reported attempting suicide in their lifetime compared to 4.6% of the general U.S. population. James et al. (2016) reported that, in the past year, 7% of respondents had attempted suicide, whereas this number was 0.6% in the general U.S. population. Rates of suicide rise for those who had lost jobs due to bias, were harassed in school, or had been physically assaulted. Compared with 5% of the general population, 39% of transgender individuals surveyed had experienced psychological distress in the past month before completing the survey (James et al., 2016).

Because of these experiences of stigmatization and prejudice, and the resulting negative consequences, it is important to assess the components of attitudes surrounding transgender identity. Herek (2000) suggested that understanding the underlying correlates of prejudice might be a step in helping to prevent such bias. Among these studies, some of the most prominent correlates of attitudes toward transgender individuals were interpersonal contact experiences and beliefs about gender.

Intergroup Contact Theory

Initially based on Allport's (1954) idea that intergroup conflict could be reduced through contact between opposing groups, the contact hypothesis has received much attention because a great deal of research has been conducted on the effectiveness of interpersonal contact in reducing prejudice toward minority groups (Oskamp & Jones, 2000). Intergroup contact theory holds that more exposure to the targeted groups may reduce negative attitudes held by outsiders. A meta-analysis by Pettigrew and Tropp (2006) indicated that interpersonal contact is

effective in reducing prejudice across a wide range of settings. Although originally designed as a way to improve racial and ethnic relations, interpersonal contact has been shown to be an effective method in reducing prejudice among nonracial and non-ethnic samples as well. In fact, among the studies reviewed by Pettigrew and Tropp (2006), the largest effect sizes for interpersonal contact were found in studies that analyzed interpersonal contact among those who identified as cisgender and gay men and lesbian women. Additional studies have found that greater interpersonal contact with gay and lesbian individuals leads to more accepting attitudes (e.g., Herek & Capitanio, 1996; Herek & Glunt, 1993). Specifically, participants who reported closer relationships with individuals who are gay and lesbian, as well as receiving direct disclosure about their sexual orientation, indicated less homophobia (Herek & Capitanio, 1996).

In considering specific instances of interpersonal contact and reduction of transphobia, work by Walch et al. (2012) examined the effects of a speaker panel comprised of transgender individuals in reducing antitransgender attitudes. Results indicated that those who attended the speaker panel, as opposed to a traditional lecture that did not include contact with transgender individuals, showed greater immediate reductions of transphobia. Although both groups showed reduced levels of transphobia, the results suggested that face-to-face interaction with individuals who identified as transgender is more effective at reducing prejudice than learning about transgender identity from a third party. Interestingly, Crisp and Turner (2009) have found that interpersonal contact may not have to be direct or face-to-face; imagined group contact may be an effective way to reduce intergroup conflict and prejudice. Turner, Crisp, and Lambert (2007) found that imagined group contact helped to change individuals' attitudes toward those of a different sexual orientation. Because previous research has found correlations among predictors of homophobia and antitrans attitudes (e.g., Hill & Willoughby, 2005; Tebbe, Moradi, & Ege, 2014), these studies raise important questions that could be applied to research related to interpersonal contact and attitudes toward transgender individuals. Therefore, the present study sought to examine whether greater levels of direct interpersonal contact with transgender individuals (i.e., having met a trans person) would predict lower antitrans attitude scores.

Stereotype Acceptance and Traditional Gender Role Beliefs

The idea of interpersonal contact theory is directly related to reducing preexisting stereotypes associated with marginalized groups. Stereotyping reflects preconceived perceptions about how particular groups typically act (Eagly & Steffen, 1984), and prejudice and stereotyping often go hand in hand (Gordijn, Koomen, & Stapel, 2001). Other studies have supported this association between greater prejudice and the attribution of positive and negative traits to an ethnic group (Falanga, De Caroli, & Sagone, 2014). Although not all stereotypes are negative, the categorization of individuals based on a small amount of information can be harmful. However, the application of stereotypes may seem useful to some people when attempting to understand an individual in the context of their group membership (e.g., cultural, religious, gender). Allport (1954) suggested that categorical thinking is a natural function of human thought and begins from an early age. Despite this natural tendency to categorize, research has found that, in categorizing groups, people tend to minimize differences within groups (Plous, 2003). It is possible that, in generalizing people on the basis of a social or ethnic group, the individual aspects of group members may be overlooked. Therefore, individuals may perceive trans persons as one homogenous group rather than unique individuals. Because transgender individuals tend to fall outside established gender norms, the desire to categorize and the belief in its utility are particularly important concepts in understanding transphobia.

For specific components of stereotyping and categorizing, endorsement of a binary construction of gender has been shown to be important to anti-LGBTQ attitudes. Specifically, those who believe in gender as a dichotomous concept are more likely to have negative perceptions of both LGB and transgender identity (e.g., Norton & Herek, 2012; Tee & Hegarty, 2006). Norton and Herek (2012) found that individuals who endorsed a gender binary understanding were more likely to report negative feelings toward the LGBT community. Also tied to a binary conceptualization of gender is the idea of male and female gender roles. Deaux and Lewis (1984) identified “masculine” and “feminine” roles as one of the primary components surrounding gender stereotypes. However, few studies have specifically analyzed the importance of traditional gender roles in transphobia levels (Claman, 2008). As a result, the current study assessed both general

stereotyping acceptance as well as endorsement of traditional gender roles. Based on this research, the present study examined whether greater acceptance of stereotypes and traditional gender roles would predict higher transphobia scores.

Causal Attribution

Causal attribution is defined as the causes that people believe are the basis for the behavior of others (Tygart, 2000). Several foundational studies assessing attitudes toward gay and lesbian individuals found that attribution of sexual orientation to biological factors (e.g., genetics), rather than environmental factors, was positively correlated with lower levels of homophobia. In fact, Tygart (2000) found that the more that participants attributed sexual orientation to biological factors, the more likely they were to support gay civil rights such as domestic partnership and marriage. Although limited, similar results have been found when assessing attitudes toward transgender individuals. Claman’s study (2008) examined participants’ ratings of the degree to which they believed that transgender orientation was primarily caused by biological factors, environmental factors, or a mixture of both. It was found that those participants who attributed transgender orientation to biology as opposed to environment were more likely to have positive attitudes regarding trans individuals (Claman, 2008). Furthermore, Tee and Hegarty (2006) found that those who believe that gender is a dichotomous construct only and that this biologically based dichotomy leads to understandings of gender were more likely to oppose transgender civil rights. Therefore, in the present study, we examined how biological and environmental attributions may play a role in antitrans attitudes.

Religiosity

Measures of religiosity have often been used when assessing attitudes toward minority groups including attitudes toward trans individuals (Claman, 2008; Nagoshi et al., 2008; Norton & Herek, 2012; Tee & Hegarty, 2006). All of these studies found high levels of religiosity to be associated with higher levels of transphobia. However, in one study, once sexual prejudice was controlled for, the correlation of religiosity became nonsignificant in men, although it remained significant for women (Nagoshi et al., 2008). Additionally, Johnson, Brems, and Alford-Keating (1997) found religiosity to be significantly correlated with more biased beliefs about the origin of sexual orientation and

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overall levels of homophobia.

One reason that greater, and more conservative in particular, religiosity may contribute to homophobia and antitrans attitudes is the literal interpretations of the Bible that are promoted within some religious communities (Burdette, Ellison, & Hill, 2005). Some religious denominations hold that biblical teachings clearly admonish same-sex relations and that participating in a gay or lesbian sexual relationship is not in accordance with Christian values (Stanton, 2014). Because many mainstream religions uphold the nuclear family and marriage between a man and a woman as the highest standard, some followers hold the belief that gay and lesbian relations (and other nonconforming sexual relationships) threaten the church and in some ways, the prosperity of the United States (Adkins, 2016). Although such beliefs may be limited to the most conservative evangelical protestant groups within the United States, the belief that gay and lesbian relationships should at least be discouraged is found in a wide range of religious teachings (Pew Research Center, 2014). Although Biblical teachings admonish same-sex relationships specifically, religious groups have begun to target transgender individuals. For instance, the Family Policy Alliance initiated a theologically-based resolution that was passed by the Kansas Republican party describing transgender individuals as not conforming to “God’s design for gender based on biological sex” and opposing any efforts to validate transgender identity (Shorman & Woodall, 2018). Therefore, the present study examined whether higher scores on religiosity would predict greater antitrans attitudes.

Gender Differences in Prejudice

In previous research, heterosexual men have reported more negative attitudes toward gay men than have heterosexual women (e.g., Herek, 1988, 2002, 2003; Kite & Whitley, 1996). A similar gender difference in attitudes toward lesbian women also has been reported, but this difference is not as robust as those found when judging gay men (Herek, 1988). Similarly, several studies have indicated that women report positive attitudes toward transgender individuals, whereas men tend to have more negative attitudes toward this group (e.g., Claman, 2008; Nagoshi et al., 2008; Norton & Herek, 2012; Worthen, 2012; Wright, Adams, & Bernat, 1999). These results converge with a variety of previous studies that analyze gender differences in prejudicial attitudes. For example,

a meta-analysis by Kite and Whitley (1996) found that, across a wide range of studies, heterosexual men tended to rate gay men more negatively than did heterosexual women. In the development of an instrument to measure homophobia, Wright et al. (1999) reported that men scored higher on all three subscales of the Homophobia Scale, suggesting that male participants were more likely than their female counterparts to experience negative thoughts, negative emotions, social avoidance, and behavioral aggression toward gay and lesbian individuals. Studies in this area also have shown that men’s homophobic attitudes may be exacerbated by propensity to aggression (Nagoshi et al., 2008). Some researchers have suggested that heterosexual men have a stake in upholding the traditional idea of masculinity and that men who express feminine characteristics or behaviors that are outside of the masculine ideal may suggest being gay, which is a threat to many heterosexual men (Herek, 1986; Kimmel, 1997). Furthermore, heterosexuality is required to meet cultural standards for masculinity, particularly in the United States (Herek, 1986). However, Kite and Whitley (1996) identified some studies that have not indicated significant gender differences in this area. To further explore the role of gender in antitrans attitudes, we examined whether men would report higher scores on genderism/transphobia than would women.

The Present Study

Previous research has identified relatively consistent predictors of antitrans attitudes. Specifically, studies have shown that greater exposure to transgender individuals (e.g., Walch et al., 2012) and attributing being transgender to biological factors (e.g., Claman, 2008) are associated with lower levels of antitrans prejudice; whereas greater acceptance of stereotypes and traditional gender roles (e.g., Norton & Herek, 2012; Tee & Hegarty, 2006), as well as greater religiosity (e.g., Claman, 2008; Nagoshi et al., 2008; Norton & Herek, 2012; Tee & Hegarty, 2006) predict higher levels of prejudice toward transgender individuals. Furthermore, studies have shown that men report greater antitrans prejudice than women (e.g., Claman, 2008; Nagoshi et al., 2008; Norton & Herek, 2012; Worthen, 2012; Wright et al., 1999). Based on these previous studies, we identified six hypotheses: (a) direct interpersonal contact with transgender individuals (i.e., having met a trans person) would predict lower scores on genderism/transphobia, (b) greater levels of interpersonal contact with

transgender individuals would predict lower scores on genderism/transphobia, (c) greater acceptance of stereotypes and traditional gender roles would predict higher scores on genderism/transphobia, (d) higher scores on religiosity would predict higher scores on genderism/transphobia, (e) greater attribution of being transgender to biological factors would predict lower scores on genderism/transphobia, and (f) men would report higher scores on genderism/transphobia than women.

Method

Participants

Participants were 110 undergraduate students (39 men, 64 women, 2 other, 5 missing) at a small liberal arts school in the southeastern United States. Five participants (4.5%) discontinued participation before completing the study. The mean age of the students was 19.73 years ($SD = 1.14$). Of the 105 participants who completed the questionnaire, most participants identified as European American/White (86.7%, $n = 91$); followed by African American/Black (4.8%, $n = 5$); Asian/Pacific Islander (3.8%, $n = 4$); "other" (3.8%, $n = 4$); and Native American/American Indian (0.9%, $n = 1$). Most participants (89.5%, $n = 94$) indicated their sexual orientation as straight/heterosexual, with 7.6% ($n = 8$) identifying as bisexual, 1% ($n = 1$) gay, 1% ($n = 1$) lesbian, and 1% ($n = 1$) other. Those who indicated they were gay, lesbian, bisexual, or other ($n = 11$) were removed from the analyses in order to specifically examine attitudes of participants who indicated they were cisgender/heterosexual. Participants distributed among all four years of educational status with 24.8% ($n = 26$) first-year, 37.1% ($n = 39$) sophomore, 24.8% ($n = 26$) junior, and 13.3% ($n = 14$) senior students. Students were recruited from a variety of classes including Psychology, French, Accounting, and Political Science. Participation from these classes was voluntary. No payment was provided, although some professors chose to provide extra credit for participation.

Materials

Participants completed the instruments in the following order: (a) informed consent agreement, (b) demographics form, (c) the Genderism and Transphobia Scale – Revised Short Form (GTS-R-SF), (d) the Gender Role Stereotypes Scale (GRSS; Mills, Culbertson, Huffman, & Connell, 2012), (e) the Acceptance of Stereotyping Questionnaire (Carter, Hall, Carney, & Rosip, 2006), (e) the

Marlowe-Crowne Social Desirability Scale (M-C SDS; Crowne & Marlowe, 1960), (f) the Rohrbaugh and Jessor Religiosity Scale (Rohrbaugh & Jessor, 1975), and (g) items to assess transgender identity attribution and interpersonal contact (Claman, 2008).

Acceptance of Stereotyping Questionnaire.

The Acceptance of Stereotyping Questionnaire measures the extent to which participants accept stereotyping in everyday life as useful (Carter et al., 2006). Participants indicate their agreement with 12 statements using a 6-point scale ranging from 0 (*strongly disagree*) to 6 (*strongly agree*). After summing scores, mean scores are calculated, which can range from 0–6, with higher scores indicating greater acceptance of stereotyping. Items include "Sometimes when I meet new people, I can predict their behavior or attitudes just from knowing what social/cultural groups they belong to" and "Stereotypes have too much influence on our behavior toward others" (reverse scored). In studies to establish reliability, the Acceptance of Stereotyping Questionnaire had a mean Cronbach's α of .78 and a test-retest correlation of .70. Carter et al. (2006) also has reported evidence for convergent and discriminant validity. In the present study, Cronbach's α indicated an acceptable level of internal consistency at .84. The mean score was 2.11 ($SD = 0.85$, Median = 2.25), which corresponds most closely to responses of "slightly disagree." Scores ranged from 0.17 (low levels of stereotype acceptance) to 4.00 (high levels of stereotype acceptance).

Gender Role Stereotypes Scale (GRSS). The GRSS measures the degree to which participants endorse a traditional binary view of gender roles (GRSS; Mills et al., 2012). The scale consists of eight items that describe certain tasks that are typically considered masculine or feminine. Participants rate these items using a 5-point scale ranging from 1 (*should always be done by the man*) to 5 (*should always be done by the woman*) based on their beliefs that the tasks should always be done by the man, the woman, or both. The scale is scored by summing responses to the four items of the male stereotype subscale and the four items of the female stereotype subscale and then calculating the mean score for each. Mean scores on each subscale can range from 1–4. An item from the male stereotype scale is "Mow the lawn," and from the female stereotype scale, "Prepare meals." Higher scores on the female factor indicate greater acceptance of female gender roles, and lower scores on the male factor indicate greater acceptance of male gender roles.

Evidence of construct validity has been

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established by correlating the GRSS with other popular measures, and test-retest reliability indicators of the scale have been reported at .80 and Cronbach's α for the male and female stereotype subscales at .64 and .72, respectively (Mills et al., 2012). In the present study, the Cronbach's α of the male gender role subscale was .80; and for the female gender role subscale was .71, thus indicating acceptable internal consistency. The mean score on the GRSS male gender role factor was 2.28, and the mean score on the female factor was 3.31. Both of these are fairly close to scores indicating belief in equal responsibility but with slightly more traditional attitudes on the male stereotype scale.

Genderism and Transphobia Scale-Revised (GTS-R-SF). The GTS-R-SF (Tebbe et al., 2014) is a revision of the original Genderism and Transphobia Scale (Hill & Willoughby, 2005). The GTS-R-SF contains two subscales (a) Genderism/Transphobia, an overall negative evaluation and negative emotions associated with gender nonconformity; and (b) Gender Bashing, which refers to the propensity for explicit harassment and/or assault toward trans individuals (Tebbe et al., 2014). Because the present study focused on more subtle and nonviolent forms of antitrans attitudes, the 5-item Gender-Bashing subscale was not included in the questionnaire. The Genderism/Transphobia subscale consists of 17 items. Participants rate their agreement with the items using a 7-point scale ranging from 1 (*strongly agree*) to 7 (*strongly disagree*). Total scores are calculated by summing the item responses and can range from 17–119. Items include “If I found out my lover was the other sex, I would get violent,” and “If a friend wanted to have his penis removed in order to become a woman, I would openly support him” (reverse scored). Higher scores on the GTS-R-SF Genderism/Transphobia scale indicate higher levels of antitrans attitudes. Tebbe et al., (2014) reported a .93 Cronbach's α for the Genderism/Transphobia subscale items, as well as evidence for convergent and discriminant validity. In the present study, Cronbach's α was .97 for the Genderism/Transphobia subscale, demonstrating strong internal consistency. Participants reported a wide range of antitrans attitudes as measured by the GTS-R-SF (range = 102, $M = 60.2$; $SD = 38.93$). Scores on the GTS-R-SF scale ranged from 17 (indicating the lowest levels of genderism/transphobia) to 119 (indicating the highest levels of Genderism/Transphobia).

