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Applying Social Psychology to a Global Crisis: Student Engagement in a Laboratory Class During the COVID-19 Pandemic

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The present research examines the attitudes and perspectives of undergraduate students in an advanced social psychology laboratory class upon engaging in pandemic-related research during the COVID-19 pandemic. In this class, the students designed and conducted online studies on pandemic-related racism, stigma related to age and mask wearing, and persuasive techniques to encourage social distancing. At the end of the semester, the students responded to a survey about their experiences engaging in pandemic-related research while the pandemic was occurring. Quantitative and qualitative analyses indicated that students learned about the applicability of social psychology to real-world phenomena and felt high levels of engagement in the research process. However, students also noted some discomfort and the emotional challenges of conducting highly relevant research during a global crisis. Thus, instructors should carefully consider whether engaging in timely and potentially emotional research is appropriate for the students in the class. Furthermore, the present study was conducted with a small undergraduate class in which a majority of the students were White women, and their experiences may not generalize to larger classes or broader populations. Taken together, the present research points to the potential promises and pitfalls of engaging in timely research on an emergency situation within a classroom setting.

Keywords: pandemic, COVID-19, student engagement, psychological literacy, laboratory course

Psychological knowledge and research can play an important role in understanding and shaping responses to the rapidly spreading COVID-19 pandemic (Van Bavel et al., 2020); however, it is less clear how engaging in pandemic-related research may affect undergradu-

ate students in psychology classes. Conducting timely research as part of a course may lead to high levels of student engagement and an appreciation for the applicability of psychology. In addition, conducting research on an unfolding crisis may affect students' emotional well-being. For example, it is possible that engaging in a relevant project may help students productively channel their emotions and provide a sense of control; however, engaging in highly relevant research during a crisis may increase students' anxiety. The present study examines students' experiences of conducting pandemic-related research in an advanced undergraduate social psychology lab course during the COVID-19 pandemic.

Providing students with ways to recognize the relevance of psychology in their daily lives and societal issues (i.e., psychological literacy) is a cornerstone of undergraduate psychology education (Board of Educational Affairs Steering Committee, American Psychological Asso-

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ciation (APA) National Conference on Undergraduate Education in Psychology, 2011; Hamilton et al., 2018; Hulme, 2014). In fact, the APA in its recommendations for undergraduate education has stated that “Learning is more durable and more likely to transfer when applied to relevant, real-world problems” (p. 854). For example, a popular assignment across psychology courses is to have students analyze connections between psychology-related content and audiovisual media (Blessing & Blessing, 2015; Christopher, Walter, Marek, & Koenig, 2004; Eaton & Uskul, 2004; Melchiori & Mallett, 2015; Riggio & Garcia, 2009; Simpson, 2008), print media (Preuss, Ryan Schurtz, Powell, Combs, & Smith, 2013; Rider, 1992), and historical events (Riggio & Garcia, 2009; Steinberg, Colasanti, Hückmann, & Papazoglou, 2011). Instructors across subfields of psychology have also utilized field experiences (Harpine, 2007), problem-based learning (Muehlenkamp, Weiss, & Hansen, 2015), participatory action research (Trigos-Carrillo, Fonseca, & Reinoso, 2020), and action teaching (Plous, 2000) to help students make connections between the content of the course and real-world experiences. In one psychology course, the relevance and applicability of the course content was emphasized by assigning students to create a program or intervention for a local business or school (Kent & Skipper, 2015). At the end of the semester, the students expressed appreciation for the relevance of the project and that it had helped them learn about the applicability of psychology (Kent & Skipper, 2015). Taken together, it is clear that there are many ways to foster an appreciation for the applicability and relevance of psychology among undergraduate students across the psychology curriculum, which can enhance learning and involvement in the classroom.

Teaching material in a classroom setting that is directly relevant to students’ experiences and current societal issues can also lead to notable benefits for student engagement. As Jonassen (1999) notes in his constructivist theory of learning, “since the key to meaningful learning is ownership of the problem or learning goal, you must provide interesting, relevant, and engaging problems to solve” (p. 219). For example, research from science, technology, engineering, and mathematics (STEM) education has shown that students who participate in proj-

ects that are relevant to their lives express more interest in STEM and state that the work feels more meaningful than typical STEM assignments (Basu & Barton, 2007; Ram, 1999). In other words, providing students with opportunities to engage in timely and personally relevant projects may foster high levels of engagement with the content.

