

Undergraduate Students' Perceptions of and Engagement in Research Participation to Fulfill an Introductory Psychology Course Requirement

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Abstract

It is a common, if controversial, practice to recruit undergraduate psychology students as research participants. There is substantial research concerning putative educational benefits for students, but as students increasingly have freedom to choose between studies to meet participation requirements, factors underlying student choice of participation activities have been understudied. This research was designed to gain insight into what influences students' choice of research participation activities. Respondents were first-year psychology students at a research-intensive university. In Study 1, 43 students provided open-ended responses reflecting on their participation experience. A grounded theory approach was used to identify themes. In Study 2, 135 students completed a short questionnaire designed using the themes extracted in Study 1, with additional questions to probe self-reported and actual learning via questions about study contents and procedure. Across both studies, the dominant reasons for choosing a particular study were interest and convenience. However, 29% of respondents in Study 2 indicated that they had not learned anything during participation. This suggests that it is beneficial to offer a wide range of potential studies as students can tailor participation to match their interests, but improved debriefing strategies may be required to ensure students derive educational benefit and understand what they learned.

Keywords

psychology education, student attitudes, experimentation, experimental subjects

A common feature of many undergraduate psychology programs is that students have the opportunity, and sometimes a requirement, to participate in research. This practice has sparked debate, with some commentators arguing that it is unethical (e.g., Diamond & Redpath, 1994, cited in Dalziel, 1996). Others have countered that requiring research participation is comparable to other mandatory requirements such as exams and compulsory class attendance (Dalziel, 1996; Miles, Cromer, & Narayan, 2015). Empirical studies of student attitudes have found that, although some consider compulsory research participation “coercive,” they do not object to it on ethical grounds or believe it should be discontinued (Coulter, 1986; Cromer, Reynolds, & Johnson, 2013; Leak, 1981; Miller & Kreiner, 2008).

The most compelling justification for requiring research participation is that it has educational benefits. For example, research participation can increase interest in psychology research (Bowman & Waite, 2003; Chin & Gibbs Stayte, 2015; VanWormer, Jordan, & Blalock, 2014), which may be especially valuable for students who do not have the opportunity to complete research internships. However, most studies measure *perceived* learning rather than actual learning. The

few studies that have measured actual learning have found that research participation increases knowledge to a similar extent as lecture attendance (Elliott, Rice, Trafimow, Madson, & Hipshur, 2010) and is especially beneficial for increasing understanding of research procedures, research ethics, and the diversity of psychology as a discipline (Bowman & Waite, 2003; Rosell et al., 2005). Participating in research has also been associated with self-perceived increases in understanding of the specific experimental topic (Darling, Goedert, Ceynar, Shore, & Anderson, 2007; Moyer & Franklin, 2011), psychology more generally (Chin & Gibbs Stayte, 2015; Landrum & Chastain, 1995), and research methods and processes (Chin & Gibbs Stayte, 2015; Darling et al., 2007; VanWormer et al.,

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2014). Perceived benefits appear to be slightly lower if research participation is mandatory compared with when it is voluntary (Nimmer & Handelsman, 1992; Roberts & Allen, 2013).

Overall, it appears that participating in research has demonstrable benefits for students, which are linked to the content of the research experience. However, students have freedom to choose which studies they participate in, and whether they participate at all, as even in mandatory schemes not all students fulfill the requirements (Elicker, McConnell, & Hall, 2010; Rocchi, Beaudry, Anderson, & Pelletier, 2016). Although there is research examining why students do or do not participate in research (Bowman & Waite, 2003; Elicker et al., 2010; Rocchi et al., 2016), to our knowledge, no research has examined how students select specific studies to complete. This is an important question as some researchers have argued that having students participate in a greater range of studies will equip them with more sophisticated understanding of research (Roberts & Allen, 2013), and it is unclear whether students' choices are limiting this learning opportunity. For example, if students participate exclusively in online studies, due to scheduling issues, this may equip them with in-depth understanding of online research but will give them limited understanding of alternative research methods.

The aim of our current research was to gain insight into factors that influence students' choice of research participation activities. The research was conducted in two phases, beginning with an exploratory study that elicited open-ended feedback from students. The findings were then used to generate a more structured survey that was administered to the entire cohort of introductory psychology students at a research-intensive university.

Study I

Study 1 was a small-scale exploratory study designed to elicit students' reasons for choosing to participate in specific research projects and to form the basis for subsequent research. It was conducted at a research-intensive university, where introductory psychology students were required to complete 4 hr research credit per semester. Research credit could be awarded for participation in studies or for summarizing journal articles (one article received 60-min credit). Studies offering course credit were advertised on university noticeboards and listed on the online learning management system for introductory psychology. Data collection was integrated into existing research projects. Specifically, researchers who were offering credit were asked to administer a brief survey, which asked students to indicate why they chose to participate in that study rather than one of the other studies available.