Marlowe-Crowne Social Desirability Scale (M-C SDS). To control for any social desirability

bias, participants completed the widely used M-C SDS (Crowne & Marlowe, 1960). Participants who score high on this scale may be seen as trying to cast themselves in a favorable light by trying to endorse culturally acceptable viewpoints. This bias is especially important in research surrounding social attitudes where some participants may select responses that would appeal to the attitudes of the researchers rather than their own personal beliefs.

The M-C SDS contains 33 items to which respondents respond either “true” or “false” as it pertains to them personally. The items refer to behaviors that are seen as culturally acceptable and/or desirable, but that are also relatively unlikely to occur. Examples include “I sometimes feel resentful when I don't get my way” and “I'm always willing to admit when I make a mistake.” All items are coded such that higher scores indicate a greater level of socially desirable responses. Scores are calculated by summing responses to the items and can range from 0 (*low social desirability*) to 33 (*high social desirability*). Internal consistency has been reported at .88 and test-retest reliability at .89 (Crowne & Marlowe, 1960). In the present study, Cronbach's α indicated internal consistency of .73. The mean social desirability score for participants was approximately the midpoint of possible scores ($M = 16.21$, $SD = 4.99$; Median = 16.5). Scores ranged from 4 to 25.

Rohrbaugh and Jessor Religiosity Scale. The Rohrbaugh and Jessor Religiosity Scale (Rohrbaugh & Jessor, 1975) assesses the amount of influence religion has in an individual's life. It also measures the extent to which individuals participate in religion-related practices. The 8-item measure contains seven multiple-choice items and one fill-in-the-blank. Using a multiple-choice format, participants choose responses that fit closest to their ideas and behaviors that are thought to reflect religiosity. The fill-in-the-blank question inquires about how many religious services the participant has attended in the past year, and responses were divided into five equal groups for analysis such that the response groups were coded 0 to 4, with higher scores indicating more religious attendance. The measure has four subscales including (a) Ritual Religiosity (Items 1 and 2): the extent to which a person engages in behaviors associated with the rituals of religion (e.g., attending services, praying, meditation); (b) Consequential Religiosity (Items 3 and 4): the extent to which a person relies on religion when having a personal problem or allows religion to influence how to spend time or

behave; (c) Ideological Religiosity (Items 5 and 6): beliefs about God, death, and immortality; and (d) Experiential Religiosity (Items 7 and 8): the extent which a person experiences comfort, security, reverence, and devotion associated with religion. Items for each subscale are summed, and subscale scores can range from 0–8 and overall religiosity scores can range from 0–32. Sample items include, “Which of the following best describes your practice of prayer or religious meditation?” with response options being “I never pray,” “I pray only during formal ceremonies,” “I usually pray in times of stress or need but rarely at any other time,” and “Prayer is a regular part of my daily life.” Rohrbaugh and Jessor (1975) reported Cronbach’s α concerning reliability of the subscales over .90, indicating high internal consistency. Both Rohrbaugh and Jessor (1975) and Nicholas and Durrheim (1996) reported evidence of instrument construct validity. Cronbach’s α in the present study indicated strong internal consistency of the overall religiosity scale at .94, with acceptable levels for all subscales as well (Ritual = .76, Consequential = .88, Ideological = .84, and Experiential = .88).

The present sample overall scored as moderately religious ($M = 16.9$; $SD = 5.70$; Median = 17.0), with scores ranging from 8 to 28. This overall mean is slightly above the midpoint and also higher than the college mean ($M = 12.5$) reported by Rohrbaugh and Jessor (1975). The mean number of times that participants reported attending a religious service over the past year was 22.62 ($SD = 26.01$), ranging from 0 to 150 times per year. The highest mean on the subscales was for Ideological Religiosity ($M = 5.92$; $SD = 2.29$), followed by Experiential ($M = 4.64$; $SD = 2.26$, Ritual ($M = 4.04$; $SD = 2.17$), and Consequential ($M = 3.78$; $SD = 2.40$).

Transgender identity attribution and interpersonal contact. Using both original questions and those adapted from the methodology of Claman (2008), the final section of the questionnaire contained questions regarding attribution of transgender identity and level of interpersonal contact with transgender individuals. To begin the section, participants read the following definition of *transgender* from the American Psychological Association (2014):

Transgender is an umbrella term for persons whose gender identity, gender expression, or behavior does not conform to that typically associated with the sex to which they were assigned at birth. Gender

identity refers to a person’s internal sense of being male, female, or something else; gender expression refers to the way a person communicates gender identity to others through behavior, clothing, hairstyles, voice, or body characteristics. (para.1)

Participants then read the following statement borrowed directly from Claman (2008):

A lot of human behavior probably will never be fully understood. Scientists as well as people in general disagree how much influence that individuals’ genetic inheritance has on transgender orientation. Please indicate how well the following statements reflect your view on the causes of transgender orientation (Claman, 2008; p. 75).

Participants responded to questions used by Claman (2008), originally adapted from Tygart (2000), to reflect the degree to which they believed transgender identity is a result of biological factors, environmental factors, or a combination of both using a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

In the next part of this section, participants indicated the level of interpersonal contact they have had with transgender and transsexual individuals. Another description was borrowed directly from Claman (2008):

By definition, transsexuals are individuals who identify with a gender different from that which they were born. For instance, a person who was born as a male, but on the inside identifies as a female, is transsexual. Transsexuals may have surgery or hormone treatments to make their appearance more congruent with their internal feelings, but this is not always the case. (p. 77)

Participants then indicated their level of interpersonal contact with transgender or transsexual individuals by responding to a series of questions taken directly from Claman (2008). Interpersonal contact was divided into questions to assess different components of contact. Participants responded to these questions with “yes” or “no.” To indicate direct interpersonal contact, participants responded to “To your knowledge, have you ever personally met a trans individual?” To report indirect contact, “Have you ever had any knowledge of someone who was transgender (e.g., through word of mouth

or mutual friends)?” Participants then indicated the level of exposure through direct interpersonal contact (i.e., face-to-face) and indirect contact (e.g., news, TV, social media). Participants ranked their level of exposure on a scale of 1 (*no exposure*) to 3 (*a great deal of exposure*).

Finally, participants responded to questions to indicate their level of understanding about trans

individuals by using a scale ranging from 1 (*no understanding*) to 3 (*a great deal of understanding*). Additionally, they judged the importance of the general population understanding transgender individuals on a scale from 1 (*not at all important*) to 3 (*very important*).

Over 80% ($n = 72$, 13 missing) of participants responded that they had met a transgender person. An even larger number, 87.6% ($n = 78$, 13 missing), indicated that they had knowledge of transgender individuals through a friend or word of mouth. When it came to reporting levels of knowledge of transgender individuals, most participants (67.4%, $n = 60$, 13 missing) indicated that they had “some understanding” of transgender individuals, 10.1% ($n = 9$) reported that they had a “great deal of understanding,” and 22.5% ($n = 20$) had “no understanding.” When participants responded to the question of how important they believed it is for the general population to have an understanding of transgender individuals, 79.5% ($n = 70$) indicated they thought it was “somewhat important,” and 20.5% ($n = 18$) indicated it was “not important.” No participants responded with “very important.”

Procedure

All participation in the study was online using SurveyMonkey. After institutional review board approval was given (Protocol #0003_15), participants used a link to the survey that was provided in an e-mail message. Only the primary researcher had access to the list of e-mails, and after all e-mails were sent out, the lists were destroyed. All data remained anonymous and could not be connected to the participants’ e-mails or responses in any way. After agreeing to the informed consent statement, participants responded to the online questionnaire that followed. Participation in the study took approximately 15–20 minutes.

Results

Primary Analyses

Results from a one-way Analysis of Variance (ANOVA) indicated that those who had met a transgender individual ($M = 57.21$, $SD = 28.19$) reported less genderism/transphobia than those who had never met a transgender individual ($M = 75.47$, $SD = 27.85$), $F = 5.76$, $p = .019$, $\eta^2 = .06$. These results supported Hypothesis 1.

In the next analysis, we used the Benjamini-Hochberg procedure to control the false discovery rate (Benjamini & Hochberg, 1995). Based on the 11 variables used in the correlational analysis, the

TABLE 1

Intercorrelations for Transphobia and Associated Variables

	1	2	3	4	5	6	7	8	9
1. Transphobia	—								
2. Interpersonal Contact	-.26*	—							
3. Stereotype Acceptance	.52**	-.14	—						
4. Male Gender Roles	-.63**	.16	-.32**	—					
5. Female Gender Roles	.44**	-.09	.27*	-.66**	—				
6. Biological Attribution	-.62**	.11	-.36**	.35**	-.23*	—			
7. Environmental Attribution	.42**	-.02	.47**	-.36**	.15	-.45**	—		
8. Ritual Religiosity	.31*	-.02	.02	-.11	.03	-.31*	.24*	—	
9. Ideological Religiosity	.53**	-.12	.06	-.38**	.15	-.30*	.31*	.66**	—

Note. * $p < .032$. ** $p < .001$. $N = 75-91$.

TABLE 2

Summary of Multiple Regression Analysis for Interpersonal Contact, Stereotype Acceptance, Endorsement of Traditional Gender Roles, Transgender Attribution, and Religiosity as Predictors of Genderism/Transphobia

Variable	B	SE	β	t	p	sr^2
Interpersonal Contact	-2.90	3.80	-.06	-0.79	.436	.055
Stereotype Acceptance	9.78	2.80	.30	3.50**	.001	.244
Male Gender Roles	-12.43	5.79	-.24	-2.15*	.036	-.15
Female Gender Roles	6.32	7.52	.08	0.84	.404	.059
Biological Attribution	-9.82	2.17	-.39	-4.52***	<.001	.316
Environmental Attribution	-2.08	2.64	-.08	-0.79	.435	.055
Ritual Religiosity	-0.53	1.32	-.04	-0.40	.689	.028
Ideological Religiosity	4.23	1.32	.33	3.32**	.002	.224

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. $N = 69$.

new p value was .032. Pearson product-moment correlations indicated significant correlations at this level between genderism/transphobia scores and (a) level of interpersonal contact, (b) stereotype acceptance, (c) traditional male and female gender role acceptance, (d) attribution of being transgender to biological factors, (e) attribution of being transgender to environmental factors, and (f) ritual, consequential, ideological, and experiential religiosity. See Table 1 for these results.

Based on the significant correlations, Multiple Linear Regression analyses using genderism/transphobia as the dependent variable and eight of the above variables as predictors tested Hypotheses 2, 3, 4, and 5. Because collinearity appeared to be an issue with consequential and experiential religiosity (i.e., tolerance < .20; VIF = 5.21, 5.94, respectively), these two variables were removed for the regression analysis, $r(76) = .85, p < .001$. The regression analysis indicated four significant predictors in that greater acceptance of stereotypes, more endorsement of traditional male gender roles, and greater ideological religiosity predicted higher scores on genderism/transphobia, whereas attributing being transgender to biological factors predicted lower scores on genderism/transphobia, $F(8,62) = 17.90, p < .001, R^2 = .70, f^2 = .02$. Together these predictors accounted for 70% of the variance in genderism/transphobia scores. Squared semi-partial correlations indicated that when considering each variable's sole contribution to the variance in scores, attributing being transgender to biological factors accounted for almost 32%, acceptance of stereotypes contributed 24%, ideological religiosity 22%, and greater endorsement of male gender roles 15%. Findings provided support for Hypotheses 3, 4, and 5, but not for Hypothesis 2. See Table 2 for these results. Results also provided support for Hypothesis 6, with men indicating higher levels of genderism/transphobia than did women, as is shown in Table 3.

Social Desirability

To control for false discovery, we again used the Benjamini-Hochberg (1995) procedure to determine an adjusted p value of .016 for a series of Pearson product-moment correlations to examine the relationship between social desirability scores and the main variables. There was no significant correlation between the measure of social desirability and genderism/transphobia, which suggested that the results for antitrans attitudes were not confounded by a social desirability bias,

$r(83) = .10, p = .382$. However, there was a significant correlation between social desirability and ideological religiosity, $r(83) = .27, p = .016$.

Secondary Analyses

Secondary analyses examined correlations between genderism/transphobia and participants' self-reported level of understanding about trans individuals, which demonstrated a moderate significant correlation, $r(86) = -.24, p = .025$. There was also a moderate to strong significant correlation between genderism/transphobia and belief in the importance of understanding transgender individuals, $r(85) = -.62, p < .001$. As levels of understanding and the belief in the importance of understanding individuals who identify as transgender increased, antitrans attitudes decreased. Also notable is that as levels of reported interpersonal contact increased, so did participants' reported understanding about trans individuals, $r(85) = .35, p = .001$. Furthermore,

TABLE 3

One-Way Analysis of Variance for the Effect of Gender on Genderism/Transphobia Scores

Variable	Men		Women		$F(1,87)$	p	η^2
	M	SD	M	SD			
Genderism/Transphobia	77.17	25.10	61.11	25.50	22.65	< .001	.21

Note. Men ($N = 36$). Women ($N = 53$).

TABLE 4

One-Way Analysis of Variance for the Effects of Gender on Stereotype Acceptance, Gender Role Acceptance, Levels of Exposure, and Attributions for Being Transgender

Variable	Men		Women		F	df	p	η^2
	M	SD	M	SD				
Stereotype Acceptance	2.59	0.69	1.82	0.81	21.16***	1,84	< .001	.20
Male Gender Role Acceptance	1.97	0.60	2.48	0.45	21.63***	1,90	< .001	.19
Female Gender Role Acceptance	3.43	0.47	3.24	0.28	6.37*	1,90	.013	.07
Levels of Exposure	0.78	0.42	1.00	0.61	3.58	1,84	.062	.04
Biological Attribution	2.41	1.01	3.08	1.12	8.34**	1,85	.005	.09
Environmental Attribution	3.49	1.02	3.04	1.09	3.79	1,85	.055	.04

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

the more indirect exposure to transgender people (e.g., media, news, TV, social media), the more understanding they indicated they had of trans individuals, $r(87) = .41, p < .001$. However, indirect exposure was not correlated with genderism/transphobia scores, $r(86) = -.12, p = .255$.

One-way ANOVAs indicated that male participants reported greater stereotype acceptance and more endorsement of traditional male and female gender roles when compared to female participants. However, women were more likely than men to attribute being transgender to biological origins. These results can be seen in Table 4.

Discussion

Overall, findings indicated that having interpersonal contact with transgender individuals and making biological attributions for being transgender were associated with positive attitudes toward transgender individuals, whereas greater stereotype acceptance, more endorsement of traditional male gender roles, and greater ideological religiosity were significant predictors of antitrans attitudes. Furthermore, men reported greater levels of antitrans attitudes than did women. These results provided support for all but one hypothesis. Although participants who reported having met a transgender person also indicated less negative attitudes toward transgender people than those who had not, the *level* of exposure was not a significant predictor of antitrans attitudes. Therefore, the contact on its own was important rather than the extent of exposure. The finding that direct exposure (i.e., having met a person) indicated lower scores on genderism/transphobia is consistent with previous research (e.g., Claman, 2008; Tee & Hegarty, 2006). Notably, in the present study, direct social contact (i.e., face-to-face interaction) was particularly important in predicting lower genderism/transphobia attitudes when compared to nondirect forms of social interaction such as news, TV, and social media. Although indirect exposure was not significantly correlated with levels of genderism/transphobia, it was predictive of the level of understanding that participants reported regarding trans individuals, in that more indirect exposure was associated with greater understanding. Moreover, our results indicated that greater understanding of transgender individuals was moderately associated with lower levels of genderism/transphobia. Therefore, it is possible that outlets such as media could have an indirect effect on attitudes toward transgender individuals. Because television and

media sources have increasingly included trans individuals in show storylines (e.g., *Orange Is the New Black*, *Transparent*, *Transamerica*), indirect exposure could be a potentially interesting variable to explore in future studies assessing antitrans prejudice. However, the present study suggests that direct interpersonal contact experiences should be considered the most effective form of social interaction when trying to reduce prejudice toward the transgender community.

Two of the three variables associated with stereotyping were significant predictors of antitrans attitudes. Separately, acceptance of stereotypes accounted for 24% of variance in genderism/transphobia scores, and the endorsement of traditional male gender roles accounted for 15%. The relationship between general stereotyping behaviors and antitrans attitudes suggests that those who are more accepting of stereotypes might minimize the distinct characteristics of transgender people and view them as a homogenous group rather than as individuals. This finding is in line with Carter et al. (2006), who found that individuals with the propensity to use stereotyping when interacting with people from a different social group tended to have rigid gender role beliefs and relied on social categories such as gender to understand others. It is possible that those who scored higher on the stereotype acceptance scale consider transgender identity as a breach of the social norms associated with gender, and as a result, demonstrated higher levels of antitrans attitudes.

Furthermore, greater endorsement of male gender roles was a significant predictor of genderism/transphobia levels, although this predictor on its own accounted for the least amount of variance in genderism/transphobia scores. These findings suggest that those who hold more traditional beliefs of what constitutes male-typical behaviors are more likely to react negatively to the crossing of traditional gender boundaries. This supports previous studies finding that male gender roles play a role in more negative attitudes toward gay men and lesbian women (e.g., Kite & Whitley, 1996). This is particularly true for heterosexual men (Oliver & Hyde, 1993). Further, research has suggested that, from a young age, violation of male gender norms is viewed more negatively than violation of female gender norms (Schmalz & Kerstetter, 2006). In general, girls are allowed more flexibility within stereotypical gender roles than boys. Our results suggest that this belief may be pervasive through adulthood in that the belief in male gender norms

(and perhaps the perceived violation of those norms) is more strongly associated with transphobia than is the belief in female gender norms.