However, psychology research about incorporating relevant situations into the classroom does not often focus on student learning and engagement in the context of an ongoing crisis. Research from allied fields (e.g., social work, management, biology) provides some evidence that helping students apply psychology to the real-world may be particularly impactful when the real-world situation is an ongoing event or crisis. For example, when Hurricane Katrina hit at the start of the 2005–2006 academic year, a social work program revised its curriculum to center on the social-work related needs of the New Orleans community (Grise-Owens, Cambrón, & Valade, 2010). As a result, the students in the program expressed high levels of engagement and a deeper understanding of the course content (Grise-Owens et al., 2010). Similarly, after the 2004 tsunami in Sri Lanka, management students at one Sri Lankan university reported increased management and advocacy skills after engaging in participatory action research to assess the humanitarian crisis and develop solutions to assist in the recovery process (Jayawardana & O’Donnell, 2007). More closely related to the current pandemic, in a survey of over 500 United States high school science teachers, 76% indicated that they discussed Ebola as part of their curriculum during the 2014 Ebola outbreak, and that an important factor in the decision to cover Ebola was student interest in the topic (Smith, Torsiglieri, Keith Esch, & Pasley, 2017). Relatedly, in an undergraduate biology class that utilized a case study approach to Ebola and virology, students reported high levels of interest and showed decreased misconceptions about viruses and Ebola (Dube, Addy, Teixeira, & Iadarola, 2018). Considered collectively, prior research from allied fields indicates that incorporating a current event into the classroom may promote learning by facilitating higher levels of interest and engagement.

Beyond engagement, scientific identity and connection with the research community are

two important aspects of the psychology curriculum (Board of Educational Affairs Steering Committee, APA National Conference on Undergraduate Education in Psychology, 2011). It may be particularly important to develop classroom activities that foster scientific identity as many psychology students do not strongly endorse the fact that psychology is a science (Holmes, 2014), and these views about the science of psychology do not seem to shift as students progress through their psychology studies (Holmes & Beins, 2009). A related aspect to scientific identity is the sense that one belongs to and shares values with the scientific community (Ahern-Dodson, Clark, Mourad, & Reynolds, 2020). Although there is evidence that students who more strongly identify as scientists and feel stronger connections to the research community are more likely to persist in STEM fields such as ecology (Ahern-Dodson et al., 2020), less is known about how students experience identification and connection when engaging in personally relevant research in psychology.

Yet, focusing on relevant material in the midst of a global crisis may have some negative emotional consequences for students. Students are experiencing educational changes due to COVID-19 with almost 70% of preschool through tertiary education students (approximately 1.2 billion learners) being affected by COVID-19 (Araújo, de Lima, Cidade, Nobre, & Neto, 2020; UNESCO, 2020). Some schools have closed while others have transitioned their students to online learning, and students may not have access to the resources they previously had when they were physically present (Araújo et al., 2020; UNESCO, 2020). It is not surprising that student mental health may be negatively affected during this time of fear, stress, and uncertainty (Araújo et al., 2020; Morgan, 2020). Teaching about a relevant issue (i.e., the COVID-19 pandemic) while it is happening could exacerbate feelings of anxiety and stress, and these negative emotional experiences may diminish students' academic performance (e.g., Ashcraft & Kirk, 2001; Eysenck, Derakshan, Santos, & Calvo, 2007; Leon & Revelle, 1985; Rai, Loschky, & Harris, 2015). It is also possible that engaging in relevant research may provide students with a sense of control and a productive way to channel their emotions. In either case, it is important to consider the role that conducting pandemic-related research may

have on students' well-being and the role that teachers play when integrating sensitive content into teaching materials (Barlow & Becker-Blease, 2012; Naidoo & Rule, 2016).

Thus, the present research examines students' learning and emotional experiences related to engaging in pandemic-related research during the COVID-19 pandemic. The class took place during the Spring 2020 semester at a small, public, liberal arts college on the East Coast of the United States. Halfway through this semester, the college shifted to remote teaching, and the students in the class elected to conduct their final laboratory assignment on pandemic-related topics. At the end of the semester, the students completed a brief survey about their experiences engaging in the lab assignment that was centered on the pandemic, as it occurred.