Method

Participants

Forty-three responses were provided by students enrolled in an introductory psychology course at the Australian National University (ANU) in Semester 2 (July–October) 2013, which had a

cohort of 350 students. Participation was voluntary and anonymous, so no demographic information was collected. Ethical aspects of the research were approved by ANU Human Research Ethics Committee (2013/462).

Materials and Procedure

Ongoing research studies were identified from recruitment posters placed around the ANU Research School of Psychology and studies advertised on the introductory psychology learning management system. Thirty-seven researchers were contacted: 15 (41%) agreed to facilitate data collection for the current study, 9 (24%) advised that they had completed data collection, and 13 (35%) failed to respond.

A pen-and-paper questionnaire was administered. Respondents were asked to provide details of the research study in which they participated and their reasons for choosing this study (i.e., as opposed to others that were available). Researchers who agreed to facilitate data collection were asked to distribute the questionnaire and ethics information sheet to all research participants who asked for course credit.

Data Analysis

Handwritten responses were transcribed verbatim, and a grounded theory approach was used to extract themes. Preliminary themes were established based on an initial review of the data. Themes were then reviewed and refined, including collapsing similar codes where appropriate. This yielded six broad categories of themes: study content (e.g., interesting, relevant to my studies); study methods (e.g., online, experimental), participation requirements (e.g., accessible, easy), recruitment processes (e.g., advertisement, response from experimenter), duration (e.g., short vs. long), and other (e.g., had completed other available studies). All responses were coded by two independent coders. Interrater agreement was 92%.

Results and Discussion

The study obtained 43 responses from participants in seven studies; however, two studies (both questionnaire-based) only provided one response each. The five studies that contributed the remaining responses included two online studies ($n = 21$; 49%), one experiment ($n = 7$; 16%), one study involving online and short message service (SMS; commonly called texting) responses ($n = 5$; 12%), and one questionnaire ($n = 3$; 7%). Study duration varied from 30 to 120 min.

Response length ranged from 12 to 103 words ($M = 46.5$, $SD = 24.1$), or 56 to 633 characters ($M = 258$, $SD = 134$). Each response was coded with 2–7 themes ($M = 4.2$, $SD = 1.5$), with each theme reflecting different reasons for participating in a specific study.

Research Content

Overall, the most commonly reported reason for participating in a given research study was that it “seemed interesting”

(65.1%). There was no clear association between this theme and study characteristics; only one study was not explicitly deemed “interesting” by at least one student.

Several students also reported actively selecting a study that “seemed different” to other studies they had completed previously (23.3%). Here, students juxtaposed the study topic or methods with others they had completed in the past (e.g., “Since I have already completed several surveys before, I wanted to try a different experimental method”; “I also thought the research topic was interesting and quite different to other projects I have done”).

Very few students reported that they chose research opportunities that were directly relevant to their coursework (4.7%; e.g., “we have learned a bit about group perception”) or had personal relevance or interest (9.3%; e.g., “I wanted feedback on my risky behavior”).

Finally, a sizable minority of students (16.3%) reported choosing to participate in research that “seemed fun.” Most of these responses pertained to a study about humor or an experiment that featured “Where’s Wally [Waldo]?” on the recruitment poster.

Research Methodology and Participation Requirements

The main methodological consideration in choosing research was whether a study was online, reported by 55.8% of respondents. Notably, this represents nearly all students who completed an online study. Similarly, all students who completed the study involving SMS mentioned the SMS methodology as a reason for participating. In contrast, few students mentioned methodology as a reason for choosing to participate in experiments or face-to-face questionnaires.

Several students considered the burden imposed by participation requirements, with many selecting studies that were convenient (41.9%). This included online studies, which could be completed at any time (e.g., “I don’t have to find a time that is mutually convenient and sit down for an hour”), and face-to-face studies that fit their schedule (e.g., “it fit into my timetable”). Accessibility also influenced participation (34.9%), particularly for online studies. Here, students commented both on the accessibility of the advertisement (e.g., “There was a list of studies . . . this study was near the top of the list so I noticed it before the others”) and the accessibility of the survey itself (e.g., “the URL for the study was given on the piece of paper on the poster”). One student also noted that some studies felt inaccessible to commuters: “a lot of studies might sound fun, but require drinking, which isn’t possible if you live off campus.” Nearly one fifth of respondents (18.6%) reported choosing studies that seemed easy to complete. Interestingly, this encompassed a range of methods including experimental, questionnaire, and online studies (e.g., “I also found it was a fairly ‘easy’ and do-able experiment so that seemed appealing”). Finally, one participant reported choosing an online study because it “felt more anonymous.”