Participants who attributed transgender identity to biological factors reported significantly lower levels of genderism/transphobia, whereas believing that being transgender is better explained with environmental origins was not a significant predictor. In fact, when considering its sole contribution to the variance in genderism/transphobia scores, making a biological attribution accounted for the most (32%) out of the four significant predictor variables. This finding is particularly important to understanding how the conceptualization of being transgender plays a role in how others feel about those who identify or are perceived as transgender. Our findings are also consistent with previous studies in this area (e.g., Claman, 2008; Tygart, 2000). Belief in a biological basis of transgender identity acknowledges that those who identify as transgender do not consciously choose to do so. Instead, factors outside of their control determined their gender identity. Therefore, if a person believes someone has no control over gender identity, then nonconformity to gender expression stereotypes is more acceptable.

In addition, those who reported greater ideological religiosity were more likely to have higher levels of genderism/transphobia than those who identified as less religious on this dimension. When considering the individual contribution of this variable to the variance in scores, this variable ranked second (22%). These results support previous research in this area (e.g., Claman, 2008; Nagoshi et al., 2008; Norton & Herek, 2012; Tee & Hegarty, 2006). Findings suggest that beliefs in ideological religiosity (i.e., belief in the soul's immortality and perceiving God as a higher power that uses wrath to punish a transgressor) may lead to more negative attitudes toward those who do not conform to mainstream religious beliefs. Further, gender expression outside the mainstream may be seen as a threat to the Christian way of life, such as Stanton (2014) suggested, and would not allow for society to uphold the traditional idea of the family. These findings are relatively consistent with Piumatti (2017) who found that religiosity and endorsement of traditional male gender roles explained negative attitudes toward lesbian women and gay men. Although Piumatti's study focused on prejudice related to sexual orientation rather than gender identity, it is plausible that a similar dynamic may be at play in antitrans attitudes.

The finding that cisgender male participants indicated higher scores on genderism/transphobia than did their female counterparts is consistent with previous studies on prejudice against gay, lesbian, and transgender individuals (e.g., Claman, 2008; Nagoshi et al., 2008; Norton & Herek, 2012; Worthen, 2012; Wright et al., 1999). It is possible that heterosexual male participants view gender nonconforming behaviors such as being transgender as a violation of masculine expectations and as a threat to heterosexual men, which supports previous research (e.g., Herek, 1986; Kimmel, 1997). This difference between men and women might also be explained by male participants being more likely to accept stereotypes and endorse male gender roles, both of which were found to be predictors of antitrans attitudes. Women, on the other hand, were more likely than men to attribute being transgender to biological origins, which helps to explain their lower scores on genderism/transphobia because making a biological attribution for being transgender was found to be a strong predictor of more positive attitudes toward trans individuals. Future research could examine how stereotyping acceptance and endorsement of traditional gender roles may possibly account for any gender differences found in attitudes toward those who identify as transgender. It must be noted that, in the present study, participants responded to a measure that assessed antitrans attitudes in general, not taking into account that participants might respond differently to transgender men as compared transgender women. Worthen (2013) and Billard (2018) have suggested that future studies should reconsider measuring transgender individuals as one group because the transgender community encompasses a variety of identities. Therefore, we recommend that additional research could explore why cisgender persons might judge being transgender differently depending upon the perceived gender identity of the transgender person.

Although the present study provided new insight into the factors that play a role in attitudes toward transgender individuals, there were some limitations. First, the sample size was relatively small and contained more women than men. To address this issue and to limit false discovery (Type I error) in the correlational analysis, we employed the Benjamini-Hochberg (1995) procedure. We also examined the squared semi-partial correlations to determine the individual contribution of the predictor variables in the regression analysis. The

sample of college students was also predominantly White and offered little racial, ethnic, or socioeconomic diversity. Further, the age distribution was limited in that participants' ages ranged from 18 to 22, with a mean age of 19.7 years. Findings must be considered in light of generational differences in that previous studies have shown that younger participants report greater acceptance of gender nonconformity than older individuals (e.g., Flores, 2015). Therefore, caution must be used in the generalization of results with special attention paid to these sample size and demographic limitations. Including additional options for gender identity within the demographic section would also have provided the study with a mechanism to examine the number of transgender individuals who participated, although due to the limited number of "other" responses, the number most likely would not have been large enough for a meaningful analysis with this sample.

Another limitation of the present study is the reliance upon self-report methods and the risk of common method bias. However, we argue that this bias is of limited concern for our study because we chose measures that have demonstrated evidence of construct validity, which Conway and Lance (2010) have suggested is a way to mitigate common method bias. Although we primarily used instruments that have demonstrated evidence of validity and internal consistency, the questions borrowed from Claman (2008) do not have established validity and reliability as a measure of interpersonal contact and attribution for being transgender. Further, the Claman (2008) measure used both the terms *transsexual* and *transgender*. Because many individuals who identify as transgender prefer the use of *trans* or *transgender* to *transsexual*, the questions should be adapted to account for this preference.

Because attitudes toward trans individuals can be considered a topic that might elicit socially desirable responses, we assessed the correlation between a measure of social desirability and genderism/transphobia and the predictor variables. Results suggest that participants were not responding in a socially desirable way on attitudes toward transgender individuals, providing confidence in the primary findings of the present study. Caution should be used, however, when conducting analyses with the measure of religiosity because significant correlations surfaced between social desirability and the subscale of ideological religiosity, which also was a significant predictor of antitrans attitudes. This suggests that participants in the current study might

have reported higher scores on ideological religiosity than they actually express in their everyday lives.

Despite its limitations, the present study had important strengths. It provided valuable information about a subject that has become of increased interest in behavioral and social science. Attitudes cannot be changed unless their source is discovered, and this study has begun to uncover these foundations. Although not all of the variables tested can be realistically and ethically altered (e.g., religiosity), others such as interpersonal contact can be implemented in educational resources that aim to reduce prejudice against transgender individuals.

The findings of the present study also offers many promising questions for future research. First, it may be useful to further examine the components of stereotyping as it relates to ideas about transgender individuals. For example, are there any specific stereotypes, anxieties, or misconceptions that are common among individuals who are unfamiliar with the concept of transgender orientation? Or, what other components of stereotyping other than gender roles are associated with transphobic attitudes? As suggested by other researchers, studying the variety of transgender identities may be an important step in better understanding conceptualizations of this community. Finally, given the importance of gender roles and conceptualizations of masculinity and femininity to transphobic attitudes, future studies should further explore attitudes toward trans-men and trans-women, as well as differences in attitudes among cisgender men and women.

Overall, the present study provided insight into how attitudes toward transgender individuals may be conceptualized and shaped by social and cognitive processes. Findings suggested that direct interpersonal contact, causal attribution, acceptance of stereotyping, gender role beliefs, and religiosity are important predictors of antitrans attitudes. However, further research is needed to enhance understanding of the prejudice and discrimination faced by transgender individuals. Understanding these mechanisms is an important step in reducing prejudice and minimizing its adverse effects.

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Associations Among Social Connections, Body Dissatisfaction, and Disordered Eating in African American and European American College Women

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ABSTRACT. Past research has indicated that social support may play an important role in the development of disordered eating and body dissatisfaction, but little is known about these associations among different races. The present study examined associations between social connections and disordered eating and body dissatisfaction in African American and European American college women. Participants included 477 European Americans and 445 African Americans from 3 Southeastern universities who reported group membership, sociability, religious involvement, relationship status, body dissatisfaction, and disordered eating. Hierarchical regression analyses revealed that there was a significant main effect for group membership and sociability, but not relationship status or religious involvement, such that group membership and sociability were negatively associated with body dissatisfaction ($\Delta R^2 = .06$, $ps < .03$). None of the variables were associated with disordered eating nor were any of the associations moderated by race ($ps > .11$), suggesting that low levels of certain aspects of social connection may negatively impact body image regardless of race.

Keywords: body dissatisfaction, disordered eating, social connections, African American, European American, race, college women

Disordered eating behaviors (e.g., restricting food intake, binge eating, and compensatory behaviors) and high levels of body dissatisfaction (i.e., unhappiness with body shape or size) are common in college-aged women (Duarte, Ferreira, Trindade, & Pinto-Gouveia, 2015; Schleien & Bardone-Cone, 2016). One factor that may be especially relevant for understanding disordered eating in undergraduate women is social support, defined as the extent to which individuals believe that they are loved by, esteemed by, and involved with family, friends, and others (Tripp, 2002; Vaux et al., 1986). The present study focused on social connections, a subtype of social support, which describes an individual's specific relationships and involvement with others in

various capacities (i.e., religious or social groups, romantic relationships, and close friends and family). Past research on social connections has largely focused on relationships between student involvement and general psychological well-being, suggesting that college students who are socially connected on college campuses are more likely to perform better in school and are less likely to drop out or experience mental health issues (Bowman, 2010; Kilgo, Mollet, & Pascarella, 2016). The present study aimed to expand on and refine past research by investigating specific aspects of social connections (e.g., group membership and religious involvement) and their relationships with body dissatisfaction and disordered eating in college women while controlling for BMI, which are two

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factors known to negatively impact psychological well-being in undergraduate women (Han & Lee, 2017; Napolitano & Himes, 2011). Additionally, this study investigated whether relationships between social connections and body dissatisfaction and disordered eating differ between African American and European American women.

Disordered Eating, Body Dissatisfaction, and Social Connections

Disordered eating and body dissatisfaction continue to be among the most prevalent mental and physical health issues for young, college women (American College Health Association, 2010). Nearly 50% of undergraduate students engage in some form of disordered eating (e.g., excessive dieting) in order to maintain their ideal weight (Reichborn-Kjennerud, Bulik, Sullivan, Tambs, & Harris, 2004). This may be attributed to the life changes students face as they undergo the college experience, as evidenced by Pascarella's (1985) model of assessing change of environments on student development. Pascarella's model suggested that adaptation to the college environment is a function of five major variables including student background, structural organization of the institution, university environment, student interactions with socializing agents, and quality of student effort. The college transition may trigger increases in body dissatisfaction and disordered eating because students with certain risk factors may have difficulty adjusting to and engaging in a new environment (Barker & Galambos, 2007).

Body dissatisfaction, which can be defined as a negative evaluation of one's physical body (Stice & Shaw, 2002), is common among college women, affecting nearly 80%, and is consistently linked to disordered eating as one of the hallmark risk factors (Mond et al., 2013; Stice, Marti, & Durant, 2011). Body image ideals are often developed through a combination of family, peer, media, and social pressures to attain the "perfect" body (i.e., emulating societally sanctioned standards of attractiveness; Dawson & Thornberry, 2018; Grabe, Ward, & Hyde, 2008). Historically, the most commonly sanctioned standard of attractiveness is the "thin-ideal" (i.e., a slender physique with little body fat; Thompson & Stice, 2001). However, newer research has suggested that the U.S. ideal is shifting to a more toned/athletic body as opposed to thinness (e.g., Benton & Karazsia, 2015; Karazsia, Murnen, & Tylka, 2017). College women are particularly susceptible to messages regarding

expectations of weight, shape, and appearance (Fredrickson & Roberts, 1997). As young women adjust to the college experience, the pressure to make friends may lead to increases in social comparisons (i.e., comparing one's body to others) because women often refer to their appearance as ways of evaluating their rank (Ferreira, Pinto-Gouveia, & Duarte, 2013).

Significant changes in an individual's environment during the college years may result in risky behaviors and psychological distress for many students (Hudson, Hiripi, Pope Jr., & Kessler, 2007; Tao, Dong, Pratt, Hunsberger, & Pancer, 2000). However, social support has been shown to be an important protective factor for undergraduate students, often helping to prevent feelings of depression and anxiety, and increasing overall life satisfaction (Hunsberger, Pancer, Pratt, & Alisat, 1994; Riggio, Watring, & Throckmorton, 1993; Tao et al., 2000). Although some previous research has investigated associations between social support and eating disorder symptomatology broadly, less is known about how connections to specific types of social networks (e.g., group membership) impact body dissatisfaction and disordered eating. Women with known eating disorders often report a deficiency in their social network, isolating themselves from others and spending more time alone than those not diagnosed with an eating disorder (Leonidas & Antonio dos Santos, 2014). The social withdrawal syndrome hypothesis (Rotenberg, Bharathi, Davies, & Finch, 2013) of disordered eating behaviors helps to explain these behaviors, suggesting that those with an eating disorder are resistant to share personal information with others, therefore decreasing their opportunities to form social connections and garner social support. Social connections may play a valuable role in combating negative outcomes for college women including disordered eating and body dissatisfaction. The current study examined one's connections using four constructs: college group membership (e.g., student government, art club), sociability (i.e., frequency and contact with close friends and relatives; Eng, Rimm, Fitzmaurice, & Kawachi, 2002), religious involvement, and relationship status.

Differences Between Races

Despite the severity of disordered eating symptoms and risk factors, studies exploring differences in eating disorder symptomatology between races have been limited. The research that does exist suggests that, although rates of eating disorders

are increasing broadly, differences continue to emerge between African American and European American women on levels of disordered eating and body dissatisfaction, with African American women reporting less disordered eating ($p = .07$) and body dissatisfaction ($p < .05$) than European American women (DeBraganza & Hausenblas, 2010; Frisby, 2004; Howard, Heron, McIntyre, Myers, & Everhart, 2017). Investigations into these differences have largely focused on ethnic identity, cultural definitions of beauty, divergent body ideals, and mass media influences as potential explanations for this discrepancy (Akan & Grilo, 1995; López-Guimerà, Levine, Sánchez-Carracedo, & Fauquet, 2010). However, to date, little is known about whether social connections differentially impact body dissatisfaction and disordered eating in African American and European American women.

African American women often have strongly connected extended families, and value group loyalty and a sense of collectivism (Kim & McKenry, 1998). This collectivist culture may foster involvement in other activities that strengthen support networks such as church or religious groups (McRae, Thompson, & Cooper, 1999). In African American communities, religious involvement has been implicated as a predictor of general feelings of well-being by providing greater social connections and support (Holt, Clark, Debnam, & Roth, 2014). Moreover, African American women tend to place greater value on their social networks (Billingsley & Caldwell, 1991; Kim & McKenry, 1998) than European Americans (Stanton, Green, & Fries, 2007)—who often look to media and other influences—social networks may have a greater impact on shaping African American body ideals and disordered eating behaviors. Taken together, research seems to suggest that racial differences in social connections may play a role in how individuals exist within their social networks, which could influence associations between social connections and body dissatisfaction and between social connections and disordered eating. However, no previous research has specifically examined whether there are differences in specific forms of social connection between African American and European American college women, and whether race moderates associations between social connections and disordered eating and social connections and body dissatisfaction.

Present Study

The goal of the present study was to assess associations between social connections and disordered

eating and between social connections and body dissatisfaction in a large sample of African American and European American college women. Recent research suggests that African American women report significantly lower levels of body dissatisfaction ($p < .05$) and less disordered eating ($p = .07$) than European American women (Howard et al., 2017). However, little is known about factors such as social connections that may influence these differences. Thus, we based our investigations on three main research questions: (a) Are there significant differences in reported levels of social connections between European American and African American college women? We hypothesized that African American women would endorse higher levels of social connections compared to European American women; (b) Are social connections negatively associated with disordered eating and negatively associated with body dissatisfaction for all women? We hypothesized that social connections would be significantly and negatively associated with disordered eating and body dissatisfaction for all women; (c) Does race moderate the associations between social connections and disordered eating and between social connections and body dissatisfaction? Given limited research on this topic, we did not make specific predictions regarding race as a moderator.

Method

Participants

Participants included 445 African American and 477 European American female undergraduates from three Southeastern universities who took part in a larger online survey study about college health and student experiences. Both African American and European American women reported a mean age of 21 years ($SD = 2.81$). African American women reported significantly higher body mass index (BMI; $M = 28.24$, $SD = 6.13$) than European American women ($M = 25.20$, $SD = 5.86$), $t(920) = 7.76$, $p < .001$. However, both are considered overweight, which is similar to other college samples (Center for Disease Control and Prevention, 2017). Inclusion criteria required self-reports of female gender, identification as African American or European American, and age between 18 and 30 (the present sample ranged from 18 to 30).

Measures

Demographics. A demographics questionnaire was administered that included questions about age, race, year in school, sexual orientation, height,

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and weight.

Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Beglin, 1994). The Eating Disorder Examination Questionnaire is a 29-item self-report measure that focuses on the main cognitive and behavioral aspects of disordered eating behaviors on four subscales: Restraint scale, Eating Concern scale, Weight Concern scale, and Shape Concern scale. The Eating Disorder Examination Questionnaire demonstrates good internal consistency ($\alpha = .78-.93$; Rose, Vaeworn, Roselli-Navarra, Wilson, & Weissman, 2013) and 2-week test-retest reliability among female undergraduates (.81-.94). It is scored on a 7-point Likert-type scale rating from 0 (*no days*) to 6 (*everyday*), with the total score calculated by averaging the four subscales, thus producing a total score that ranges from 0 (minimum) to 6 (maximum). Higher scores indicate higher levels of disordered eating behaviors. A mean score above a 2.3 indicates engagement in at least subclinical levels of disordered eating (Mond et al., 2004). The Cronbach's α for the current sample was .94.

Body Shape Questionnaire (BSQ-16; Evans & Dolan, 1993). The Body Shape Questionnaire is a 16-item self-report measure used to assess fears of weight gain, desires for weight loss, body dissatisfaction, and low self-esteem due to one's physical appearance. It has good internal consistency ($\alpha = .93-.97$; Rosen, Jones, Ramirez, & Waxman, 1996), which was replicated in our sample with $\alpha = .97$. Response options range from 1 (*never*) to 6 (*always*). Scores are added together, producing a minimum score of 16 to a maximum score of 96, with higher scores reflecting greater body dissatisfaction. A score above 66 indicates marked concern with body shape (Evans & Dolan, 1993).