The Class

The class involved in the present research was an upper-level psychology course titled Advanced Social Psychology with Laboratory. Students in this class had already taken a 200-level social psychology course as well as both statistics and research methods. In this discussion-based laboratory course, students read primary literature and conduct social psychological studies. The final lab assignment for this course ("Lab 4") is a group project in which students conduct preregistered experiments with factorial designs on the topic of "social issues."¹

Students were instructed that they need to identify an issue they have witnessed at the college, and that issue can relate to any topic that has been discussed in class (e.g., stereotyping and prejudice, social rejection, loneliness, attraction/close relationships, aggression). They were instructed: "Once you identify an issue at St. Mary's College of Maryland, you need to think about either a) how we can use social psychology to better understand the issue or b) what type of intervention might solve that problem." The students were given this assignment on the last day of class before spring break. At this point, the college administration had indicated that students would stay home for the two

¹ See Materials on the Open Science Framework page for the assignment handout: <https://osf.io/k4vcy/>.

weeks following spring break due to the pandemic. Later, the stay-at-home order was amended, and students did not return to the college during the spring semester.

During the last class before break, the students met in their groups to decide on their topics and a study design. Two of the groups decided that they wanted to pursue a project related to how social psychological processes may affect or be affected by the pandemic. The third group, once they heard about these ideas, decided they would follow suit. Thus, the students in the class collectively decided to engage in pandemic-related social psychology research. The project topics for each of the three groups are detailed below.

Projects

The first group meetings for the Lab 4 projects took place during the final in-person class of the semester. The instructor consulted with each group to help the students clarify their ideas, remind them of factorial study design, and work with them on operational definitions. She also gave advice about what questions would be more or less feasible to study given the constraint that the study would have to be online. The class spent approximately 90 minutes working on the assignment during this time period and each group had at least a general idea of their project at the end of the session.

Group 1 consisted of four students (two men, two women). They conducted their laboratory research on racism during the COVID-19 pandemic, focusing primarily on anti-Asian racism, which increased in response to the pandemic's origin in Wuhan, China (Chung & Li, 2020; Devakumar, Shannon, Bhopal, & Abubakar, 2020). Students in Group 1 noted they had witnessed anti-Asian racism on social media platforms and in current political rhetoric. Thus, they predicted that participants would demonstrate the highest level of racial prejudice after reading a vignette about the coronavirus (vs. the flu) in China compared to Italy.

Group 2 had four students (all women) and also examined stigma; however, instead of examining differences based on nationality, they investigated how age and mask wearing affected individuals' interaction decisions in a vignette study. This group hypothesized that age and mask wearing may both potentially

signal a greater likelihood of having an illness, and that participants would be less willing to interact with older individuals wearing a mask compared to younger individuals or those not wearing a mask. For this study, participants were randomly assigned to read one of four vignettes about a checkout worker at a grocery store who was either young or old and wearing or not wearing a mask. Although the guideline was eventually reversed, the Centers for Diseases Control and Prevention was discouraging the American public from wearing masks (Dwyer & Aubrey, 2020) when the students developed this project.

Group 3 was the largest group, with six students (1 man, 5 women). They chose to investigate the impact of persuasion tactics used on social media posts on perceptions of social distancing. This group hypothesized that a humorous social media post with a prompt indicating the severity of the disease would persuade individuals to report greater intentions to engage in social distancing. In this group's project, participants were randomly assigned to see a humorous or serious social media post that referenced (or did not reference) the severity of COVID-19.

The Present Research

The present research explores the experience of engaging in pandemic-related research during a pandemic on students' emotion management, perceived competence in conducting and understanding social psychological research, perceptions of the applicability of social psychology to real-world issues such as pandemics, connection to the research community, and identity as a scientist. To assess students' experiences of engaging in pandemic-related research, the instructor administered a voluntary survey to the students in the class and explained that the purpose was to understand the effects of the final lab assignment on the learning process. Given the situational constraints, there was no control group to use as a comparison for this particular study (i.e., the instructor was only teaching one section of the course, and there were no similar courses to examine). The college's institutional review board (IRB) approved all procedures (IRB Protocol: SP20_62), and the data and materials are available on the Open Science Framework: <https://osf.io/k4vcy/>.

The students in the class were also invited to join the instructor in writing the present article as coauthors, and two of the students in the class chose to do so. Although hypotheses were not preregistered for this study, we expected students would indicate high levels of engagement and a high level of appreciation for the applicability and relevance of social psychology to the real world. There were no a priori hypotheses for the other variables.

Method

Participants

Of the 14 students in the class, 12 (2 men, 10 women; 11 identified as White, 1 identified as Hispanic) chose to participate in the survey. Students were given extra credit for participating. The students were all psychology majors, with two students double-majoring in other subjects (religious studies, biology). One student was a sophomore and the rest were juniors ($n = 5$) and seniors ($n = 6$). Four of the students were working or had previously worked as a research assistant in a faculty member's lab.