Recruitment Processes

Compared with research content and methodology, recruitment materials and processes were not a major influence on students’ choice of research participation opportunities. A minority of respondents reported basing their decision to participate on the advertisement (e.g., “Interesting poster”; 14.0%) or project name (e.g., “The title made it seem more interesting”; 11.6%). A few students (9.3%) reported that they signed up because the experimenter responded quickly to their e-mail inquiry, and one student mentioned that they participated because they met the inclusion criteria (e.g., “the experiment asked for participants with a certain type of phone plan and I fitted this description”).

Other Reasons for Participation

Several students (37.2%) explicitly noted that they needed to participate in research to fulfill their credit hours (e.g., “I am a psych student required to participate in research studies”). Related to this, many students indicated that the length of the study (i.e., amount of credit) influenced their decision to participate, for both short studies (30.2%) and long studies (23.3%). Students chose short studies primarily because they were easy to complete (e.g., “the study only takes 30 mins”); there was considerable overlap between studies described as short and those described as “convenient” or “easy.” In contrast, other students sought to participate in a smaller number of long studies: “the study gave me 2 hours of research participation, minimizing my need to participate in many other studies.”

Finally, a couple of students (4.7%) noted that they simply chose the studies they had not yet completed: “When I was selecting research participation there were not many others that I had not already done.”

Summary

The results of Study 1 suggest that the two major factors influencing which research studies students select are interest and convenience (namely, having research online). The popularity of online studies is consistent with previous research, which has highlighted benefits of online participation for time-poor students and those based off campus (Bowman & Waite, 2003; Elicker et al., 2010). Despite evidence from the broader research participation literature that recruitment materials and processes can be vital (Patrick, Pruchno, & Rose, 1998), recruitment processes were rarely raised. This may be because recruitment methods across the studies were relatively homogenous (e.g., standard posters or online announcements), and having mandatory participation ensured uptake of studies that might otherwise be overlooked. Although many students reported actively seeking to participate in a variety of study types, very few sought research directly related to their coursework. Overall, these results are interesting but may lack generalizability due to the small sample size. As such, the findings were used to inform a larger scale study.

Study 2

The aim of Study 2 was to conduct a more systematic, larger study of students' reasons for selecting research participation opportunities. To achieve this, a voluntary survey was included within formal assessment for an introductory psychology course. Students were at the same research-intensive university and were required to complete 5 hr per semester (increased from 4 hr the previous year). A secondary aim of the research was to assess whether the relative prevalence of reasons for selecting research studies differed between subgroups of students (e.g., psychology majors vs. nonmajors) and/or between different types of studies (e.g., experimental vs. survey research).

Method

Participants

All students enrolled in ANU's introductory psychology course in Semester 1, 2014, were invited to participate ($N = 330$). Among enrolled students, 135 (41%) submitted a research participation diary and consented to its use in the current research, 47 students (14%) did not participate in any research, and 148 students (45%) either did not submit a diary or did not explicitly consent to its use in the current research.¹ Ethical aspects of the research were approved by ANU Human Research Ethics Committee (2013/462).

Of students who provided a research participation diary for analysis, over three quarters were female (76.3%), approximately two thirds (65.2%) were born in Australia and half (50.4%) were majoring in psychology (including students enrolled in double majors or double degrees). The mean age was 20.1 years ($SD = 5.6$; $Mdn = 19$; range: 17–64). Although demographic information was not available for the full cohort, these sample characteristics seem to match the first-year psychology student body.

Materials and Procedure

A pen-and-paper research participation diary was provided to all enrolled students at the beginning of semester. Students completed the diary throughout the semester, recording details of all studies completed for research credit, and submitted it at the end of semester. For each study, the experimenter verified project details and the student's participation. The student then wrote a brief response describing what they thought the study was about, what they did, and what they learned; these questions formed part of their standard coursework assessment. An additional question was added to meet the current research objectives, asking students to indicate their reason/s for participating in this experiment, from a list including seemed interesting, seemed fun, seemed easy, different to other studies, methodology, duration, convenience, accessibility, scheduling, topic is relevant to my studies, and topic is relevant to me personally. Most of these categories represented the most common themes that emerged in Study 1. An exception was topic

relevance, which was included because it was of particular interest (i.e., to determine whether students seek research participation directly relevant to their studies).

If students consented to participating in the current research, their diary was transcribed for analysis. Data were discarded for students who did not provide explicit written consent. Records from the online research sign-up system were used to verify the total hours of research credit completed and were cross-checked against the course gradebook.

Data Analysis

Two data sets were available: data on the number of research credit hours completed, available for the entire cohort, and data on students' perceptions of the research, available for the subset of students who consented to have their participation diary analyzed.