Berkman-Syme Social Network Index (SNI; Berkman & Syme, 1979). The Berkman-Syme Social Network Index is an 11-item self-report questionnaire that measures social connections through four components: group membership, sociability, religious involvement, and relationship status. The components of the Berkman-Syme Social Network Index are scored dichotomously, with participants receiving a score of 0 or 1 on each component; this allows for the percentages of participants who scored a 0 or 1 on each component to be calculated. Individuals who report fewer than two close friends or relatives, single status (i.e., not in a romantic relationship), no group participation, and no religious participation would receive a score of 0 for each of the components, whereas

individuals who report more than two close friends or relatives, being in a romantic relationship, group participation, and religious involvement would receive a score of 1 for each component. Due to the young age of the population of interest, we altered the original relationship status question from the Berkman-Syme Social Network Index ("Which of the following describes your marital status?") to capture romantic relationship involvement outside of marriage ("Which of the following options best describes your current relationship status?"), making the question more applicable to this age group. The Berkman-Syme Social Network Index has been shown as a valid measure of social connections in a sample of healthy participants ages 18 to 55 (Cohen, Doyle, Skoner, Rabin, & Gwaltney, 1997). A Cronbach's α is not reported for the current sample due to the dichotomous nature of scoring.

Procedure

The research team recruited participants through class announcements, flyers, e-mails, and psychology department research pool postings at three universities. The three universities included a diverse public research university (60% European American), a historically Black university (8% European American), and a primarily White liberal arts university (76% European American). As part of a larger study about college health and life experiences (see Howard et al., 2017), all participants provided informed consent prior to completing an online survey that included the questionnaires described above. (The questionnaires were presented in the order provided above. However, they were embedded within a larger online survey.) The questionnaire also included four attention items (e.g., "select 2 for this question") to ensure that participants were attending to the survey questions. The length of time that it took participants to complete the survey was also automatically recorded by the online survey software. Neither names nor any other identifying information were linked to the participants' responses. Participants received either course credit or were entered into a raffle to win one \$50 gift card or one of ten \$10 gift cards for their participation. All three institutional review boards (Norfolk State University, Virginia Wesleyan University, and Old Dominion University) approved this study.

Initially, 1,434 responses from African American and European American women were collected; 512 were removed if participants made duplicate entries, did not correctly answer at least

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three of four attention items, or completed the survey very quickly (less than 1/3 of the median duration time). All of these responses were removed due to data integrity issues and are recommended best practices (Enders, 2010).

Results

Descriptive Statistics

Responses from 922 women were analyzed. Overall, the sample was dispersed between first-year students (27%), sophomores (22%), juniors (25%), and seniors (25%). The age and race of participants at each of the three colleges where women were recruited were consistent with each college's demographics. The number of participants from each school was as follows: public research university ($n = 639$; 60% European American, 40% African American), historically Black university ($n = 185$; 8% European American, 92% African American), and a primarily White liberal arts university ($n = 135$; 76% European American, 24% African American). Given that data were collected from three different universities and that eating disorder symptomology has been shown to change as result of year in school, we examined whether university or year in school moderated any of our primary effects. We found no significant effects. Therefore, we reported the more parsimonious results that do not include university or year in school in the models.

Scores on all predictor (social connections and race) and outcome measures (body dissatisfaction and disordered eating) were normally distributed, and Levene's tests indicated homogeneity of variance. Box plots revealed one Eating Disorder Examination Questionnaire total score outlier. Analyses were conducted with and without the outlier, and the results did not change, thus the outlier was retained in analyses. Multivariate outliers were examined through the calculation of Cook's D; there were no significant multivariate outliers. The variance inflation factor was less than 2 across the models, suggesting that multicollinearity was not an issue. A missing values analysis revealed low level of missing data (missingness < 5%). Missing items were imputed using all variables contained in the model via multiple imputation analyses. The means and standard deviations for the Berkman-Syme Social Network Index components are presented separately for African American and European American women in Table 1. The average total scores for both the Eating Disorder Examination Questionnaire ($M = 1.73$, $SD = 1.32$) and Body

Shape Questionnaire ($M = 39.60$, $SD = 21.70$) for this study are reported elsewhere (see Howard et al., 2017) and are similar for norms typically reported for U.S. college students (Evans & Dolan, 1993; Quick & Byrd-Bredbenner, 2013). All analyses were conducted utilizing two-tailed tests.

Research Question 1

To examine whether African American women reported significantly higher levels of social connections than European American women, we examined the different aspects of social connection: group membership, sociability, religious involvement, and relationship status. We used chi-square tests to assess differences across the social connection items between African Americans and European Americans. In regard to these social connection items, as shown in Table 1, we found that European American women were significantly more likely to report being in a relationship (62%) compared to African American women (43%). There were no significant differences between levels of group membership (56% European American, 54% African American), sociability (i.e., 71% European American women reported having two or more close friends or relatives compared to 65% African American women), or religious involvement (25% of European American women compared to 38% African American women).

Research Question 2

To test whether the social connections were associated with disordered eating and body dissatisfaction, hierarchal analyses were conducted, with social connections (as measured by the Berkman-Syme Social Network Index- relationship

TABLE 1

Means and Standard Deviations for Berkman-Syme Social Network Index by Race

Variable	African American	European American	chi square	<i>p</i>
Group membership	54% (0.50)	56% (0.50)	0.75	.30
Sociability	65% (0.48)	71% (0.45)	1.12	.20
Religious involvement	38% (0.49)	25% (0.44)	2.61	.06
Relationship status	43% (0.49)	62% (0.49)	31.97*	< .001

Note. Percentages reflect the percentage of participants who scored a 1 on the Berkman-Syme Social Network Index. Standard deviations are included in parenthesis next to means in first and second columns.

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status, group membership, sociability, and religious involvement) as the predictor variables and Eating Disorder Examination Questionnaire or Body Shape Questionnaire score(s) as the outcome variables. A hierarchical regression analysis was conducted given that it allows for control of covariates, the study is not experimental in design, and it can be used to determine the relative contribution of various forms of social connection and race in levels of body dissatisfaction and disordered eating. In Step 1, BMI (computed using height and weight) was added as a covariate given that higher BMI is one of the most pervasive risk factors for the development and severity of body dissatisfaction and disordered eating among college students (Robinson, Kosmerly, Mansfield-Green, & Lafrance, 2014). In Step 2, the predictor variables (social connections and race) were added to the

model. This procedure was repeated for both body dissatisfaction and disordered eating as the outcome variables.

In regard to body dissatisfaction, BMI accounted for 19% of the variance in Step 1. In Step 2, the predictor variables (social connections) were added to the model, and the change in R^2 was significant, $p < .001$, accounting for an additional 6% of variance. As shown in Table 2, we found that group membership and sociability were significantly and negatively associated with body dissatisfaction ($b = -.18, p = .03$; $b = -.19, p = .01$) and religious involvement and relationship status were not. In regard to disordered eating, BMI accounted for 16% of the variance in Step 1. In Step 2, the predictor variables were added to the model, and the change in R^2 was significant, $p = .03$, accounting for an additional 4% of variance. However, none

TABLE 2
Berkman-Syme Social Network Index Component Scores, Body Dissatisfaction, and Disordered Eating

Predictor	Body Dissatisfaction					Disordered Eating				
	β (SE)	<i>t</i>	<i>p</i>	R^2	ΔR^2	β (SE)	<i>t</i>	<i>p</i>	R^2	ΔR^2
Step 1: Covariate				.19	--				.16	--
BMI	.31 (.02)	12.93***	< .001			.30 (.02)	12.38***	< .001		
Step 2: Predictors				.25	.06				.20	.04
BMI	.29 (.02)	11.33***	< .001			.30 (.02)	12.37***	< .001		
Group membership	-.18 (.05)	-2.19*	.03			-.06 (.07)	-0.89	.38		
Sociability	-.19 (.06)	-3.05**	.01			-.08 (.06)	-1.61	.11		
Religion	.06 (.09)	0.87	.66			.01 (.03)	0.31	.67		
Relationship status	-.05 (.08)	-0.81	.51			.02 (.03)	0.42	.75		
Race	.22 (.08)	5.43***	< .001			.20 (.07)	3.93***	< .001		
Step 3: Moderation				.25	--				.20	--
BMI	.28 (.02)	11.31***	< .001			.30 (.03)	12.34***	< .001		
Group membership	-.17 (.06)	-1.91*	.04			-.06 (.07)	-0.82	.24		
Sociability	-.18 (.06)	-2.25*	.02			-.07 (.05)	-1.08	.22		
Religion	.06 (.05)	0.89	.35			.00 (.07)	0.08	.77		
Relationship status	-.07 (.10)	-1.15	.25			-.00 (.07)	-0.05	.88		
Race	.07 (.08)	1.29	.17			.08 (.02)	1.37	.13		
Group Membership x Race	.08 (.11)	1.38	.13			.01 (.03)	0.29	.52		
Sociability x Race	.01 (.02)	0.30	.64			-.00 (.04)	-0.02	.98		
Religion x Race	-.01 (.02)	-0.33	.61			.01 (.06)	0.20	.51		
Relationship Status x Race	.05 (.08)	0.84	.38			.03 (.08)	0.53	.48		

Note. BMI = Body Mass Index. * $p < .05$ ** $p < .01$ *** $p < .001$.

of the specific components of social connection (group membership, sociability, religion, and relationship status) were significantly associated with disordered eating.

Research Question 3

To test race as a potential moderator of the relationships between social connections and body dissatisfaction and social connections and disordered eating, race was entered as a moderator variable in Step 3 of the previously described hierarchical analyses (see Table 2). The change in R^2 was not significant, $p > .05$, suggesting that the relationships between group membership and sociability with body dissatisfaction are similar between African American and European American women.

Discussion

The current study attempted to offer additional insight into racial differences in disordered eating and body dissatisfaction by investigating the role of social connections in disordered eating behaviors and body dissatisfaction for African American and European American college women. This study examined racial differences in the various components of our social connection measure (the Berkman-Syme Social Network Index), which were group membership, sociability (close friends and family), religious involvement, and relationship status.

First, we examined racial differences within the Berkman-Syme Social Network Index components. Forty-three percent of African Americans reported being in a romantic relationship compared to 62% of European Americans (see Table 1). This could potentially be attributed to differences in African Americans and European American social networks. As previous research has found, both male and female African Americans report stronger extended families, religious ties, and closeness with immediate family members (Kim & McKenry, 1998; McRae et al., 1999). Although it is speculative, African American students may not focus on developing romantic relationships upon entering college because of the strong social ties already in place. In support of this interpretation, African American students reported higher levels of religious involvement compared to European Americans (38% vs. 25%, respectively), although these results did not reach statistical significance. Previous research corroborates these findings, suggesting that African Americans, particularly

women, report involvement in religious activities at greater rates than European Americans (Pew Research Center, 2009).

Although the present study found differences in relationship status and religious involvement between African American and European American college women, we found no significant race differences in women's group involvement or sociability. The majority of both African American and European American women reported group membership and having more than two close relationships, which aligns with other findings that suggest U.S. college women, generally, report high levels of social support networks (Hamilton, 2009). However, Doan (2011) suggested that certain factors such as campus climate (i.e., attitudes and behaviors of faculty, administrators, and students) and the presence of minority organizations must be present in order to predict group involvement and sociability for students of color on college campuses. Given that the majority of students in this sample were recruited from a diverse research university where minority organizations are prioritized, these findings might be unique to our sample. Therefore, although the current study suggested that European American and African American college women report involvement in group activities and close relationships at similar levels, future research should investigate whether these similarities exist on other campuses where there may be differences in campus climate or opportunities for minority student involvement.

Most previous research exploring associations between social connections, disordered eating, and body dissatisfaction has focused on social support (Riggio et al., 1993; Tao et al., 2000), a broader version of social connection. This study added to the literature by focusing on the specific aspects of social connection and how they relate to body dissatisfaction and disordered eating. We found small but statistically significant negative associations between group membership and sociability on body dissatisfaction, but no statistically significant associations between religious involvement or relationship status on body dissatisfaction. Women who reported greater group involvement and sociability also reported lower body dissatisfaction than those who did not. Although these effect sizes are small to moderate, they corroborate past research that suggests sociocultural impacts on eating disorder symptomatology are generally small to moderate in magnitude (Culbert, Racine, & Klump, 2015). This may suggest that being involved in activities

and frequent contact with friends and relatives may help to shape a positive perception of body image. These findings are consistent with previous research that suggests feeling socially connected with friends and family is associated with a more positive body image and self-esteem for women in general (Bleeker, Evans, Fisher, & Miller, 1998; Snapp, Hensley-Choate, & Ryu, 2012). Taken together, these results suggest that providing opportunities for social connections could be particularly helpful in decreasing levels of body dissatisfaction on college campuses. Although we did not find significant associations between any of these social connections and disordered eating, the sample used reported low levels of disordered eating behaviors, making it difficult to detect associations. Future research should explore the impact of social connections on disordered eating behaviors in clinical samples.

Finally, in the present study we examined race as a potential moderator between social connections and disordered eating and social connections and body dissatisfaction. Given that African American women tend to place greater value on their social networks than European Americans, this study explored whether social networks may in turn have a greater impact on shaping African American body ideals and eating behaviors (Billingsley & Caldwell, 1991; Kim & McKenry, 1998; Stanton et al., 2007). However, race did not moderate any of the associations between social connections and body dissatisfaction in this study, suggesting that for both African American and European American college women, group involvement and close relationships play an important role in how these young women view their bodies.

Practical Implications

Greater access to peer support through involvement in groups and other social organizations (e.g., club sports, cultural clubs) may provide young women with valuable relationships that encourage positive body image. Furthermore, prevention programs such as the *Healthy Body Image Program* (Jones et al., 2014), *Student Bodies* (Saekow et al., 2015), and *Body Project* (Stice, Shaw, Burton, & Wade, 2006) are vital resources for college campuses. The *Healthy Body Image Program* and *Student Bodies* are psycho-education communities easy to access via online administration, and are shown to significantly reduce body image concerns in subclinical samples (Jones et al., 2014; Saekow et al., 2015). The *Body Project* is a group-based intervention developed for high school and college women that provides

a forum for young women to question the thin-ideal (i.e., the acceptance of and adherence to sociocultural beauty ideals that focus on thinness) through various peer-led exercises (Stice et al., 2006). The *Body Project* has the added benefit of providing an opportunity to bring women of various races together and fostering social connections while reducing body dissatisfaction (Stice, Marti, Spoor, Presnell, & Shaw, 2008). These programs all provide education and programming targeting body positivity, and are invaluable for young women struggling with body or eating related issues.

Limitations and Directions for Future Research

Although the goal of this study was to survey a large, diverse sample of college women who had varying levels of body dissatisfaction, disordered eating, and social connections, these findings cannot be generalized to clinical populations, men, races other than African American or European American, and schools not contained in the sample. It should also be noted that some participants in our sample fell outside of the “traditional” college age. The cross sectional data collected for this study also presents limitations because cross sectional data does not provide information about behavior(s) over time or cause and effect. In addition, this study utilized self-report measures, which may be problematic due to shared-method variance and when asking about constructs typically associated with shame and stigmatization (i.e., body dissatisfaction and disordered eating). Furthermore, demographic information was collected at the beginning of the survey, which may have inadvertently introduced stereotype threat. Future research designs should utilize a measure of social desirability to control for individuals attempting to present themselves in a favorable light.

Finally, much of the previous research using the Berkman-Syme Social Network Index has been conducted on older populations. The Berkman-Syme Social Network Index assesses social connections through four components: group membership, sociability, religious involvement, and relationship status organizations. Although these components are largely applicable across age groups, the relationship status question was adapted for applicability to college-aged students. Furthermore, the reliability and validity of the Berkman-Syme Social Network Index is difficult to locate, particularly for younger populations, suggesting it may not be the most adequate tool to assess social connections in younger adults,

and the dichotomous scoring of the Index poses psychometric challenges. Moreover, it is important to recognize that group membership and social connections (especially to others who have disordered eating and body dissatisfaction) can also lead to negative outcomes (e.g., in sororities; Allison & Park, 2004; Basow, Foran, & Bookwala, 2007). Future research should explore the impact of specific social connections on body dissatisfaction and disordered eating using various samples (e.g., race, sexual orientation, gender) utilizing longitudinal research designs.

Conclusions

Our findings suggest that less group membership and sociability are associated with greater body dissatisfaction for both African American and European American college women. These findings may help to inform prevention and intervention efforts such as creating opportunities for increased group membership and sociability for both races. These efforts may be particularly helpful in reaching college women with body-related insecurities. Future research should continue to investigate differences in body dissatisfaction and disordered eating between African American and European American college women and the role of social connections in both of these groups, potentially informing culturally tailored interventions.

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Relationship Between Art Activities and Older Adult Depression

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ABSTRACT. Erik Erikson's psychosocial development model proposes that older adults need to maintain intergenerational relationships to limit feelings of depression, and research has suggested that art activities improve the well-being of older adults. Thus, the aim of the current study was to evaluate the correlations between depressive symptomology among older adults who engage and do not engage in activities that involve interactions with peers and children. Using a survey method of 52 adults over the age of 65, the study included an Analysis of Variance to assess whether there was a difference in scores on the short form of the Geriatric Depression Scale and the duration and type of art class participation. The results indicated that there was a significant effect of art engagement on depressive symptomology at the $p = .003$ level for 3 types of art engagement. The mean score for the no art group ($M = 3.84$, $SD = 2.59$) was significantly higher than the adult art group ($M = 1.50$, $SD = 1.51$) and marginally different than the intergenerational art group ($M = 2.09$, $SD = 1.64$). The results of the between-subjects effect analysis demonstrated a significant main effect of condition on the affective states of older adults at the .05 level, $F(2, 49) = 4.54$ $p = .003$. Furthermore, a Pearson product-moment correlation coefficient was computed and suggested that the longer a participant engages in art classes the fewer depressive symptoms the participant reports, $r(52) = -.359$, $p = .009$. Thus, the study suggested that, among older adults, there is correlation between lower reported depressive symptomology and participation in art activities.