Procedure

After completion of the students' Lab 4 assignment and providing consent, participants completed two surveys via Qualtrics. The first survey assessed students' perceptions of how completing the lab assignment affected them academically and emotionally. Specifically, participants completed measures on how the assignment affected their emotion management, engagement, connection to the social psychology research community and desire to conduct more research, perceived competence, perceptions about the applicability of social psychology, and their identity as a scientist (see the Measures section). The measures were presented in the order listed above with the individual items within the measures randomized. For all of the scales with the exception of Identity as a Scientist (Chemers, Zurbriggen, Syed, Goza, & Bearman, 2011), the items were created specifically for the present research as they assess the effects of the project on students' thoughts and feelings. That is, there were no existing scales to measure how students responded to engaging in the pandemic-related

research during an ongoing pandemic. The second survey contained demographic questions (i.e., age, gender, race/ethnicity, year in school, major) and was separate from the first survey to preserve anonymity given the small size of the class. After completing the second survey, participants were debriefed. The survey was launched on the last day of class and data collection ended one week later.

Measures

Open-ended. To gauge participants' overall responses to conducting a lab related to the pandemic, students responded to an open-ended question about their experiences. Specifically, students were asked "How would you describe your experience of conceptualizing and conducting Lab 4?" and were provided a textbox to type their responses. Students were also given a set of probes after the text of this main question to help them think through their answer: "What was it like to be conducting research on the pandemic while it was occurring? What was good about it? What was bad about it? What have you learned? How has conducting this research affected you academically and personally?"²

Engagement. To assess student engagement in conducting research related to the pandemic, students indicated their agreement with a set of three statements on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale. The scale included items such as, "Conducting research related to the pandemic increased my engagement in the project." The responses were averaged to create a composite ($\alpha = .83$). The goal of this measure was to assess whether students felt like the project increased their level of engagement from before the pandemic-related project to after the project.

Research-related emotion management. To assess how engaging in pandemic-related social psychology research affected emotion management, students indicated their agreement with a set of six statements on a 1 (*strongly*

² Participants were also asked a second open-ended question for broader course revision purposes: "Thinking back across the semester, what do you feel are the most important things that you've learned? Please be as descriptive as possible and think about your growth over the course of the semester." Responses to this question were not analyzed in the present research.

disagree) to 5 (*strongly agree*) scale. The scale included items such as “Conducting research related to the pandemic made me feel more in control” and “Conducting research related to the pandemic increased my anxiety” (reverse scored). The goal of this measure was to assess both positive and negative emotional responses to engaging in pandemic-related research. One of the items (“Conducting research related to the pandemic made me feel helpless”) demonstrated poor internal reliability with the others and was removed from analyses. The responses to the five remaining items were averaged to create a composite ($\alpha = .75$).

Perceived Competence. Students indicated their agreement with a set of six statements on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale to assess perceived competence in engaging in social psychological research skills including locating, understanding, conducting, and interpreting social psychology research. The scale included items such as, “I feel confident in my ability to locate social psychological research” and “I feel confident in my ability to interpret data from social psychological research.” The responses to the items were averaged to create a composite ($\alpha = .78$). The items were chosen to reflect skills that are built into the curriculum at the students’ college.

Applicability of social psychology. To assess perceived applicability of social psychology in the real world, students indicated their agreement with a set of six statements on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale. Some of the items assessed applicability of social psychology to the pandemic specifically (e.g., “Social psychology research will be helpful for creating interventions related to the pandemic”) and other items assessed the broader perceived applicability of social psychology (e.g., “There are important real-world implications for social psychology research”). The responses to the items were averaged to create a composite ($\alpha = .73$). The items in this measure were chosen to reflect the breadth of ways that social psychology can be relevant to real-world application.

Connection to social psychology research community. Two additional items assessed connection to the social psychology community (“I feel like I am a part of the social psychology research community”) and desire to conduct more social psychology research (“I am inter-

ested in continuing to conduct social psychology research”). These items were rated on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale and were examined separately as they did not show adequate internal reliability ($\alpha = .37$).

Identity as a scientist. We assessed students’ identities as scientists via the Identity as a Scientist (Chemers et al., 2011) scale which includes six statements rated on a 1 (*strongly disagree*) to 5 (*strongly agree*) scale. The scale includes items such as, “Being a scientist is an important reflection of who I am” and “I feel like I belong in the field of science.” The responses to the items were averaged to create a composite ($\alpha = .96$).