Closed-end diary questions indicated students' reasons for selecting a particular study, which were binary variables (endorsed/not endorsed) that were analyzed statistically to see whether they were associated with characteristics of the responding student and/or study characteristics. Binary logistic generalized estimating equations were used to account for repeated measures (i.e., each student contributed multiple responses). Models used a binary logistic distribution with an exchangeable correlation matrix (as it was assumed that responses from the same respondent, or about the same study, would be correlated). Separate models were constructed for each reason. Initially, six predictors were entered in the model, but nonsignificant terms were dropped, so the most parsimonious models are presented (full analyses are available on request from the authors). The six predictors considered were student's gender (female, male), major (psychology, nonpsychology), birth country (Australia, international), study mode (online, face-to-face), type (questionnaire/observation, experiment/intervention), and subfield (cognitive, social, clinical/health).

Open-ended diary responses were independently coded by two researchers, according to whether the student mentioned why they chose to participate in the study, how accurately they could describe the study (scored 0–3, where 0 was an incorrect or irrelevant response and 3 was a correct response that described the specific research topic), and what they learned. Learning outcomes were three binary variables (0 = *not mentioned*, 1 = *mentioned*): learned about research topic, learned about research methodology, and learned about themselves. Interrater agreement was 91%.

Results and Discussion

Completion of Research Credit

Only 73% of students met the requirement to complete at least 5 hr of research credit, 14.5% submitted partial credits ($M = 2.9$; $SD = 1.1$, range: 1.0–4.75), and 12.4% of students did not complete any research credit.

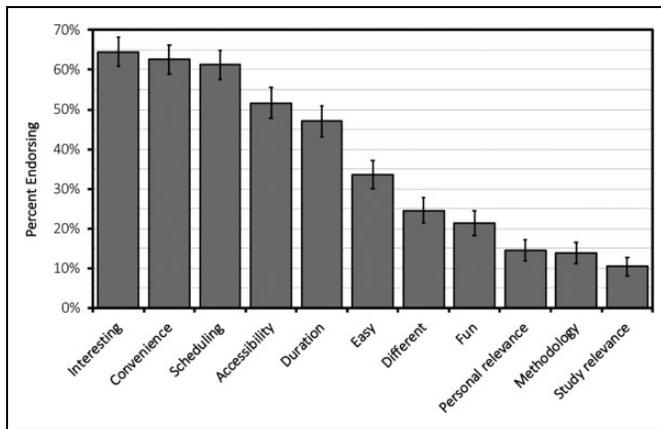


Figure 1. Reasons for selecting specific research participation opportunities. Percentages are based on the full sample of 668 responses. Error bars represent 95% confidence intervals (95% CI).

Characteristics of Studies Completed

The 135 students who provided research participation diaries recorded 668 activities, averaging five studies each ($SD = 1.4$, range: 1–10). Study duration ranged from 15 to 120 min, but most studies were 60 (54.8%) or 30 min (16.2%). The number of diary entries per study ranged from 1 to 82 ($M = 18.5$, $SD = 22.4$). Given this variation, it was not possible to compare specific studies, and so studies were grouped by methodology and subfield.

Studies were classified as “experimental” if they included a manipulation or intervention (59%) and were classified as “survey” otherwise (41%). Studies were coded as “face-to-face” (49%) if they required participants to attend in person at a specified time (even if all tasks were computer-based) and were coded as “online” (51%) if students completed the study remotely via the Internet. Finally, studies were classified according to the primary subfield of psychology being investigated. Three subfields were coded, representing three streams of research within the school: clinical/health (44%), cognition and perception (35%), and social psychology (21%).

Reasons for Participating

The most common reasons for choosing a study, summarized in Figure 1, were it seemed interesting, convenience, scheduling, and accessibility. Nearly all responses (94%) endorsed at least one reason for participating in each specific study; the number of reasons endorsed ranged from 0 to 11 ($M = 4.1$, $SD = 2.2$). Only five students mentioned their reasons for choosing a specific study in their open-ended responses, so these data were not analyzed further.

Seemed interesting. Nearly 65% of responses reported selecting a study because it seemed interesting. This differed with study type, mode, and subfield (see Table 1 and Figure 2). Respondents were less likely to report interest as a reason for selecting questionnaires (55% endorsed; 95% CI [47, 63]) compared

with experiments (70%; 95% CI [64, 76]) and for online studies (58%; 95% CI [51, 65]) compared with face-to-face studies (68%; 95% CI [60, 74]). One explanation is that students saw other advantages to completing online questionnaire studies (e.g., convenience) that outweighed any lack of interest.