Keywords: art, geriatric depression, intergenerational relationships

Erikson (1982) posited that feelings of loneliness and abandonment affect older adults' final stage of psychosocial development. He asserted, "the future of these long-lived generations will depend on the vital involvement made possible through life, if old people are somehow to crown the whole sequence of experiencing the preceding life stages" (Erikson, Erikson, & Kivnick, 1986, p. 14). Older adults can and need to maintain a "grand-generative function," and if these individuals have a deficiency in vital involvement, overt symptoms arrive bringing older adults to psychotherapy (Erikson, 1982).

Depression is among the overt symptoms

that bring older adults to therapy (Heo, Murphy, Fontaine, Bruce, & Alexopoulos, 2008). Globally, depression is the most common mental disorder among older adults, affecting approximately 7% of the older adult population (World Health Organization, 2015). The rates of depressive symptomology among community-dwelling older adults ranges from approximately 8 to 16% of the U.S. population according to a review of epidemiological studies of older adults (Blazer, 2003). Furthermore, research has suggested that, for adults 18–64 years of age, the rate of depressive disorder will increase by 25.3% from 30.1 to 37.7 million people. However, the rate of depressive disorder among adults over age 65

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years will increase by 116.8% from 3.8 to 8.2 million people (Heo et al., 2008). The growth parallels the increase in older adults as baby boomers enter older adulthood (Heo et al., 2008).

Older adults with depression often experience distress and suffering, which is correlated with physical, mental, and social functioning impairments (U.S. Department of Health and Human Services, 2006). Furthermore, research asserted that adults who experience depression later in life generated higher rates of outpatient health care costs (Fischer et al., 2002). Specifically, using the Geriatric Depression Scale (GDS), researchers screened patients ($n = 516$) for depressive symptomology. The study found that geriatric participants with depressive symptoms reported more outpatient healthcare needs and generated higher healthcare charges (Fischer et al., 2002).

Thus, given the depression rates and the impact of depression among older adults, there is an opportunity to identify approaches that address the psychosocial needs of this aging population. Blazer (2003) asserted that, to decrease the burden associated with late-life depression, it may become increasingly important to explore nonpharmaceutical interventions.

Art Therapy for Older Adults With Depression

Several previous researchers have examined the impact of art programs on the mental health of older adults. For example, a research team conducted a pilot study to examine the difference in depression levels among older adults who walked in gardens compared to older adults who participated in art therapy interventions during a 6-week period (McCaffery, Liehr, Gregersen, & Nishioka, 2011). Researchers found decreases in depression among participants in the investigation. Specific to the art therapy group, the preintervention depression score was 27.00 ($SD = 9.65$), and the postintervention depression score was 11.60 ($SD = 6.11$). Participants in the study noted that the art therapy helped to reveal strengths that they did not know they possessed (McCaffery et al., 2011).

Likewise, a program in the Philippines invited seniors in an institutionalized group home to perform traditional Filipino art (de Guzman et al., 2011). Prior to the intervention, participants reported feelings of deterioration in their capability to play active roles in family and societal affairs. At postintervention, participants reported changes in their self-perception, noting that they never knew that they were capable of doing the art challenge.

The researchers asserted that, when the participants had the opportunity to overcome the challenges of depression with art activities, they gained a positive view of themselves and of their lives (de Guzman et al., 2011).

A study from France demonstrated that art therapy could assist geriatric inpatients in becoming more aware of their abilities, which led to improved emotional well-being and a reduction in their hospitalization time (Beauchet et al., 2012). Through a pilot case study, researchers compared 93 older adult participants to a control group of 95 older adult participants. The 93 participants in the test group joined one, 90-minute art session, which was associated with improved recovery time. The overall duration of the hospital stay was shorter for the participants in the art session versus the participants in the control group who did not engage in the art session (Beauchet et al., 2012). The researchers suggested that the art engagement enhanced the participants' emotional well-being, improved their positive affective state, and increased their awareness of their capabilities.

The highlighted research asserts that, when older adults engage in art activities, observed or measured rates of depressive symptomology decrease. In general, the three research groups asserted positive outcomes related to depressive symptomology suggesting that, for older adults, engaging in varied levels of art activities was beneficial for emotional functioning. (Beauchet et al., 2012; de Guzman et al., 2011; McCaffery et al., 2011).

Impact of Intergenerational Relationships

According to Erikson (1982), in adulthood individuals face a crisis of generativity versus stagnation in which people strive to develop a sense of care by engaging with and guiding the next generations. Erikson asserted that those individuals who struggle through developmental milestones such as generativity versus stagnation are more vulnerable to emotional distress such as depression. Eriksonian theory would also suggest that acts of generativity encourage individuals to reflect on and convey their personal achievements to future generations, engage in sophisticated communication, and develop emotional capacities.

To validate assumptions from Erikson, researchers assessed 159 male participants from an over-75-year longitudinal study of adult development (Malone, Liu, Vaillant, Rentz, & Waldinger, 2016). Through neurological assessments and the GDS,

the results of the investigation suggested that those who embraced principles of Eriksonian psychosocial development demonstrated higher cognitive functioning, higher executive functioning, and lower levels of depression 30 to 40 years later. The researchers asserted that older adults who report satisfying career engagement, positive intimate relationships, and nurture others through generativity can experience improved emotional and cognitive health later in life (Malone et al., 2016).

Building on the premise that intergenerational interactions are important to psychosocial development, several researchers have examined how intergenerational programs involving older and younger generations can develop a sense of generativity among older adults (Fujiwara et al., 2009). Researchers conducted a study involving 32 older adults and 114 students in a within-subject repeated-measures design (Gaggioli et al., 2014). The researchers divided participants into 16 groups, with each group involving two older adults and six to eight students. Each group met three times, totaling six hours of reminiscing activities. The researchers utilized pre- and posttest assessments of the older adults' levels of loneliness, self-esteem, and quality of life. The pre- and posttest measurements of the older adults indicated that, following the intergenerational reminiscence therapy, the older adults' levels of loneliness showed a significant decrease, and their quality of life assessments increased by a statistically significant degree. These results led the researchers to conclude that intergenerational group reminiscence can be an effective approach focused on advancing the psychosocial well-being and quality of life for older adults who are generally healthy (Gaggioli et al., 2014).

Davis, Larkin, and Graves (2002) explained that intergenerational therapy provides opportunities for older adults to engage in nurturing, renew positive emotions, and bring meaning to their lives via play with young children. Moreover, the researchers noted that the emotional benefits for older adults include the ability to interact with others and express feelings, review life (integrity vs. despair), imagine new roles for the self, express empathy, and build self-esteem (Davis et al., 2002). The researchers noted that the positive perceptions that participants have for each other reinforce self-esteem, which is important to both younger and older generations (Davis et al., 2002).

Furthermore, art is becoming an emerging intergenerational activity between older adults

and children. To date, a qualitative analysis of 300 journals written by 59 students participating in an intergenerational art program focused on measuring the positive gains for college students (Lokon, Kinney, & Kunkel, 2012). In particular, the experience increased college students' learning, created feelings of making a positive impact, and improved their attitudes toward the seniors. However, the research illuminated a gap in that further studies are needed to assess the impact of intergenerational art programs from the perspective of older adults, not only the perspective of college students (Lokon et al., 2012).

Research Opportunities

Research has suggested that there is a positive impact of visual art activities on geriatric symptomatology, demonstrating that art therapy holds promise in reducing depressive symptomatology and improving the emotional well-being of older adults. Separately, researchers suggested that intergenerational reminiscence and play have a positive impact on older adults' well-being and quality of life. Together, outcomes may be improved if the art therapy intervention is enhanced with intergenerational relationships. Lokon and colleagues (2012) outlined the positive impact of intergenerational art for younger generations. However, they did not assess the impact for older adults. Thus, there is a gap in research that assesses the effect of intergenerational art activities on older adults. Furthermore, limited research has investigated the potential impact of intergenerational activities on emotional well-being or depression.

Thus, the aim of the current study was to evaluate the relationship between participation in intergenerational art activities and depressive symptomatology among older adults. The independent variable under investigation was art class participation. Specifically, the three conditions included (a) a control group that did not participate in art classes, (b) a group that participated in adult-only art classes, and (c) a group that participated in intergenerational art classes with children. The dependent variable was depressive symptomatology as measured by the GDS, short form. The null hypothesis (H_0) of the current research study was that no correlation would be found between depressive symptomatology and participation in intergenerational and adult-only art activities. The alternative hypothesis (H_1) was that depressive symptomatology scores would be significantly associated with participation in art activities. Specifically,

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lower depressive symptomology was expected to correlate with higher attendance at art activities.

Method

To determine the correlation between depressive symptomology and participation in intergenerational and adult-only art activities, the study involved a survey design that measured both depression scale rates and the type and duration of participation in art activities. This model provides a rapid turnaround in data collection and is cost effective. Using a questionnaire, the method aimed to collect the data at one setting and did not collect data through a longitudinal approach.

Participants

This present study involved a nonrandom sample of adults over the age of 65 at a senior center in the greater Seattle area. Specifically, the study targeted sites that offer intergenerational art classes, adult-only art classes, and no art classes. The aim of the investigation was to reach a minimum of 25 adults who attend intergenerational art classes, 25 adults who attend adult-only art classes, and 25 adults who do not attend art classes.

In researching intergenerational art classes, the investigator was able to locate one residential facility with regular intergenerational art classes and one nonprofit organization with intergenerational acting classes. As a result, the study involved participants from one facility that conducted intergenerational art classes.

Instrumentation

Demographic and art participation questions. To confirm that participants were among the target population, the survey included a question about participants' ages. Sex was also queried. The questionnaire was anonymous, and the researcher did not ask participants for their names, race, ethnicity, or religious affiliation. The survey did not screen for individuals with geriatric related illnesses or physical and cognitive impairments. The questionnaire included three items related to art participation, frequency, and duration. Sample questions included "When did you start taking art classes?" "How many adult-only art classes have you attended in the last 12 months?" and "How many art classes with children present have you attended in the last 12 months?" See Appendices A and B.

Aside from the question related to age, all remaining questions were close-ended questions in which the respondents selected from a

predetermined list of response options. To accommodate potential vision impairment, the survey format was a larger 16-point font size.

Geriatric Depression Scale. To assess depressive symptomology, the survey incorporated the GDS short form. Developed by Yesavage et al. (1982), the GDS is designed to measure depression among older adults. It has evidence of validity and reliability for screening major depressive disorder across different ages, genders, ethnicities, and chronic illnesses, including older adults (Nyunt, Fones, Niti & Ng, 2009). The GDS is sensitive to psychological symptoms of depression rather than somatic references (Yesavage, et al., 1982). Partly the result of federal support, the GDS is in the public domain (Yesavage et al., 1982).

The 15-item short form has been found to be an effective screening instrument for depression among older adults (Herrmann et al., 1996). To assess the validity of the short form screening, the study compared the scores of the GDS short form with the scores from the validated Montgomery Asberg Depression Rating Scale (MADRS; Herrmann, et al., 1996). For comparison, the MADRS is a depression rating scale developed by Montgomery and Åsberg (1979) based on a 65-item comprehensive psychopathology scale and sensitive to change. The researchers concluded that the GDS short form provides acceptable sensitivity and specificity, and therefore, they recommended the GDS short form as a screening tool for older adults (Herrmann et al, 1996). Furthermore, because the GDS short form takes 6 minutes to administer, the researchers asserted that it potentially signifies an important advancement in depression screening for older adults (Herrmann et al, 1996).

Thus, the current study incorporated the 15-question GDS short form. Participants indicated "Yes" or "No" to each question, and each response correlates with a predesignated score of 1 or 0. The researcher totaled the respondents' scores and assigned a score to each questionnaire. An overall index is computed by summing all items, with a total range from 0 to 15. A score greater than 5 suggests depression. Sample GDS questions include "Do you feel like you have more problems with memory than most people?" "Do you think it is wonderful to be alive?" and "Do you feel pretty worthless the way you are now?"

Procedures

Prior to engaging in research, the investigator received approval from Northwest University's

institutional review board and conducted research in a manner consistent with the academic institution’s guidelines for ethical research. The researcher secured advanced approval from the senior facilities where the questionnaires were distributed. The timeline for conducting the study was May 2017 through July 2017.

The researcher provided respondents with an in-person informed consent overview, which highlighted the study’s purpose, content, duration, and potential risks and benefits. Participants received a copy of the consent form to read and keep for their records. To protect participants, the study procedures involved providing respondents with an informed consent overview, which highlighted the study’s purpose, content, duration, and potential risks and benefits. Respondents were instructed that they did not have to answer all the survey questions and they could choose to stop participating in the study at any point. Participation in the study was voluntary and without compensation. The questionnaire took approximately 15 to 20 minutes to complete. All participants requested that the researcher read the questions aloud and circle the answer indicated by the participant. Participants completed the questionnaires onsite and immediately returned the questionnaires to the researcher.

The questionnaires were anonymous and thus it is not possible to identify the specific respondents. In the event that taking the questionnaire created a disturbing emotional response, the participants received a crisis number on each consent form. The researcher is not aware that any participants experienced a disturbing response.

Results

The study was designed to examine if there was a difference in effectiveness of art class type and lower reported depressive symptoms, and more broadly to understand the relationship between art participation and depressive symptoms. Using SPSS (IBM, 2016), the study included an Analysis of Variance (ANOVA) to assess whether there was a statistically significant difference in reported GDS short form scores by group condition (i.e., art class type). A second correlational analysis was conducted to assess differences in reported GDS short form scores by duration of art class participation. The analytics evaluated if the intergenerational art class participants reported significantly lower GDS scores on average compared to the adult-only or no-class participants.

Sample Characteristics

Descriptive statistics of the sample size and survey results are highlighted in Table 1. In total, 54 participants answered the survey. However, two surveys were invalid as a result of participants not completing all questions. Thus, the sample size was 52 participants, and the mean age was 80.21 (*SD* = 8.78). Most of the participants in the study were women (69.2%). Of the 52 participants, 25 people reported that they did not participate in any art classes, 16 participated only in adult classes, and 11 participated in intergenerational art classes. Of the 11 who participated in intergenerational art classes, nine participants also attended an adult art class in addition to being involved in a class with children.

Measured GDS Scores

Depressive symptomology as reported by the GDS short form for the sample averaged 2.75 (*SD* = 2.35). Overall, men reported a slightly higher score on the GDS short form (*M* = 2.94, *SD* = 1.91) than women (*M* = 2.67, *SD* = 2.54). The mean GDS short form score for individuals who did not participate in art classes was higher (*M* = 3.84, *SD* = 2.59) than the mean for individuals who participated in adult-only art class (*M* = 1.50, *SD* = 1.51), and marginally different than individuals who participated in intergenerational art classes (*M* = 2.09, *SD* = 1.64).

The ANOVA compared GDS short form scores in conditions in which the participants (a) did not participate in art (control group), (b) participated in adult art class, and (c) participated in intergenerational art class. The results of the between-subjects effect analysis demonstrated a significant main effect of condition on the affective states of older adults at the .05 level, *F*(2, 49) = 4.54, *p* = .003. Regarding effect size, there was a small effect of condition with a partial Eta squared score of .211.

Post-hoc comparisons using the Tukey HSD test indicated that the mean score for the adult

TABLE 1			
Measured GDS Short Form Score by Condition			
Condition	<i>M</i> GDS SF	<i>SD</i>	<i>N</i>
No Art	3.84	2.59	25
Adult Art	1.50	1.51	16
Intergenerational Art	2.09	1.64	11
Totals	2.75	2.35	52

art condition was significantly different than the control condition. The mean score for the intergenerational art condition was marginally different than the control condition but did not reach significance. Further comparisons between conditions are described in Table 2.

GDS by Length of Art Class Participation

To assess the relationships between duration of art classes and depressive symptomology, a Pearson product-moment correlation coefficient was computed. There was a negative correlation between the two variables, $r(52) = -.359, p = .009$, suggesting that the longer a participant engaged in art classes the fewer depressive symptoms the participant reported. Using Levene’s test, one can assume homogeneity of variance because the observed p value of .633 is greater than .05., as detailed in Table 3. Overall, there was a significant negative correlation between lower participation in art classes and higher depressive symptomology, suggesting that people who spent more time in art classes reported less depression.

Taken together, these results suggested that art engagement has an effect on depressive

symptomology for adults over the age of 65. The results indicated that participants who engaged in the adult art condition report lower depressive symptomology on the GDS compared to those participants in the control condition who do not participate in art classes. The mean score for the intergenerational art condition was marginally lower than the mean score for participants in the control condition. Furthermore, the results indicated that the longer a participant engaged in art classes the less depressive symptomology the participant reported. Thus, the findings supported the hypotheses that art engagement is correlated with lower reported depressive symptomology, and the study supported the finding that the more time older adults spent in art activities the fewer depressive symptoms they reported.

Discussion

The present study suggested that, when older adults engage in art activities, they report less depressive symptomology. In particular, the research findings propose that older adults who participated in art activities for a longer period of time reported less depressive symptomology than those individuals who attended art classes only a short period of time. With a small sample size, the study was unable to distinguish if older adults who participate in art classes with children report less depressive symptomology than adults who participate in art classes with their peers. Within the current results, many of the older adults who participated in art classes with children also participated in art classes with their peers, and thus it is unclear which type of art class is more correlated with reduced depressive symptomology. However, this study suggested that, in general as people age, both participating in art activities with other people and the durative of art engagement both correlate with less reported depressive symptoms.