Results

Questionnaire Responses

For research-related emotion management, students did not strongly agree or disagree with the idea that conducting the research helped them with their emotions ($M = 3.08$, $SD = 0.70$; Figure 1). Approximately half of the students (41.7%) at least somewhat disagreed that the project helped them manage their emotions with the remaining students scoring between 3.20 and 4.00 (out of 5.00) on the research-related emotion management composite variable. A one-sample t test indicated that participants did not score significantly lower or higher than the midpoint (3.00) of the scale: $t(11) = 0.42$, $p = .686$, $d = 0.12$, 95% CI $[-0.36, 0.53]$.

Overall, the students expressed a moderately high level of engagement when conducting research related to the pandemic ($M = 4.19$, $SD = 0.97$; $t(11) = 4.27$, $p = .001$, $d = 1.23$, 95% CI $[0.58, 1.81]$) and a high level of perceived competence in conducting and understanding social psychological research ($M = 4.47$, $SD = 0.40$; $t(11) = 12.72$, $p < .001$, $d = 3.67$, 95% CI $[1.22, 1.73]$). For engagement, 75% of the students at least somewhat agreed with the items, and for competence, 91.7% at least somewhat agreed with the items. For applicability of social psychology, the students strongly endorsed the ideas that social psychology is applicable and important for understanding real life events such as the pandemic ($M = 4.64$, $SD = 0.35$; $t(11) = 16.03$, $p < .001$, $d = 4.63$, 95% CI $[1.41, 1.86]$). In fact, 100% of the students

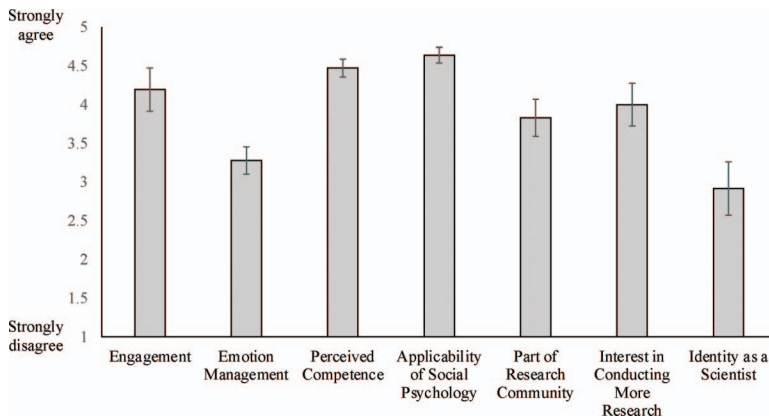


Figure 1. Students' perceptions of themselves and how conducting research related to the pandemic affected them. Error bars denote standard error.

reported a score of at least 4.00 (*somewhat agree*) on the applicability composite variable.

Students expressed moderate agreement with feeling like they were part of the social psychology research community ($M = 3.83$, $SD = 0.84$; $t(11) = 3.46$, $p = .005$, $d = 0.99$, 95% CI [0.30, 1.36]) and with wanting to do more social psychology research ($M = 4.00$, $SD = 0.95$; $t(11) = 3.63$, $d = 1.05$, $p = .004$, 95% CI [0.39, 1.61]). For both of these items, 75% of the students reported at least a 4.00 (*somewhat agree*) on the 5-point scale. Finally, there was only moderately low endorsement of feeling like a scientist ($M = 2.92$, $SD = 1.20$; $t(11) = -0.24$, $p = .814$, $d = 0.07$, 95% CI [-0.85, .068]) with scores on the composite ranging from 1.00 to 5.00 and 50.0% of students scoring at or below the midpoint.

Open-Ended Responses

To analyze the open-ended responses, we conducted a thematic analysis (Braun & Clarke, 2006) in which all three authors read the students' responses to the open-ended question and developed a set of initial themes. After reviewing these initial themes and discussing them, we clarified them into four major themes and generated names for them (Table 1). The first theme was the relevance and applicability of social psychology to real-world problems (relevance). The second theme was an appreciation for engaging in novel, cutting edge research (cutting edge). The third theme was learning more about the research process and the self as a researcher

(learning about research). Finally, the fourth theme was contending with the negative aspects of conducting the research such as pandemic-related stress and technological challenges (negative aspects). The second two authors coded the responses for the presence of each theme. A given response could be coded as having multiple themes. Interrater reliability was acceptable for all of the themes (κ range = 0.67–1.00). Discrepancies were resolved via discussion between the coders with the first author consulting as necessary.