Finally, respondents were less likely to nominate interest as a reason for choosing cognitive studies (52% endorsed; 95% CI [42, 61]) compared with social psychology studies (69%; 95% CI [61, 75]). There was no difference in interest between social and clinical (68%; 95% CI [61, 75]) psychology studies.

Convenience. Overall, 63% of responses indicated that they selected a study based on convenience. Again, there were significant main effects of study mode, type, and subfield (see Table 1). Convenience was more commonly nominated as a reason for selecting online (79% endorsed; 95% CI [73, 85]) versus face-to-face (48%; 95% CI [40, 55]) studies and questionnaires (73%; 95% CI [69, 79]) versus experiments (56%; 95% CI [48, 63]). In addition, when controlling for other factors, respondents were more likely to nominate convenience as a reason for selecting cognitive psychology studies (76%; 95% CI [68, 83]) compared with social psychology studies (59%; 95% CI [50, 69]). There was no difference when comparing social and clinical (58%; 95% CI [51, 65]) psychology studies.

Scheduling (e.g., flexible, suited my timetable). Scheduling was the third most common reason for selecting a study, nominated in 61% of responses. Australian-born students were significantly more likely to base their selection on scheduling (65% endorsed; 95% CI [57, 72]) compared with foreign-born students (50%; 95% CI [39, 60]). This may be because foreign students are more likely to live on or near campus, whereas Australian-born students are more likely to commute and therefore have restricted time on campus for participating in face-to-face research.

Accessibility. Half the responses (52%) indicated accessibility as a reason for selecting a study. This factor was significantly associated with study mode, being more common for online studies (68% endorsed; 95% CI [60, 75]) than face-to-face studies (34%; 95% CI [27, 42]). There was also a small but significant effect of study type, with accessibility more commonly cited as a reason for choosing questionnaires (54%; 95% CI [47, 62]) compared with experiments (48%; 95% CI [41, 54]).

Seemed easy. One third of responses (34%) suggested they chose a study because it seemed easy. There were significant effects of student major, study mode, and study type. Psychology majors were less likely to select an “easy” study (26% endorsed; 95% CI [19, 34]) compared with nonmajors (40%; 95% CI [31, 49]). This suggests that students not intending to major in psychology may find research participation requirements more effortful. However, notably, student major was not associated with any other factors such as interest or relevance.

Table 1. Factors That Significantly Predicted Specific Reasons for Selecting Research Participation Opportunities.

Reason/Predictor	B	SE	Wald χ^2	p	OR	95% CI OR
“Seemed interesting” (QIC = 865.76)						
Study mode (online vs. face-to-face)	−0.40	.18	5.03	.025*	0.67	[0.47, 0.95]
Study type (questionnaire vs. experiment)	−0.65	.20	10.34	.001**	0.52	[0.35, 0.77]
Subfield			9.29	.010*		
Cognitive versus social	−0.71	.25	8.10	.004**	0.49	[0.30, 0.80]
Clinical versus social	−0.01	.16	0.01	.926	0.99	[0.73, 1.34]
“Convenience” (QIC = 777.47)						
Study mode (online vs. face-to-face)	1.43	.20	49.33	<.001***	4.20	[2.81, 6.26]
Study type (experiment vs. questionnaire)	0.74	.17	18.35	<.001***	2.09	[1.49, 2.93]
Subfield			16.34	<.001***		
Cognitive versus social	0.77	.25	9.55	.002**	2.15	[1.32, 3.49]
Clinical versus social	−0.05	.17	0.09	.765	0.95	[0.68, 1.33]
“Scheduling” (QIC = 886.23)						
Birth country (international vs. Australia)	−0.63	.28	5.23	.022*	0.53	[0.31, 0.91]
“Accessibility” (QIC = 812.18)						
Study mode (online vs. face-to-face)	1.40	.20	46.83	<.001***	4.06	[2.72, 6.06]
Study type (questionnaire vs. experiment)	0.27	.13	4.14	.042*	1.31	[1.01, 1.69]
“Seemed easy” (QIC = 791.29)						
Major (psychology vs. other)	−0.64	.28	5.19	.023*	0.53	[0.31, 0.91]
Study mode (online vs. face-to-face)	1.09	.20	29.50	<.001***	2.98	[2.01, 4.42]
Study type (questionnaire vs. experiment)	0.36	.16	5.38	.020*	1.43	[1.06, 1.95]
“Different to other studies” (QIC = 720.22)						
Study mode (online vs. face-to-face)	−0.88	.23	14.14	<.001***	0.41	[0.26, 0.66]
Study type (questionnaire vs. experiment)	−0.89	.27	10.93	.001**	0.41	[0.24, 0.70]
Subfield			21.51	<.001***		
Cognitive versus social	−0.95	.35	7.34	.007**	0.39	[0.20, 0.77]
Clinical versus social	0.32	.24	1.79	.181	1.38	[0.86, 2.20]
“Seemed fun” (QIC = 683.05)						
Subfield			9.69	.008**		
Cognitive versus clinical	−0.46	.19	6.15	.013*	0.63	[0.44, 0.91]
Social versus clinical	−0.59	.25	5.82	.016*	0.55	[0.34, 0.89]
“Topic is relevant to me personally” (QIC = 513.22)						
Study mode (online vs. face-to-face)	−0.80	.23	12.53	<.001***	0.45	[0.29, 0.70]
Subfield			24.75	<.001***		
Cognitive versus social	−1.84	.40	20.90	<.001***	0.16	[0.07, 0.35]
Clinical versus social	0.08	.23	0.11	.743	1.08	[0.68, 1.70]
“Topic is relevant to my studies” (QIC = 444.61)						
Study mode (online vs. face-to-face)	−0.72	.26	7.53	.006**	0.49	[0.29, 0.82]