With depressive rates among older adults anticipated to increase (Heo et al., 2008), identifying interventions to reduce distress and suffering could serve to help the physical, mental and social function of this growing population becomes increasingly important. Previous studies have suggested that art interventions can help older adults reveal new strengths, improve self-perceptions, and improve depressive symptomology (Beauchet et al., 2012; de Guzman et al., 2011; McCaffery et al., 2011). When research has measured the effect of art engagement on the affective state of older adults, results have suggested that the engagement

TABLE 2

Comparison Between Conditions

Condition	Comparative Condition	<i>M</i> diff	<i>SE</i>	<i>p</i>	95% CI	
					Lower bound	Upper bound
No Art	Adult Art	2.34	0.68	.003	0.69	3.99
	IntrGen Art	1.75	0.77	.070	-0.11	3.61
Adult Art	No Art	-2.34	0.69	.003	-3.99	-0.69
	IntrGen Art	-0.59	0.83	.760	-2.61	1.43
IntrGen Art	No Art	-1.75	0.77	.070	-3.61	0.11
	Adult Art	0.59	0.83	.760	-1.43	2.61

Note. IntrGen Art = Intergenerational Art

TABLE 3

GDS and Art Duration Correlation

		Duration
GDS	Pearson Correlation	-.359**
	Sig. (2-tailed)	.009
	<i>N</i>	52

Note. GDS = Geriatric Depression Scale.

** Correlation is significant at the 0.01 level (2-tailed).

provides improvements to emotional functioning.

One possible explanation is that, through art work, older adults are able to reflect on achievements and share those accomplishments with other generations or peers in a vitally engaged manner. Through art classes, older adults remain involved with peers and multiple generations, which helps sustain psychosocial well-being in older adulthood (Erikson et al., 1986). Erikson and colleagues (1986) have advocated for the opening of the arts to older adults to stimulate intellectual creativity. Through an immersion in sensory awareness, art activities offer older adults creativity and stimulation that enrich this population intellectually and aesthetically (Erikson et al., 1986). By activating the senses, art activities help older adults remain alert and actively involved instead of leaving older adults to focus on the deterioration associated with aging (Erikson et al., 1986). Specifically, “for the aging, participation in these expressions of artistic form can be a welcome source of vital involvement and exhilaration” (Erikson et al., 1986, p. 318). In this way, the older adults who engaged in art for a longer duration may benefit from continuing to activate their sensory system and remaining involved.

These assertions align with conclusions from a phenomenological study that examined how art activities helped older adults manage difficulties associated with depression (de Guzman et al., 2011). Themes that emerged from the phenomenological study suggested that older adults are able to derive meaning in becoming successful with simple art activities, use art to demonstrate adaptability, and gain motivation to be more engaged, which the study suggested contributes to an ability to overcome depressive symptomology (de Guzman et al., 2011). Older adults in the present study who participated in art activities reported fewer depressive symptoms and are possibly benefiting from similar experiences as reported by de Guzman et al. (2011).

The present art study demonstrated that participants who engaged in intergenerational art class reported a marginal effect on depressive symptomology. Participants in the intergenerational condition possibly gained benefits from working side by side with younger participants. Erikson and colleagues (1986) noted that older adults derive pleasure from the spontaneity of children and become stultified when constantly in the presence of older adults. Research suggested that, when older adults engage with younger art students, they develop a sense of generativity through positive

and nurturing relationships (Malone et al., 2016). In this way, the intergenerational classes could help foster generativity and reinforce self-esteem (Davis et al., 2002). Given the present study had a small group for intergenerational art participants, continuing to explore opportunities and conduct research focused on older adults’ engagement with younger children could further research on geriatric psychosocial development. As noted by Erikson and colleagues, “when young people—or any other generation, especially children—are also involved [in the arts], the change in the mood of elders can be unmistakably vitalizing” (1986, p. 319).

Through art engagement with peers and children, the current study explored the lifespan development needs of generativity and vital involvement outlined by Erikson (1982). Previous research has examined the impact of art engagement on the affective state of older adults, and research has reviewed the effect of intergenerational relationships on the affective state of older adults. The present study examined the effect of art on older adults’ depressive symptomology when engaging in art activities with peers and/or children. Most notably, the present study built upon existing research that art engagement is beneficial for older adults and suggested that longer duration of art engagement is correlated with less depressive symptomology.

Limitations

Limitations of this study were the sample size of older adults who only participated in art classes with children. With a marginal difference in the reported depressive symptomology of participants who engaged in art with children relative to the control group, the study did not significantly advance the understanding of the implications of intergenerational relationships on the depressive symptomology of older adults. Further limitations included the factor of causality. Specifically, it is not clear if older adults who reported less depressive symptomology participate in art classes or if attendance in the art classes leads to a reduction in depressive symptomology. The study demonstrated a correlation but not directionality of the relationship between art engagement and GDS scores.

Additional limitations are related to the measurement tools. Specifically, the survey did not screen for other aging-related disorders such as Alzheimer’s disease, dementia, or Parkinson’s disease, or life changes such as loss of a spouse or moving into a residential facility, all of which have

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depression as a side effect. The survey also focuses on depressive symptomology and did not assess quality of life or sense of belonging, which could be correlated with art class participation.

Future Research

The present study demonstrated the positive impact of art participation on geriatric depressive symptomology and also illuminated opportunities for future research. Most notably, research could further explore the causality of intergenerational art classes on geriatric depressive symptomology by conducting pre- and posttest assessments among geriatric participants prior to participation in an art class with children and following a sequence of art classes with children. Additionally, incorporating different measurement tools such as quality of life scales or sense of belonging scales could explore additional correlations between art engagement and the overall mood of older adults.

The final stages in Erik Erikson's psychosocial development model assert that older adults can and need to maintain intergenerational relationships, and the lack of engagement with younger generations can lead to depressive symptomology or a decreased sense of well-being. The present study suggested that, when older adults are active in art, both with and without children, they report lower depression rates. As a result, creating more opportunities for older adults to engage in art could prove helpful to improving depressive symptoms experienced by the aging population.

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APPENDIX A

Survey Distributed to Participants

Survey # _____ Date _____

Please provide one answer for each question.

What is your age?

With what sex do you identify?

Female Male

When did you start taking art classes?

I do not take art classes 6–12 months ago
 less than 1 month ago 1–5 years ago
 1–6 months ago more than 5 years ago

How many ADULT ONLY art classes have you attended in the last 12 months?

none 6 to 12
 less than 6 more than 12

How many art classes WITH CHILDREN with have you attended in the last 12 months?

none 6 to 12
 less than 6 more than 12

Are you basically satisfied with your life?

Yes No

Have you dropped many of your activities and interests?

Yes No

Do you feel that your life is empty?

Yes No

Do you often get bored?

Yes No

Are you in good spirits most of the time?

Yes No

Are you afraid that something bad is going to happen to you?

Yes No

Do you feel happy most of the time?

Yes No

Do you often feel helpless?

Yes No

Do you prefer to stay at home, rather than going out and doing new things?

Yes No

Do you feel like you have more problems with memory than most people?

Yes No

Do you think it is wonderful to be alive?

Yes No

Do you feel pretty worthless the way you are now?

Yes No

Do you feel full of energy?

Yes No

Do you feel that your situation is helpless?

Yes No

Do you think that most people are better off than you?

Yes No

APPENDIX B

Scoring Sheet for Questions 6–20

Geriatric Depression Scale (GDS) Scoring Instructions

Score 1 point for each bolded answer. A score of 5 or more suggests depression.

1. Are you basically satisfied with your life? **yes** no
2. Have you dropped many of your activities and interests? **yes** no
3. Do you feel that your life is empty? **yes** no
4. Do you often get bored? **yes** no
5. Are you in good spirits most of the time? **yes** no
6. Are you afraid that something bad is going to happen to you? **yes** no
7. Do you feel happy most of the time? **yes** no
8. Do you often feel helpless? **yes** no
9. Do you prefer to stay at home, rather than going out and doing things? **yes** no
10. Do you feel that you have more problems with memory than most? **yes** no
11. Do you think it is wonderful to be alive now? **yes** no
12. Do you feel worthless the way you are now? **yes** no
13. Do you feel full of energy? **yes** no
14. Do you feel that your situation is hopeless? **yes** no
15. Do you think that most people are better off than you are? **yes** no

A score of > 5 suggests depression
 (Yesavage et al., 1982)

Total Score _____

Trumping Racism: The Interactions of Stereotype Incongruent Clothing, Political Racial Rhetoric, and Prejudice Toward African Americans

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ABSTRACT. Clothing type and exposure to racial rhetoric may influence prejudice toward African Americans. We used a between-group design with clothing type (stereotype congruent or incongruent) and exposure to racial rhetoric (strong/weak/none) as independent variables. We found a main effect for clothing type ($p < .001$, $\eta_p^2 = .71$) and racial rhetoric exposure ($p < .001$, $\eta_p^2 = .65$), but no interaction. Participants' Symbolic Racism scores were significant covariates, positively related to prejudice. Participants rated African American models in stereotype incongruent clothing more positively. Viewing President Trump speak negatively about African Americans significantly decreased participants' prejudice of African American models. The findings of this study show how the clothing one wears, the racial oratory one views, and symbolic racism can drastically impact one's perceptions. Research should seek to reduce automatic judgments and continue to pursue how other clothing styles affect perceptions, as well as how major political figures can play a role in those judgments.

Keywords: stereotypes, clothing, symbolic racism, President Trump, perception



Open Data and Open Materials badges earned for transparent research practices. Data and materials are available at <https://osf.io/vhcu8/>.

People of color face the harmful consequences of racism and oppression (Culotta, 2012; Davids, 2002; Hesse, 2004). African Americans in particular have faced these consequences for hundreds of years, from the African slave trade that dates back to the mid-1550s, to the Jim Crow Laws of the late 1800s, and to current evidence of modern racism (Folmsbee, 1949; Henry & Sears, 2002; Pfeifer & Bernstein, 2003; Wheat, 2011). Further examination of the ways to reduce the epidemic of racism toward African Americans is necessary. Although reducing racism in a single study may be overly optimistic, we set our goals on reducing prejudicial perceptions. We merged two disparate research areas and explored whether

wearing stereotype incongruent clothing decreases prejudicial perceptions, and if exposure to racial rhetoric increases prejudice.

Prejudice Toward African Americans

For many years, scholars have documented how people of color are stereotyped and the prejudice against them (Culotta, 2012). The consequences of these prejudicial perceptions have severe negative effects, especially for African Americans (Brief, Dietz, Cohen, Pugh, & Vaslow, 2000; Johnson, Ashburn-Nardo, & Lecci, 2012; Lybarger & Monteith, 2011; Tukachinsky, Mastro, & Yarchi, 2015). For example, racism can have employment ramifications (Brief et al., 2000). Participants

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who scored high on the Modern Racism Scale and had a business-related reason to discriminate against African American job applicants selected a significantly smaller number of these candidates (Brief et al., 2000). When hired, African Americans have less opportunity to be promoted to managerial positions than European Americans due to discrimination in the workplace (Tomkiewicz, Brenner, & Adeyemi-Bello, 1998). Prejudice is also related to mental health, as demonstrated in a study on African American residents in two New York neighborhoods who faced increasing frequencies of racism and consequently displayed more distress, symptoms of depression, and reported more poor mental health days (i.e., days where symptoms are abundant and cause substantial impairment; Kwate & Goodman, 2015).

There are also judicial consequences of prejudice. In one study, participants acted as mock jurors by reading descriptions of juvenile defendants, reading the defendant's trial transcript, answering questions pertaining to the strength of the evidence, and determining the consequences the defendant should face. These mock jurors believed that African American-on-European American crimes were more plausible. Male mock jurors displayed more prejudicial racial bias in judgments of guilt for juvenile African American defenders (Stevenson & Bottoms, 2009). A study on people's perceptions of rape victims found that participants, specifically those with higher scores on authoritarianism, were less likely to agree with an African American victim's claim of rape against an African American defendant compared to a European American victim's rape claim (Landwehr et al., 2002). The effects of prejudice and racism, especially against African Americans, can be detrimental to many aspects in the lives of numerous individuals.

Clothing and Prejudice

Clothing choice may moderate prejudicial biases by activating either positive or negative schemas. Bartlett (1932) defined a schema as a tool used to actively arrange generic knowledge obtained from past experiences for the benefit of future interactions. On one hand, schemas can negatively influence one's perception of others, specifically based on their race (Clemans & Graber, 2013). On the other hand, activating positive schemas in people's minds makes them perceive the individual they see as a part of their in-group, thus reducing prejudicial notions (Kwon & Johnson-Hillery, 1998).

Clothing is a major way to activate schemas with the presence of specific clothing having the potential to alter perceptions (Kahn & Davies, 2017). For example, college students rated models wearing formal business attire as more authoritative, credible, responsible, competent, knowledgeable, reliable, intelligent, trustworthy, willing to work hard, efficient, approachable, courteous, friendly, and business-like as compared to models wearing semiformal or informal clothing (Kwon & Johnson-Hillery, 1998).

Individuals have particularly strong reactions to stereotypical clothing (i.e., clothing typically associated with a certain group). For example, participants showed higher rates of prejudicial racial bias in an Active Shooter Simulator video game when targets wore "threatening clothing" (i.e., baggy gray sweatshirt, a gray headband, and a black baseball cap, worn to the side), and were in a "threatening neighborhood" (i.e., South Central Los Angeles). The threatening clothing was stereotypical for gangs. Participants reported low prejudicial racial bias when targets wore "safe clothing" (i.e., a light button up shirt and a tie) and were in a "safe neighborhood" (i.e., Beverly Hills; Kahn & Davies, 2017). Given it is clear that some forms of clothing lead to positive perceptions, we explored if clothing could also reduce prejudice. We specifically tested if clothing is a potential mechanism to reducing prejudicial stereotypes of African Americans.

Priming and Exposure to Racial Rhetoric

We wanted to go beyond the volume of work done on clothing and perception to add another important factor to understanding prejudice. We brought in a completely separate research literature and also tested for the effects of racial rhetoric as a priming device.

Priming or exposing a participant to a stimulus has been well-demonstrated to influence behavior and change perceptions. In one study, participants who watched a lot of television reported beliefs of social reality that coincided with the content of the shows they watched (Shrum, Wyer, & O'Guinn, 1998). Experimental studies show that specific priming can lead to direct changes. For example, students from a private religious university made different moral judgments based on a priming intervention (Moon, Wright, Broadbent, & Robinson, 2017). In a prosocial cooperation condition, students primed with a moral fable made harsher judgments. More closely related to

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our study, Givens and Monahan (2005) primed participants with video images of stereotypical African American women (e.g., Mammies, Jezebels). Participants then observed a mock employment interview. Participants primed with stereotypical video images rated African American interview candidates more negatively.

Although contemporary television does not frequently include stereotypical images of African American Mammies or Jezebels, viewers are exposed to political rhetoric, some of which is racial in nature. Values expressed by politicians may also prime perceptions. Research has clearly shown that political party identification has a major influence on how one perceives a wide range of political issues and events including specific events such as the Persian Gulf War or National Football League players kneeling during the National Anthem to protest racial inequality (Bartels, 2002; Wong, 2018). Sometimes, political leaders explicitly link actions to values. Outspoken leaders such as President Trump may have even more of a role in modifying perceptions. For example, during the January 2018 State of the Union address, President Trump associated standing for the National Anthem with being American, suggesting that those who did not stand were less American (Amicus Humani Generis, 2018; Livingston, 2018). President Trump has also made many open stereotypical comments toward African Americans, Mexican immigrants, and Muslims (Bobo, 2017). Such racial rhetoric may serve as a prime and either activate racist schemas leading to higher prejudice, or if blatant, it may activate a need to be politically correct and compensate by leading to lower prejudice. We feel that more research is needed to examine the influence of racial rhetoric on racism specifically toward African American individuals. We tested these possibilities to examine the impact of political videos containing racial rhetoric from leaders such as the President of the United States on perceptions of African Americans.

The Current Study

We explicitly integrated two different literatures to extend previous work on clothing and priming to better predict prejudice. By blending the findings and research designs of clothing research with work on priming, our goal was to go beyond past work. Research has tied clothing to perceptions in terms of race (i.e., are some clothing styles associated more with a certain race), but we did not find research manipulating clothing to examine

reductions in prejudice. Similarly, although priming studies have examined prejudice (e.g., Givens & Monahan, 2005), we did not find priming and prejudice work focusing on clothing. We built on work that has established a correlational link to establish a causal relationship. Our study went beyond correlational studies of race-based perception with our manipulation of two previously separate factors.

We decided to use a trait-based approach to study prejudice. Using this approach, we operationalized prejudice as higher ratings of African Americans on traits related to negative African American stereotypes (Lamont, Yun Park, & Ayala-Hurtado, 2017; Livingston & Pearce, 2009). We also expected ratings of prejudice to relate to standard measures of racism, so we measured racism as a possible confound. Studies of racism have taken into account the changing context in which racism takes place and that, instead of manifesting itself explicitly, racism today may be more implicit and subtle. In fact, current research uses the term *symbolic racism* to represent how “new forms of prejudice embody negative feelings towards Blacks as a group combined with a sense that Blacks violate cherished American values” (Henry & Sears, 2002, p. 254). We did not believe our experimental manipulations would change symbolic racism due to its stable nature, but did measure this variable as a possible confound.

We explicitly hypothesized three possible mechanisms in the form of two main effects (clothing type and exposure to racial rhetoric; ERR) and an interaction (i.e., a combination). We used a 2 (clothing type: stereotype congruent, stereotype incongruent) x 3 (ERR: strong, weak, none) between-subjects design. We tested the hypothesis that wearing stereotype incongruent instead of stereotypical clothing can improve perceptions of African Americans and exposure to racial rhetoric can influence beliefs toward African Americans. Based on previous research, we expected a main effect of clothing as well as a main effect of ERR. Although past research led us to hypothesize that participants would rate African Americans in stereotype incongruent clothing more positively, we did not have an a priori directional hypothesis for the effects of ERR. It was likely that ERR would activate racist schemas leading to higher ratings of prejudice against our African American models (as compared to a control video). It was also likely that ERR would make racism more salient, making participants compensate and rate our African

American models more positively (as compared to a control video). We also hypothesized a clothing type by ERR interaction because we expected ERR to lead to different perceptions based on the different types of clothing.