Relevance

The relevance of the lab assignment was a frequent theme in students' responses with students expressing a sense that the work was meaningful because it was directly applicable to the current situation:

I personally enjoyed running a study that was relevant to today instead of running something that doesn't seem to have very applicable or important implications. My study researched anti-Asian attitudes due to the Coronavirus . . . These results have direct implications for how people are treated due to the coronavirus, so it is so important to gauge the reality of the pandemic we're going through by using empirical research instead of relying solely on politically charged rhetoric.

Multiple students wrote about the potential implications of conducting relevant research, citing the chance to foster positive social change through research. These students felt that the research they were conducting had true real-

Table 1
Themes From the Open-Ended Responses With Their Prevalence and Example Quotations From Participants

Theme	Percent of responses	Example quotations
Applicability/relevance	75.0	<p>“Doing research that was more applicable than most school projects”</p> <p>“Want to do research that is directly relevant to bettering the lives of people”</p> <p>“Our research felt important and not so hypothetical”</p>
Cutting edge/novel	33.3	<p>“Exploring new territory”</p> <p>“Leading edge of research”</p> <p>“Groundbreaking data collection”</p>
Learning about research process and self as researcher	58.3	<p>“I have a better understanding and appreciation of the extent that goes into conducting research”</p> <p>“It [the lab] reflected some of my strengths and weaknesses in regard to my work and processes behind conducting my own work”</p> <p>“Challenged me and I now know more areas in academia that I need to further educate myself with”</p>
Negative aspects	75.0	<p>“I am really tired of hearing people talk about it on the news or anywhere because it has impacted my personal life”</p> <p>“It was a constant reminder of the pandemic and of people’s awful racist attitudes, which can feel rather dismal”</p> <p>“It was weird conducting research on the pandemic while living in it, it felt like it almost separated me from what was going on and made me look at others daily interactions in a way to referred to my project”</p>

world value. As one student wrote: “My group members and I wanted to examine patterns that we had observed on social media that would manifest into life-saving and real-world behaviors (e.g., willing to engage in social distancing).” Similarly, students described the potential positive benefits of their research: “The data and variables my group worked with can help so many people in the future and not just with pandemics.” In fact, one student indicated that conducting the lab assignment helped solidify a decision to continue engaging in research that benefits society: “This has reassured me that I want to do research that is directly relevant to bettering the lives of people today because I found this kind of relevant research far more engaging.” That is, students expressed a sense that the lab assignment was a meaningful research experience because of its focus on potential real-world consequences. In the words of one student: “our research felt important and not so hypothetical.”

Cutting Edge

Beyond the relevance and applicability of the research, some students also described the experience of conducting this research as novel or cutting edge. These students found engaging in novel research to be interesting and exciting. For example, one student stated that “doing research during the pandemic made it feel like we were exploring new territory. I think being on the leading edge of research is a really interesting experience.” Another student described the data collection as “groundbreaking” and “probably a once in a lifetime experience.” The experiences that students have had with other assignments or in other lab classes were also used as a comparison for this particular assignment. For example, one student contrasted the lab assignment with other lab assignments, explaining that “usually lab research leans more towards replication, so it was cool to

research something new.”³ Taken together, students found value in the sheer novelty of the research and the idea that they were on the forefront of social psychological research.

Learning About Research

The third theme was the idea that students expressed a strong sense of learning about the research process and about themselves as researchers through the lab assignment. Some students focused on the specific skills they learned from conducting research (e.g., using Qualtrics: “Conducting this research has helped me academically prepare for future lab studies because I have never used an online survey platform before this.”) or the skill gaps that they now recognized (e.g., struggling with SPSS: “This study, especially due to the pandemic challenged me and I now know of more areas in academia that I need to further educate myself with such as SPSS.”). Other students described the interpersonal skills they gained through the lab assignment. For example, one student noted that “This lab has been a good way of gaining research experience and learning to work collaboratively with others,” and another described the difficulties of remote instruction but explained that “. . . not being physically with each other forced direct and supportive communication which was one of our group’s strong points.”

Students also expressed an appreciation for the difficulties associated with doing research: “. . . I also think I have a better understanding and appreciation of the extent that goes into conducting research.” Beyond the difficulties related to more typical class-based research, one student wrote about the flexibility that is required when conducting timely research on an ever-changing topic: “I have learned a lot about how flexible you need to be while conducting research about a phenomenon that is rapidly changing and ongoing.” In other words, students seemed to be thinking deeply about the research process and the realities of conducting research on a current event.