Note. For all comparisons reported, the second listed category was the reference group. OR = odds ratio. 95% CI = 95% confidence interval. QIC = quasi-likelihood under the independence model criterion, an indicator of model fit. *p < .05. **p < .01. ***p < .001.

Respondents were also more likely to nominate “seemed easy” as a reason for choosing online (45%; 95% CI [38, 53]) versus face-to-face studies (22%; 95% CI [16, 29]) and questionnaires (37%; 95% CI [29, 45]) versus experiments (29%; 95% CI [23, 35]).

Different to other studies. One quarter of responses suggested that they chose that study because it seemed different to other studies. There were significant main effects of study mode, type, and subfield. Respondents were more likely to indicate that studies were different if they were face-to-face (29% endorsed; 95% CI [23, 36]) rather than online (15%; 95% CI [10, 20]) and if they were experiments (29%; 95% CI [23, 37]) rather than questionnaires (14%; 95% CI [10, 21]).

Regarding subfield, respondents were less likely to consider cognitive psychology studies as “different” (11%; 95% CI [7, 18]) compared with social psychology studies (25%; 95% CI [17, 34]). However, the same did not occur for clinical psychology studies (31%; 95% CI [25, 38]), even though half of all studies completed were clinical/health. One explanation is that the cognitive studies offered were predominantly visual attention and perception studies, which may all seem similar, whereas there was greater diversity among clinical and social psychology research topics.

Seemed fun. One fifth (21%) selected a study because it seemed fun. Respondents were more likely to nominate fun as a reason for participating in clinical psychology studies (25% endorsed;