Method

Participants

This study included 85.31% European American, 5.65% Asian American, 5.08% Hispanic/Latino, 2.82% African American, 1.13% Native American or Alaska Native, and 1.13% Biracial, predominantly first-year undergraduate students ($N = 177$) from a mid-sized Midwestern university in the United States (86% women, 12% men, 2% transgender or nonbinary). Participants ranged in age from 18 to 55 years ($M = 20.55$, $SD = 5.90$). Participants reported their political party affiliation quite evenly (35% Republican, 34% Democratic, 19% Independent, 2% Green Party, and 10% as Other). We recruited respondents largely from introductory Psychology and Human Development courses using a department participant pool. Participants received research credit for their participation in the study as part of their course requirement. We told participants that they would “Complete a number of different tasks (e.g., rating a video and sharing your perspectives on pictures).”

Materials

Stimuli. We reviewed the literature to establish what has previously been used to operationalize “stereotypical clothing” for African Americans (Kahn & Davies, 2017). The pictures and clothing we picked satisfied these criteria (i.e., ball cap, bandana, baggy shirt, and baggy jeans or black shirt, gold chain, and baggy jeans). We used public social media sites and other online websites to collect pictures of four different African American male models who wore clothing that fit the criteria for this study. The final set of models we used were selected from a much larger set by a team of research assistants. We only used pictures that four research assistants rated as fitting the criteria (i.e., for inter-rater reliability). Similar to other studies on clothing and perception where pictures are included that do not relate to the main hypotheses, we added two additional pictures (Kahn & Davies, 2017; Kwon & Johnson-Hillery, 1998). We also collected two additional non-African American models to obfuscate the racial focus of our study. Race of model was not a variable in the study and is consequently, not included in the analyses. Three models (two African American,

one non-African American) wore stereotype congruent clothing as operationalized above. Three models (two different African American, and one different non-African American) wore stereotype incongruent (i.e., suit coat, tie, dress shirt, dress pants) clothing. Research assistants examined each photograph and validated that each fit the needed criteria. Photographs showed mostly full body shots of the models in different settings.

Videos were approximately 2 minutes in length. The length of the videos correlate to previous research seeking to elicit a response from participants (Demaree, Schmeichel, Robinson, & Everhart, 2004). We used two videos of President Trump and a control video. One featured a segment from the State of the Union address and did not explicitly address race (Weak ERR, 1:36 min). The second featured a CNN (2018) compilation of President Trump video clips in which he explicitly refers to African Americans often in a negative way (Strong ERR: 2:24 min). We collected videos from YouTube. The Nature Relaxation Video, our control (No ERR: 2:12 min) was uploaded to YouTube as a public video, and the President Trump Videos were edited and uploaded onto one of the researchers' YouTube channels as private videos (Amicus Humani Generis, 2018; CNN, 2017; Livingston, 2018a, 2018b; Nature Relaxation Films, 2016).

Dependent measures. We measured prejudice, our dependent variable, using traits from previous research on African Americans (Correll, Park, Judd, & Wittenbrink, 2002; Hart & Morry, 1997; Jones, Moore, Stanaland, & Wyatt, 1998; Saguy & Gruys, 2010). Participants rated each model on six traits: hard-working, trustworthy, intelligent, lazy, warm, and aggressive. The response scale for these traits ranged from 1 (*strongly disagree*) to 6 (*strongly agree*). We reverse scored the two negative items so higher scores showed less prejudice. An exploratory factor analysis using the principle component method with a varimax rotation showed there was only one underlying factor in the dependent variables. Consequently, we summed the six variables to compute a composite measure of prejudice. Reliability for the composite was acceptable, Cronbach's $\alpha = .83$.

Control variables. We measured participants' general attitude toward African Americans using all items of the Symbolic Racism Scale (Henry & Sears, 2002, p. 266). The Symbolic Racism scale contains 16 rating scale items such as, “Over the past few years, Blacks have gotten less than they deserve” and “How much of the racial tension that exists in the United States today do you think Blacks

are responsible for creating?” that are focused on measuring participants’ beliefs on current and past racial issues faced by African Americans. Questions vary in the response scale used. For example, 10 questions had Likert-type four response choices: *strongly agree*, *somewhat agree*, *somewhat disagree*, and *disagree*. One question has four amount level response choices: *a lot*, *some*, *just a little*, *none at all*. One question has four amount level response choices: *all of it*, *most*, *some*, and *not much at all*. One question has four amount level response choices: *very responsible*, *somewhat responsible*, *somewhat not responsible*, *very not responsible*. The remaining three questions had three response scale options (see Henry & Sears, 2002, for full details). We converted scores to *z* scores and calculated a single symbolic racism score. Internal reliability was moderate, Cronbach’s $\alpha = .86$ in this sample.

We also measured mood, demographics, and participants’ level of exposure to cultural diversity. Mood was measured by participants answering the question, “To what extent are you feeling each of the following?” and rating their mood on a 4-point Likert-type scale from 1 (*strongly disagree*) to 4 (*strongly agree*) on eight mood adjectives (lousy, tired, confident, happy, angry, lazy, productive, and horrible), Cronbach’s $\alpha = .73$. This mood measure was developed by modifying items from the Profile of Mood States (Curran, Andrykowski, & Studts, 1995). We measured exposure to cultural diversity by asking participants to “Please rate your level of exposure to cultural diversity” and selecting from four choices: No prior exposure at all, A little exposure, Quite a bit of exposure, and I am exposed ALL THE TIME. This measure of cultural diversity was written for this study. Participants answered questions about their age, their race, the population of their hometown, political party affiliation, gender, and year in school.

Manipulation check. We included manipulation checks for our pictures and videos. Participants rated each model on three traits to allow us to check if our pictures operationalized the clothing factor as planned: well-dressed, attractive, and stereotypical. The response scale for these traits ranged from 1 (*strongly disagree*) to 6 (*strongly agree*). One variable, funny, was a distractor. Participants rated each video on nine variables (inspiring, funny, colorful, joyful, calming, scary, well-produced, exciting, and depressing) using a 6-point Likert-type scale from 1 (*strongly agree*) to 6 (*strongly disagree*), Cronbach’s $\alpha = .89$. The manipulation check did not measure for levels of racism in the video to avoid alerting

the participant to the goals of the study. Instead, we wanted to measure the affective and evaluative reactions to each video.

A final question asked participants if they noticed anything different about the models. We also asked participants to identify the race of each model with the pictures reshown and race selections provided. All measures and data are available via the following link: <https://osf.io/vhcu8/>.

Procedure

After the institutional review board provided approval, students volunteered for the study by picking the study from many listed on the participant pool website. We randomly assigned participants to experimental conditions using a randomizer in Qualtrics software. Participants completed the study anonymously online and remotely in return for research credit.

Participants first read a consent form, then if consenting, watched the video and then rated three models (order of presentation randomized to counterbalance). The models’ pictures stayed on the screen while participants answered questions. Participants in the stereotype congruent condition saw three models dressed in stereotype congruent clothing. Participants in the stereotype incongruent condition saw three models dressed in stereotype incongruent clothing. Next, participants completed the Symbolic Racism Scale, rated their mood, and the remaining questions. The study took approximately 15 minutes and the link to the study could only be accessed once by participants.

Results

Manipulation Checks

The manipulation check for the race of the models showed that participants could correctly identify the race of each model. A high percentage of participants correctly identified every African American model as being African American (95.29%_{Model1}, 89.41%_{Model2}, 100%_{Model3}, and 91.55%_{Model4}). Similarly, nearly no participants misidentified our non-African American model as African American (3.53%_{Model1}, 0%_{Model2}).

Our manipulation check of videos, a Multivariate Analysis of Variance (MANOVA) with all ratings, showed that the three videos varied on all characteristics, Pillai’s $F(2, 174) = 33.68, p < .001, \eta_p^2 = .65$. For example, the Strong ERR video was rated higher on “inspiring” ($M = 4.88, SD = 0.19$), than the No ERR video ($M = 3.39, SD = 0.16$), and the Weak ERR video ($M = 2.51, SD = 0.15$). Participants’

moods were not significantly different across conditions. As a manipulation check on clothing, a MANOVA showed participants rated models in stereotype incongruent clothing as significantly more well-dressed and attractive, Pillai's $F(2, 177) = 206.72, p < .001, \eta_p^2 = .71$, than those in stereotype congruent clothing. Models in stereotype congruent clothing were rated as being significantly more "stereotypical," $F(1, 177) = 65.19, p < .001, \eta_p^2 = .276$. Ratings of attractiveness of models did not vary.

Tests of Main Hypotheses

To test our main question, we predicted prejudicial ratings with an Analysis of Covariance using Clothing Type (stereotype congruent; stereotype incongruent) and ERR (Strong, Weak, None) as fixed factors. We used Symbolic Racism Scale scores as a covariate. Means and standard deviations of all six ratings and the prejudice composite score are seen in Table 1.

When comparing the effects of Clothing Type on prejudice toward the African American models, we found a significant main effect, $F(1, 177) = 27.40, p < .001, \eta_p^2 = .50$. Participants rated African American models in stereotypical clothing significantly lower than models in stereotype incongruent clothing. We also found a significant main effect of ERR in predicting prejudice, $F(2, 177) = 1.98, p = .025, \eta_p^2 = .07$. Participants rated the African American models significantly higher in the Strong ERR condition than in either the Weak or the No ERR conditions. Pairwise comparisons showed the Weak and no ERR conditions did not vary. Symbolic

Racism was a significant covariate in all analyses, $F(1, 177) = 23.30, p < .001, \eta_p^2 = .121$. These results show that strong ERR had a significant effect on the participants' ratings of the African American models. Counter to our hypothesis, we did not find a significant interaction between ERR and clothing type. These results support the hypothesis that stereotypical clothing, racial rhetoric, and Symbolic Racism Score affect participants' perceptions of African Americans.

Supplemental Analyses

Our study explicitly focused on African Americans, and unlike past research always using European American models as a comparison, we wanted to focus on African Americans in their own right. Consequently, we did not include race as a within-subjects repeated factor. We did test for differences in the rating of the non-African American models to the extent that would strengthen our findings. Clothing also had a significant main effect on participants' perceptions of the non-African American model, $F(1, 177) = 150.16, p < .001, \eta_p^2 = .47$, showing the importance of clothing. There was no main effect of videos or an interaction showing the race specific nature of our design and findings. We also conducted an ANCOVA on our main variable using gender as a covariate. Gender was not a statistically significant covariate.

Discussion

The racial oppression faced by African Americans and numerous other races of people is a damaging

TABLE 1

Mean Values of the Dependent Variables Separated by Condition

Variable	Strong ERR				Weak ERR				No ERR			
	Stereotype Congruent		Stereotype Incongruent		Stereotype Congruent		Stereotype Incongruent		Stereotype Congruent		Stereotype Incongruent	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Hard-working	3.82	0.15	5.08	0.17	3.64	0.15	4.70	0.12	3.41	0.15	4.84	0.14
Trustworthy	3.40	0.15	4.82	0.18	3.09	0.15	4.50	0.13	3.20	0.15	4.64	0.15
Intelligent	3.67	0.14	4.91	0.16	3.64	0.14	4.74	0.12	3.51	0.14	4.70	0.13
Lazy	2.69	0.13	1.88	0.15	2.96	0.13	2.11	0.11	3.17	0.13	2.30	0.12
Warm	3.24	0.15	4.28	0.17	3.12	0.15	3.98	0.12	2.93	0.15	3.88	0.14
Aggressive	3.03	0.17	2.11	0.19	3.29	0.17	2.76	0.16	3.45	0.17	2.51	0.14
Prejudice	30.71	0.81	39.09	0.94	28.01	0.81	35.94	0.77	28.61	0.80	36.72	0.68

Note. Prejudice = sum of six traits shown. ERR = Exposure to racial rhetoric, videos, $p < .001$. ANCOVAs only conducted on the composite measure.

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matter that needs to be more thoroughly understood and eliminated. The results of this study provide statistically significant supporting evidence that clothing, racial rhetoric, and one's own racial attitudes affect perceptions of African American men.

The clothing the models wore significantly impacted participants' ratings of the models. African Americans wearing stereotype incongruent (formal) clothing were rated significantly higher than African Americans wearing stereotype congruent clothing on the composite measure of prejudice (four positive characteristic traits and two negative). These findings support previous research (Kwon & Johnson-Hillery, 1998), showing how stereotypical clothing negatively influences participants' perceptions of African American individuals (Kahn & Davies, 2017). Our findings demonstrated that participants seeing stereotype incongruent clothing were less prejudiced toward the African American models. Participants rated models in stereotypical clothing more prejudicially.

A novel contribution of our study is that we found evidence for the priming powers of racial rhetoric. The videos presented to participants significantly affected the way they perceived the African American models. Participants rated African American models more positively after watching the Strong ERR video (compilation of President Trump explicitly referring to African Americans in a negative way). Racial oratory and political figures are known to influence people's perceptions (English, Sweetser, & Ancu, 2011). The exact influence of blatant racial stereotyping needs to be further examined. Although we found a strong main effect of the ERR videos, we cannot be certain as to the underlying processes at work. The Strong ERR video might have either caused participants to suppress their racial biases or to be overly positive given it was clear the videos were related to race. It is possible that participants rated the African American models as lower on negative traits and higher on positive traits as a form of cognitive dissonance reduction, although the nature of the dissonance could also have many sources (Aronson, Wilson, Akert, & Sommers, 2016). Research has shown that people hold stereotypes but still outwardly express unbiased beliefs (i.e., modern racism, Aronson et al., 2016), a process that may be at play, although our design does not allow an assessment of this possibility. Racial rhetoric showing a powerful individual such as President Trump could significantly alter one's perception

of African American individuals by activating the suppression of racial biases.

Symbolic Racism Scores had a significant influence on how participants rated the models. Participants (who are primarily European American) with high Symbolic Racism Scores rated African American models significantly lower on positive characteristics, and previous research has supported that scores on the Symbolic Racism Scale significantly interact with participants' perceptions of race (Ash & Schmierbach, 2013). Individual's Symbolic Racism significantly influenced their stereotypical beliefs of the African American models in this study.

Our primary limitations relate to an inability to measure nonconscious processes and the composition of our sample (mostly European American women in college), although there were a number of areas future research can build on. Similar to previous research, the generalizability of our study is limited due to the sample's mostly European, mostly white, and mostly educated participants (Turner, Willman, & Wright, 2016). We only included male African Americans as models, so these results cannot be generalized to how African American women are perceived or how people of other ethnic groups are perceived. The racial rhetoric presented to participants contained content of only one political figure, and we cannot generate findings to all politicians and other influential persons.

There is also the possibility that watching President Trump exclusively address African Americans (i.e., the Strong ERR video) alerted participants to the nature of the study, automatically reducing their prejudice ratings. In essence, participants might have been able to infer the nature of the study. The overt nature of the video might have raised awareness of racism and reduced prejudice ratings as participants tried to compensate or were made more conscious of what may be a somewhat nonconscious process. If participants did infer the nature of the study, social desirability or demand characteristics could explain the differences in responses after the Strong ERR. Although our open-ended exploration at the end of the study did not reveal any such recognition of our intent, future work needs to better build in measures to assess demand characteristics. The real question in need of further exploration is if the reduction in prejudice was long-term or genuine. Furthermore, although we found statistical significance, it is not clear if our findings

have practical significance.

The results suggest other factors could also play a role. For example, one video was of a clip in which President Trump makes a consistent speech for 1:36 min and the other is a compilation of comments lasting 2:24 min. This disparity might produce a potential confound in the design. We know the videos varied in how they were rated, and the affective variance may be confounding the ratings of prejudice, although we did not find any significant results in post-hoc explorations using video ratings valence as a confound in the main ANOVA.

This study provided further evidence that prejudice toward African Americans exists, wearing stereotype incongruent clothing can reduce prejudice against African Americans, and exposure to strong racial rhetoric can suppress these racial biases at a statistically significant level. It is tempting to advise individuals on how to dress to avoid prejudice, but this avoids addressing the issue of those perceivers who are being prejudicial. In fact, directing non-European American individuals to change what they wear places the burden of mitigating stereotypes and associated prejudices on the wearer, rather than on those who hold and use such stereotypes in harmful ways. Furthermore, although dressing in stereotype incongruent clothing might help an individual avoid negative impacts of stereotypes in a single instance, it is certainly not likely to eliminate stereotypes or prejudices more broadly. Similar to recommendations to women to dress less provocatively to avoid assault, addressing the wearer might actually perpetuate a racist system by encouraging African Americans to fit into that system or be penalized.

Similar to a vast literature on the effects of clothing, dressing in stereotype incongruent clothing is associated with positive perceptions. Our study takes this general finding further by showing how stereotype incongruent clothing can attenuate prejudice at a statistically significant level. It also expands priming research into the effects of racial rhetoric. Now, more research is needed on addressing the perceivers. Future research of how clothing-style and viewership of political figures affect perceptions of African Americans should also seek to investigate similar racism deterring mechanisms to further the pursuit of ending prejudice against all people.