Negative Aspects

However, many of the responses also spoke to the negative aspects of engaging in the lab assignment. Some of these responses reflected the fact that the class moved from in-person to

remote and the difficulties that remote learning presented. For example, one student had technological issues throughout the second half of the semester and stated, “Lab 4 was very difficult for me, because I was facing so many issues with internet access, which I unfortunately needed to be able to participate and contribute to the lab.” Other students wrote more generally about the technology issues affecting their group as well as their data collection and analysis process. For example, one student noted the difficulty of being able to meet with group members remotely:

However, complications that arose with conducting the study during the pandemic typically were due to technological struggles such as ensuring everyone was able to meet at a certain time and the difficulties of working on an assignment or document all together while not being able to physically be together.

Another student described multiple ways in which technology issues interfered with the project, including study design limitations, limited access to statistical software, and complications with virtual modes of communication:

We had trouble finding a second independent variable to manipulate, so it took at [sic] lot of brainstorming and critical thinking. It was made harder by the fact that we had to find a way to manipulate the variable online since that was the only format available for our study. Additionally, the statistical analysis of our data was complicated by the fact that we did not have our normal access to the software needed for analysis. Communication and work for the group also had to be done virtually and different group members had wifi issues (through no fault of their own!) which was also not ideal.

Although students had expressed positive feelings about conducting novel research, the novelty of the research was also a downside for some students. One difficulty students encountered was developing a research question on a topic for which there was limited background literature. As one student stated: “I found it somewhat difficult to conceptualize a pandemic because it’s not a common occurrence.” For other class-based research the students have conducted, it is usually clear what primary literature to reference, but the students expressed

³ Although this particular student notes the novelty of doing a nonreplication, and not just the novelty of engaging in pandemic-related research, the students in this class had engaged in novel research prior to the pandemic-related project.

uncertainty about the research they should consider in light of a novel event:

Lab 4 was one of the hardest, but important lab report I feel like we have done. It was difficult because there was not a lot of past research directly about COVID-19, so we had to find past literature on things like the flu or SARS virus and connect it to what we were looking into. It was also hard to get a lot of participants due to everyone being stressed and not necessarily paying attention or having the motivation to participate in a study.

In addition, the subjects they were researching were changing while they were conducting their research, which led to some challenges: “It was challenging at times because things changed. For example, social distancing laws became mandatory after we created our survey, which definitely influenced our study.”

Finally, some students felt that having to grapple with the pandemic and associated issues (e.g., racism) in a class assignment was a negative experience, which dovetails with the responses to the questionnaire items indicating that the project did not necessarily help students with emotion management. For example, one student was not happy that the lab assignment was about the pandemic and wrote “However, I did not like that it was about [*sic*] the pandemic. I am really tired of hearing people talk about it on the news or anywhere because it has impacted my personal life.” Another student spoke to the fact that the lab assignment was “a constant reminder of the pandemic and of people’s awful racist attitudes, which can feel rather dismal.” Finally, one student felt that engaging in this research made them look at the world through a different—but not necessarily positive—lens: “It was weird conducting research on the pandemic while living in it, it felt like it almost separated [*sic*] me from what was going on and made me look at others [*sic*] daily interactions in a way that referred [*sic*] to my project.”

Discussion

Overall, the students in the lab class perceived the pandemic-related research assignment in a primarily positive light. They expressed high levels of engagement and perceived competence and strongly endorsed the idea that social psychology is relevant to real-world problems. In addition, students ap-

preciated the novelty of the research and felt that they learned about the research process and the flexibility that is required when researching an ongoing crisis. However, students also indicated that conducting pandemic related research did not seem to positively affect their emotion management, and some students expressed frustration with both the online and pandemic-related nature of the lab.

If enabling students to learn about the application of psychology to real-world phenomena is a goal of the undergraduate psychology curriculum (Hulme, 2014), then engaging in current event-related research may be a positive contribution to lab courses and students’ learning outcomes. Although the present research focused on a social psychology course, the COVID-19 pandemic affects many domains and could be relevant to a number of psychology subfields including clinical (e.g., mental health effects of the pandemic), developmental (e.g., long-term consequences of disruptions to education), and industrial/organizational (e.g., effects of telecommuting on employees) psychology. Conducting relevant research highlights both the applicability of psychology as well as the idea that what students are learning in their psychology classes can be used to benefit society. Although many students are often aware of the helping professions within psychology (e.g., clinical and counseling psychology) and express a desire to enter those professions (e.g., Holmes & Beins, 2009; Malin & Timmreck, 1979), they may not be as familiar with the notion that other subdisciplines of psychology can be used to help solve problems. By exposing students to this idea through highly relevant research, they may see more potential career paths and opportunities to use their psychology knowledge and skills.