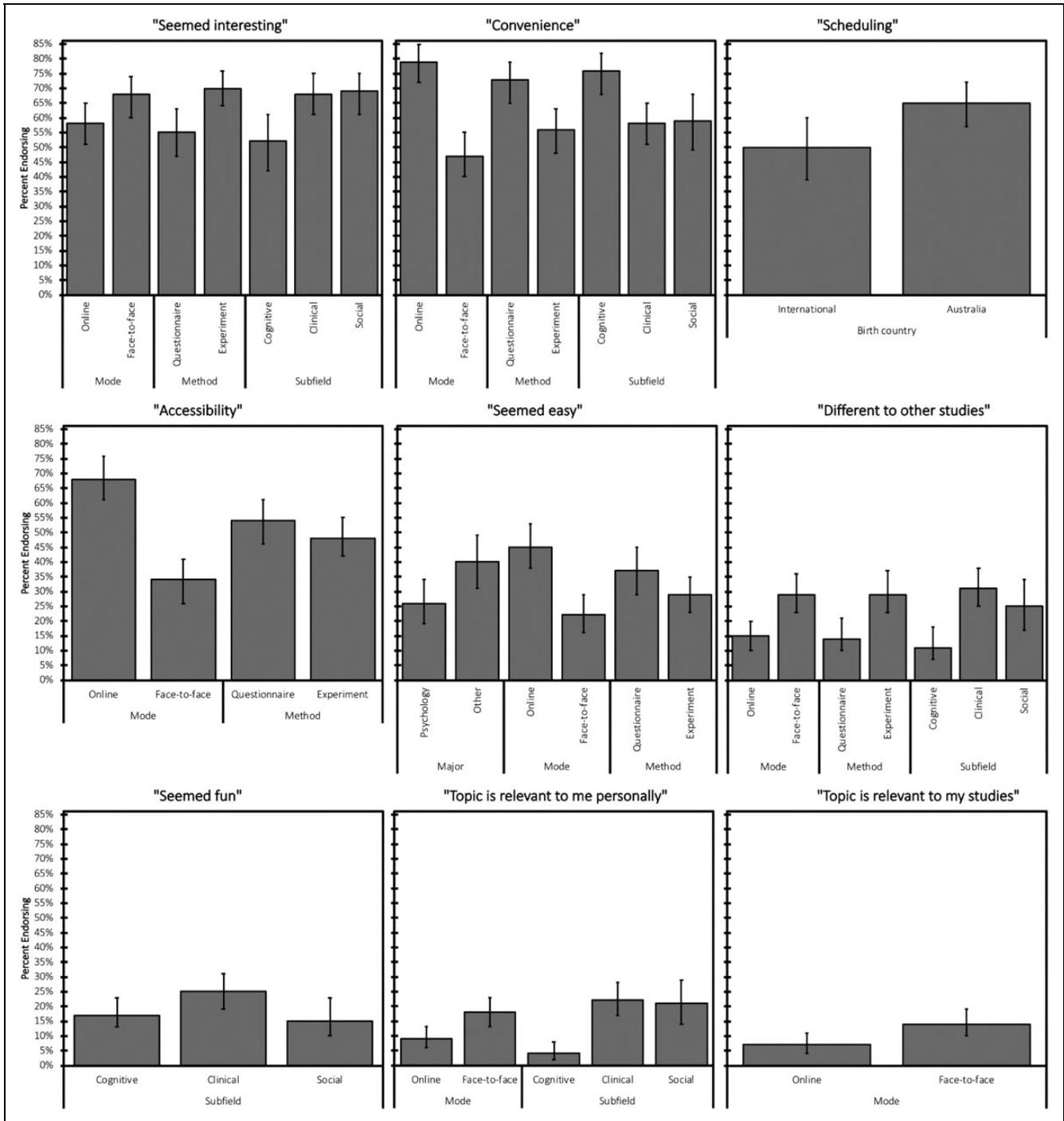


Figure 2. Statistically significant predictors of nine reasons for selecting research participation opportunities. Error bars represent 95% confidence intervals for the prevalence estimates.

95% CI [19, 31]) compared with both social (15%; 95% CI [10, 23]) and cognitive (17%; 95% CI [13, 23]) psychology studies.

Topic is relevant to me personally. Only 15% of responses indicated that they selected a study because the topic had personal relevance. This factor was significantly associated with study mode and subfield. Respondents were more likely to nominate personal relevance as a reason for

participating in face-to-face (18% endorsed; 95% CI [13, 23]) compared with online studies (9%; 95% CI [6, 13]). Conversely, they were less likely to suggest personal relevance as a reason for choosing cognitive studies (4%; 95% CI [2, 8]) compared with social psychology (21%; 95% CI [14, 29]) studies. There was no difference in perceived personal relevance of social versus clinical psychology studies (22%; 95% CI [17, 28]).

Topic is relevant to my studies. Only 10% of responses suggested that they chose to participate in research studies that seemed relevant to their university coursework. The only factor significantly associated with this reason was study mode; respondents were more likely to nominate topic relevance as a reason for selecting face-to-face (14% endorsed; 95% CI [10, 19]) compared with online studies (7%; 95% CI [4, 11]).

Other reasons. Two other commonly endorsed reasons for selecting studies were their duration (47% endorsed; 95% CI [43, 51]) and methodology (14% endorsed; 95% CI [11, 16]). The relative prevalence of these two reasons did not vary significantly with either study or student characteristics.

Learning Outcomes

Three quarters of responses (77.1%) accurately described the study completed, 14.5% provided incomplete explanations, 0.6% provided vague descriptions, and 7.8% provided incorrect or irrelevant descriptions.

When asked to report what they learned, nearly one third (29%) either indicated that they learned nothing or wrote something irrelevant, indicating low self-perceived learning. One possibility here is that students applied a very narrow conceptualization of learning when interpreting this question (e.g., learning “key concepts” as they would during class), and therefore, many felt they learned nothing. Most responses indicated that they learned about the research topic (38.3%) and/or methodology (33.5%), with few indicating that they learned something about themselves (8.4%). Responses could be coded as having multiple learning outcomes, which 9.1% did. The most common combination of outcomes was learning about both the research topic and methodology (4.9%).

Summary

The results of Study 2 align with Study 1’s findings with recurrent themes of interest and convenience. Interest was characterized at a personal level: There was no consensus on any particular study being the most or least interesting. As in Study 1, convenience was chiefly tied to online surveys that could be completed at a time and place of a student’s choosing. After participation, students could accurately describe the majority of the studies they had participated in, but they did not necessarily view this as “learning,” with nearly one third of responses indicating they had not learned anything from their participation. This high recall but lower self-reported learning may reflect the fact that studies relate to existing knowledge or that there is an underdeveloped link between participation experience and the substantive aspects of the research. Alternatively, students may have underreported learning as research comparing self-reported and actual recall indicates students do underestimate their own learning (Chesebro & McCroskey, 2000).