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Evaluating a Student-Led Mental Health Awareness Campaign

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ABSTRACT. The present study evaluated if a week-long mental health awareness campaign on a college campus would decrease self-stigma toward seeking help. Participants were 204 full-time undergraduate students attending a small private liberal arts college in the Midwest (October, 2017). The mental health awareness campaign offered activities where students were exposed to interactive events and education about campus crisis resources. Researchers measured self-stigma and attitudes toward seeking help through the Self-Stigma of Seeking Help Scale (SSOSH) and Mental Help Seeking Attitude Scale (MHSAS) pre- and postawareness week. Results showed that student self-stigma toward seeking help decreased after a week-long mental health awareness campaign. Specifically, we found a decrease in SSOSH scores, $t(52) = 2.66, p = .01, d = 0.25$, and an increase in MHSAS scores from pretest to posttest, $t(56) = -2.72, p = .009, d = -0.29$, indicating a reduction of self-stigma. We discuss results in the context of reducing stigma from a student-led mental health campaign and further provide suggestions on how to conduct an awareness campaign and test results at small colleges.

Keywords: mental health awareness campaign, college students, stigma

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Mental illness among college students is becoming a serious public health problem, with the onset of illness often developing during early college years (Garlow et al., 2008). One third of college students self-report symptoms of anxiety, depression, and high rates of stress (Lipson, Gaddis, Heinze, Beck, & Eisenberg, 2015). Further, distressed students have worse academic performance and exhibit high drop-out rates (Kitzrow, 2003).

Seeking and receiving treatment is one way to decrease mental health disorders. Those who do not seek treatment are more likely to develop a longer, more intensified comorbidity with other mental illnesses (Wang et al., 2005). When this population seeks treatment, functioning and academic performance improves (Zivin, Eisenberg,

Gollust, & Golberstein, 2009). However, not all students will seek treatment for a mental health disorder. One of the most common barriers to seeking help for a psychological disorder among young adult populations is stigma. College student populations deem stigma as a barrier to involvement in the community, social relationships, and seeking proper treatment (Eisenberg, Downs, Golberstein, & Zivin, 2009).

Both public and self-stigma may affect whether a student decides to seek treatment for a mental disorder. Public stigma, the stereotyping and discriminative actions toward those who are known to have a mental illness (Corrigan, 2004), may be an external barrier to treatment. For example, individuals who seek treatment for a mental disorder are deemed more “emotionally unstable,

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less interesting, and less confident” than persons seeking treatment for a physical ailment (Vogel, Wade, & Aschman, 2009, p. 301). However, self-stigma or the internalized public stigma, can lead individuals to not try to seek care due to shame of being labeled as having a mental illness (Corrigan, Druss, & Perlick, 2014; Vogel, Wade, & Haake, 2006). Both public and self-stigma introduce barriers toward seeking help, and reducing both types of stigma may improve mental health on a college campus.

Colleges have tried multiple interventions to reduce incidences of mental health crises on campus by targeting psychoeducation and improving awareness. Specifically, psychoeducational interventions can reduce stigma, increase the mental health literacy of a population (Jorm et al., 2003), and dispel myths about mental illnesses (Yanos, Lucksted, Drapalski, Roe, & Lysaker, 2015). These types of interventions have been effective in decreasing the stigma of seeking psychological help (Brown & Bradley, 2002; Komiya, Good, & Sherrod, 2000), and furthermore have the potential to reduce barriers to help-seeking. In fact, student-led campaigns such as the Depression Outreach Alliance college program uses peer-to-peer psychoeducation and intervention to educate and increase help-seeking among undergraduate college students. In particular, Funkhouser, Zakriski, and Spoltore (2017) measured responses from participants regarding at-risk peers and stigma and found increased crisis response skills, less desire for social distance from peers in distress, and less social stigma toward seeking help. Thus, a student-led mental health awareness campaign has shown potential to both target stigma and increase help-seeking among college students.

Given the potential benefit of student-led mental health campaigns to reduce stigma, we aimed to test whether a campaign at a small liberal arts college would be effective in decreasing stigma toward seeking help. In a previous study conducted on our campus, we found that 47% of student respondents did not know where to go in crisis, only 22% knew about student services or a counselor on campus, and 88% of students self-reported that more awareness on campus is needed (Giroux & Geiss, 2017). Given this data, providing psychoeducation about mental health concerns and improving knowledge about treatment resources on campus were appropriate targets of intervention. Thus, we created a mental health awareness campaign focused on giving general information

about mental health disorders and access to campus resources.

The current study was unique in its approach because it examined a student-led and-run intervention at a small liberal arts college without many mental health awareness resources available to students. First, we hypothesized that students’ self-reported stigma about seeking mental health help would lessen after the mental health awareness week given that previous studies have found improvement of stigma after psychoeducation. Furthermore, we hypothesized that those who actively participated and attended mental health week events would experience a larger decrease in self-stigma toward seeking help compared to those who did not actively participate or attend.

This study addressed the feasibility of conducting an intervention while testing students empirically, and aimed to improve mental health awareness on a small campus. We created a mental health awareness week and tested stigma before and after the week, and also gathered demographic data about the participants.

Method

Procedure

After we gained approval from the Olivet College institutional review board, we recruited students at a small, Midwestern, liberal arts college to participate in two surveys via e-mail. Those who completed the online consent form completed de-identified questionnaires on Google Forms a week prior to the mental health awareness week and immediately afterward. Because this was a universal intervention, students who took the surveys could choose to participate or not in the mental health awareness intervention. Participants were entered into a raffle for a FitBit Charge 2 or a \$50 voucher to the college bookstore if they completed both pre- and postintervention surveys.

Questionnaires

Demographics Questionnaire. Participants were asked to create a unique identifier to track their participation from the pretest to the posttest, and to ensure confidentiality. Participants were then asked to complete questions about gender, ethnicity, year in school, area of study, and participation in college athletics. In addition, during the posttest, participants reported whether they participated in the mental health awareness week, which included picking up brochures or attending mental health week events.

Mental Help Seeking Attitudes Scale (MHSAS).

The MHSAS is a 9-item instrument that examines attitudes toward seeking help from a mental health professional if respondents hypothetically had a mental health concern (Hammer, Parent, & Spiker, 2018). Participants were asked to respond to a single statement on a 7-point Likert-type scale. For example, they were asked to rate how important or how healing it is to seek help from a mental health professional. A higher score indicates a more positive attitude toward seeking help. These scores showed strong internal reliability for both the pretest and posttest; Cronbach's $\alpha = .89$ and $\alpha = .91$, respectively.

Self-Stigma of Seeking Help (SSOSH). The SSOSH is a 10-item scale designed to understand how a participant views seeking mental health help, and ideas about public stigma toward seeking psychological help (Vogel et al., 2006). This scale asked participants to rate the degree to which each item describes how one would react in a situation. Examples of statements are "I would feel inadequate if I went to a therapist," "My view of myself would not change just because I made the choice to see a therapist," and "I would feel worse about myself if I could not solve my own problems." A higher score represents higher levels of self-stigma. These scores showed strong reliability for both the pretest and posttest; Cronbach's $\alpha = .87$ and $\alpha = .84$, respectively.

Mental Health Week Intervention

The inaugural mental health awareness week took place in the fall 2017. The college's Psi Chi chapter as well as a 3-credit Abnormal Psychology class contributed to the information and events held throughout the week. Tangible items such as stress balls, mental health awareness ribbons, informational pamphlets describing common disorders among students, and interactive displays were freely made available to the public in the main academic building.

The college's Psi Chi chapter and the Black Student Union hosted the first Mental Health Open Mic Night in the middle of the week for students to gather and talk about multiple issues faced on campus or at home in regard to stressors or mental health disorders. The Open Mic Night was a free event for students, and Psi Chi provided informational slideshows and hosted the college's school counselor for familiarity. A faculty member from the psychology department also attended the event, providing handouts regarding particular

disorders that are commonly faced by students, such as alcoholism. Once students finished talking to the audience about personal experiences, the school counselor held a short debrief and educated the attendees on what to do when distressed. The school counselor also handed out her business card to attendees for further contact if needed. Once the event ended, the mental health awareness week intervention was considered complete.

Results**Participants**

After conducting the college's inaugural mental health awareness week, we received 166 responses in total. Both women ($n = 111$), men ($n = 54$), and self-reported other gender ($n = 1$) responded to our questionnaires. We received responses from students across all class ranks: first-year students ($n = 52$), sophomores ($n = 39$), juniors ($n = 31$), seniors ($n = 39$), and nondegree seeking ($n = 4$). Although one student did not self-identify an ethnicity, the students responding to our surveys self-identified as White or European American ($n = 145$), African American or Black ($n = 11$), Hispanic or Latino ($n = 8$), or Asian ($n = 1$).

Analyses in this article only included the 57 participants who completed both the pretest and posttest surveys. Demographic makeup of this final participant list was mostly female ($n = 40$) compared to male ($n = 16$) or other gender ($n = 1$), mostly White or European American ($n = 50$) compared to African American or Black ($n = 4$), and Hispanic or Latino ($n = 3$), and mostly first-year students ($n = 20$) compared to sophomores ($n = 11$), juniors ($n = 12$), seniors ($n = 13$) or nondegree seeking ($n = 1$). Prior to excluding those who did not participate in both surveys, we conducted analyses to ensure that our final participants were not significantly different from those who only completed one survey.

Participant Analysis

We ran a Chi Square to determine whether there was a difference in gender and student class rank across those participants who took only one (pretest or posttest) or two surveys (both pretest and posttest). There was no difference in response rate of genders, $\chi^2 = 0.95$, $p = .62$, $d = 0.15$, or year in school across pretest, posttest, or both tests, $\chi^2 = 2.7$, $p = .95$, $d = 0.26$. Given the low response rate for some ethnicities who completed only the posttest (no African American students and only one Hispanic/Latino student), we could not run a Chi Square test

on this data. However, the relative percentage of students identifying as European American, African American, or Hispanic/Latino was similar across the entire sample and final sample.

In addition, we examined if there was a difference in scores on the SSOSH and MHSAS based on participation in just one survey or across both. Results showed that there was no significant difference between participants who completed the pretest survey and those who completed both. However, we found a significant difference between participants who completed the posttest survey only and those who completed both on the SSOSH, $t(90) = 2.6, p = .01, d = 0.54$. Specifically, participants who completed only the posttest survey self-reported higher levels of stigma ($M = 26.8, SD = 6.4$) compared to those who completed both ($M = 23.5, SD = 5.7$).

TABLE 1

Correlation Table for Pretest and Posttest Scores on the MHSAS and SSOSH

Correlations	<i>N</i>	<i>M</i> (<i>SD</i>)	MHSAS pretest	SSOSH pretest	MHSAS posttest	SSOSH posttest
MHSAS pretest	57	5.7 (1.06)	1			
SSOSH pretest	55	25 (6.6)	-.41**	1		
MHSAS posttest	57	6.0 (0.98)	.62**	-.24	1	
SSOSH posttest	55	23.5 (5.73)	1.19	.77**	-.37**	1

** Correlation is significant at the .01 level (2-tailed).

Note. MHSAS pretest = Mental Health Seeking Attitude Scale pretest; SSOSH pretest = Self-Stigma of Seeking Help pretest; MHSAS posttest = Mental Health Seeking Attitude Scale posttest; SSOSH posttest = Self-Stigma of Seeking Help posttest; *N* = number of respondents.

FIGURE 1

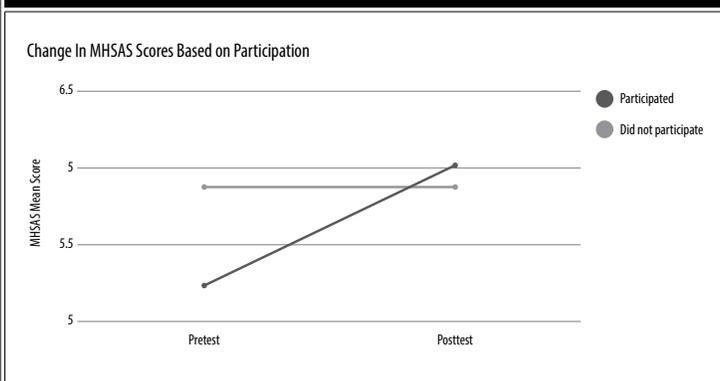


Figure 1. MHSAS mean scores from pretest to posttest based on participating in the mental health campaign activities.

Main Analyses

Change in stigma after mental health awareness week. Before examining the change in pretest to posttest scores, we first ran correlations between the variables of interest in participants who took both the pretest and posttest (see Table 1). As expected, scores on both stigma surveys reported at the same time (either pretest or posttest) were negatively related to each other (i.e., higher scores on the SSOSH and lower scores on the MHSAS both reflect greater stigma). In addition, scores on the same surveys taken before and after the intervention were positively correlated with each other.

Next, we used a paired-samples *t* test to examine change in MHSAS and SSOSH scores before and after the intervention. We found an overall decrease in SSOSH scores as seen in SSOSH pretest ($M = 25.0, SD = 6.8$) and SSOSH posttest ($M = 23.4, SD = 5.8$), $t(52) = 2.66, p = .01, d = 0.25$. We then found an increase in MHSAS scores from pretest ($M = 5.7, SD = 1.1$) to posttest ($M = 6.0, SD = 1.0$), $t(56) = -2.72, p = .009, d = -0.29$. Thus, over the week, there was decreased mental health seeking stigma as indicated on both stigma surveys.

Participation in awareness week on change in self-stigma scores. Because we collected data from students who might not have actively participated in the mental health awareness week events, we examined whether changes in self-stigma differed based on self-report of having participated in the mental health week activities. Participation in the awareness week was defined as picking up brochures or attending an event on a given night.

Although the scores for SSOSH did not differ, we found that changes in MHSAS scores were dependent upon participation, $F(1) = 5.28, p = .03, g = 0.68$. Using a two-way repeated-measures Analysis of Variance, we found that those individuals who participated in the Mental Health Week activities had an increase in MHSAS scores ($N = 16, M_{pre} = 5.23, SD_{pre} = 1.01, M_{post} = 5.97, SD_{post} = 1.05$), $t(15) = 2.45, p = .03$, whereas those who did not participate did not have a change in scores ($N = 41, M_{pre} = 5.88, SD_{pre} = 1.04, M_{post} = 6.03, SD_{post} = 0.97$), $t(40) = 1.47, p = .15$. Yet, we also found that MHSAS scores were higher during the pretest in those individuals who did not participate ($M_{non\ participating} = 5.88, SD = 1.04$) compared to those who did participate ($M_{participating} = 5.22, SD = 1.01$), $t(55) = 2.14, p = .04, d = 0.64$. This may indicate that those people who participated in the mental health activities held more stigmatized beliefs, and they improved upon their stigma over time (see Figure 1).

Discussion

On our small sized college campus, students have expressed a need for more visible mental health awareness on campus. With only 22% of students on our campus knowing where to go if in distress, we sought to educate students about local resources offered on our campus (Giroux & Geiss, 2017). After a week-long mental health awareness campaign, this sample of college students reported a decrease in help-seeking stigma on both measures collected. Furthermore, stigmatized attitudes improved the most for those who actively participated in the weeklong events, especially because these students also started with higher stigma to begin with. Thus, this may be an intervention that holds promise to reduce stigma toward seeking help, especially in those who actively participate.

While exploring the effect of participation in the events on self-stigma, we found that students who participated had increased positive attitudes toward seeking help, but these participants also self-reported high levels of stigma during the pretest. Similar to prior research, interventions such as psychoeducational programming may be most beneficial for those who actively participate in mental health awareness events (Lannin, Vogel, Brenner, Abraham, & Heath, 2015). Yet, it also seemed puzzling why students who participated had higher levels of stigma. One reason for this result could be that those who actively attended and participated in mental health awareness week events may self-report high self-stigma because of experienced negative psychological feelings such as symptoms of depression (Busby Grant, Bruce, & Batterham, 2016). However, another study suggested that self-stigma was significantly associated with decreased likeliness to engage in mental health related activities, seek psychological help, or seek counseling (Lannin et al., 2015).

The results from the present study support the importance of evaluating a mental health awareness campaign to understand how stigma may decrease in specific populations (Kelly, Jorm, & Wright, 2007). In the process of designing and conducting a mental health awareness week, we were able to provide this type of service while also investigating how it changed stigma perceptions. In running this study, we received promising preliminary results that suggest a student-led and student-run mental health week can decrease stigma toward seeking help. Specifically, there needs to be considerations of methods of administration of surveys, who to

sample, and when during the semester to sample students.

First, when thinking about administration of surveys to undergraduate college students, it is important to understand what method of administration is effective for the demographic. Our results showed significant attrition rates from pretest to posttest using online surveys via college e-mail addresses. Thus, future research may include testing different types of survey administration (e.g., paper and pencil, online) among college students that may improve attrition rates and provide a more representative sample of the student population.

Second, we found that time of academic school year impacted student engagement. Attrition rates may be linked to the fact that students were asked to participate in the mental health awareness activities during midterm exams, which may increase levels of stress. Therefore, teasing out the effect of the intervention and timing of the school year is an important consideration for those running studies on a college campus.

Last, it is important for pre- and postsurveys to be filled out by students who actively participate in mental health awareness events. One suggestion to capture this would be to provide an incentive for active participants in the weeklong events to participate in the pretest and posttest surveys. By doing this, data may capture the empirical evidence that incorporates all student perceptions.

This study may be helpful to student-led mental health awareness campaigns. An undergraduate student leading a mental health awareness campaign on campus may consider survey administration, time of academic year, and more consistent incentives to better understand the implications of awareness for mental health help-seeking on a small sized campus.

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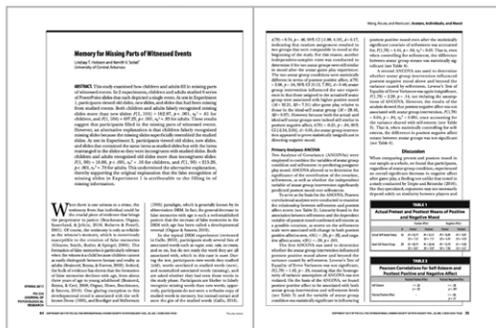
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