One potential concern that an instructor may have about incorporating relevant research into a laboratory class is the effect of engaging in relevant research on students’ emotional well-being. In the present research, students varied in how the project affected their research-related emotion management. Although a few students felt that the project negatively affected their emotion management, most did not seem to have a negative emotional experience. One student voiced the concern that the pandemic was already deeply affecting them and did not appreciate having to engage in pandemic-related

research in class. Thus, it will be important to consider the effect of relevant research on students' emotional experiences and whether there are ways to prevent pandemic exposure fatigue. A key aspect of this particular project was that the students collectively decided to engage in pandemic-related research. If the assignment were related to the pandemic from the beginning in a top-down manner, more students may have been negatively affected. Perhaps there could be additional individual choice for other real-world options for students to research if they feel that the topic is too emotionally distressing. In addition, although the students expressed being stressed by the challenges related to online learning, they also felt that they were contributing to society in a meaningful way through the research.

Although the present study provides insight into how the pandemic may be affecting the experiences of undergraduate psychology students, it is important to note that there are a number of limitations to the current study. The first main limitation is the small sample: the class only had 14 students and only 12 participated in the study. However, approximately half of the courses offered at national universities have fewer than 20 students (Friedman, 2017), and liberal arts colleges often have class sizes of 15 to 20 students (Puri, 2017), indicating a need for research on small classes. In addition to the small sample size, these students were mostly White women, thus limiting the generalizability of the findings. Given the differential impact of the pandemic based on race and ethnicity (e.g., Dyer, 2020; Garg et al., 2020; Kirby, 2020), it will be important for future research to consider the effects of engaging in pandemic-related research on those who may be more impacted by the negative effects of the pandemic. Relatedly, the students in this course chose to engage in pandemic-related research. That is, the instructor provided the framework that the project had to relate to a social issue, but the students collectively opted to focus on pandemic-related social issues. Therefore, it will be important for future research to consider the role of student choice in engaging in highly relevant research during an ongoing crisis. Furthermore, the present study took place during the first few months of the rapidly evolving pandemic in the United States, and it is possible that the same type of research assignment may be perceived very dif-

ferently as the pandemic continues to unfold. Yet, the current pandemic is unlikely to be the last global health crisis, so it is important to understand how conducting research related to an ongoing health crisis affects students in the earlier stages of that crisis.

Another key limitation to the present study is the lack of a control group. As only one section of the course was being taught in the Spring 2020 semester, there was no appropriate control group to test whether engaging in the pandemic-related research caused the scores on the self-report measures. Therefore, the present study should be viewed as descriptive and not a study that can provide causal explanations. As the pandemic continues into the Fall 2020 semester, researchers should consider testing whether engaging in pandemic-related research causes increased engagement and a stronger understanding of the applicability of social psychology using an experimental design with multiple classes.

In addition, the present study used a set of measures developed by the first author, with the exception of the Identity as a Scientist Scale (Chemers et al., 2011). Although it would have been ideal to use existing, validated scales, as the goal of the research was to examine students' experiences specifically related to conducting pandemic related research, there were no appropriate existing scales to use. It is important to note that as the first author was also the instructor of the course, it is possible that students were subject to demand characteristics. However, the responses to the open-ended items dovetail with the responses from the scales, and the open-ended items were presented first in the survey. In addition, the survey responses were anonymous, the instructor did not share hypotheses with the class prior to the administration of the survey, and the pattern of scores does not necessarily suggest demand characteristics (i.e., the scores were not high across all of the measures). Finally, although the present study asked students to reflect specifically on the effect of the pandemic-related research, it is also possible that the course as a whole affected their responses. That is, the Lab 4 assignment was one of the last assignments of the course, and it is therefore difficult to disentangle the effect of that particular assignment from the effects of the broader course.

Despite the limitations, the present research serves as a potential proof of concept for engaging in highly relevant research in the context of a small undergraduate laboratory course. The students in the class expressed high levels of engagement, perceived competence, and recognition of the applicability of social psychology to solve real-world problems. It is also noteworthy that these positive effects of the laboratory assignment occurred while classes were remote and students were in stressful conditions. Yet, some students experienced negative emotional reactions to engaging in this research, and thus it is important to consider the potential negative ramifications of conducting pandemic-related research on students who may be particularly affected by the pandemic. Taken together, the present research indicates that engaging in pandemic-related research during a pandemic may provide a novel, meaningful experience for undergraduate psychology students.

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