General Discussion

Mandatory research participation is a common component in undergraduate psychology research programs, primarily justified on the basis of enhancing student experience by promoting insight into research methods, processes, and findings (Chin & Gibbs Stayte, 2015; Darling et al., 2007; Landrum & Chastain, 1995; Moyer & Franklin, 2011; VanWormer et al., 2014). Although there is a growing body of literature surrounding why student choose to engage (or not) with research in general (Bowman & Waite, 2003; Elicker et al., 2010; Rocchi et al., 2016), previous research has not examined how choices are made to select specific studies. Drawing from two phases of self-report data at a research-intensive university, this study provided insight into factors that influence students’ choice of research activities. The dominant reasons for choosing a particular study were interest and convenience. Engagement and recall of study contents and procedure were relatively high and higher than self-reported learning.

The finding that “interest” was the most common reason for participating in a study is encouraging. This is consistent with previous research comparing students who do versus do not participate in research, which found that students who participate are curious about the research (Cromer et al., 2013). Notably, the definition of “interesting” differed between students. This represents a strength of the research participation scheme: if diverse opportunities are offered, students can tailor their participation to their own interests. This provides a nice contrast to other course content, such as lectures and readings, which are standardized across students. However, the estimate of 65% of studies being interesting may be an overestimate as the results may reflect response bias (i.e., students who are more interested in research may have been more likely to respond). Previous researchers have also suggested that asking students to report the benefits of research could prompt them to overstate the benefits in a form of cognitive dissonance (Darling et al., 2007).

Convenience also emerged as a major predictor of study selection reflected in a high proportion of studies being completed online. This is consistent with a recent study which found that U.S. community college students completed more online than face-to-face studies, especially if they were enrolled in an online course (Chin & Gibbs Stayte, 2015). Previous research comparing students who completed research participation with those who did not, or those who completed an alternative activity, found that students who participate in research work fewer hours (Bowman & Waite, 2003), and scheduling conflicts are one of the major reasons for nonparticipation (Elicker et al., 2010). Commentators have suggested online research participation could benefit time-poor students (Bowman & Waite, 2003; Elicker et al., 2010) and that online platforms for scheduling and tracking participation could lessen the perceived costs of research participation (Miles et al., 2015). Thus, online research participation may increase students’ ability to engage with research, especially for nontraditional students.

Although students are mostly positive about participating in research, our findings suggest their experience could be improved. Specifically, several indicated that they learned nothing from their participation. This is concerning as some have suggested that research participation must increase learning to be justifiable (e.g., Dalziel, 1996). As already noted, low self-perceived learning may occur because students apply a narrow conceptualization of “learning,” meaning they may not appreciate or understand what they have learned from their experience. This highlights scope for researchers to improve aspects of the participation process to ensure it is educational for subject pool participants and, crucially, to help students see what they have learned. In some cases, researchers may not explain the true aims and rationale of the study to participants as they may fear “contamination” if participants tell their friends too much about the study. Other researchers may provide insufficient debriefing because they do not have enough time or because they do not interact directly with participants (e.g., in online studies). In the current study, students were better able to articulate what they learned about research methods and procedures rather than content and findings (consistent with previous research; e.g., Bowman & Waite, 2003; Rosell et al., 2005). Nevertheless, only 38% reported learning about the study methods, suggesting there is scope for improving all aspects of learning. One option could be requiring more comprehensive debriefing procedures for research participants, particularly those receiving course credit. Although this would slightly increase the burden on researchers, it would not require much extra time and arguably is a reasonable trade-off for obtaining participants without paying money.

This study has a number of strengths, but also weaknesses. The two-phase design and qualitative approach allowed robust exploration of participant-generated themes, highlighting a broader range of participant considerations than may have been arrived at a priori. One limitation is sample size. Although similar sample sizes are common in this field (Sandelowski, 1995) and each participant provided substantial in-depth data, its generalizability may be limited. Another limitation was that we did not collect data on students’ experience of debriefing following participation. There is evidence that high-quality debriefing characterized by avoiding jargon and linking the participation to coursework can improve perceived and actual educational benefit from research participation (Britton, 1979). Due to our focus on choice of study, the current study did not consider the degree to which debriefing practices differed across studies and the consequences this may have had for self-reported outcomes. This would be an especially promising direction for future research, given our findings regarding self-perceived learning and the fact that students do not often make explicit connections between their coursework and their research participation activities. Finally, the fact that students reported their reasons for selecting a study after participation may have influenced their responses. For example, if they enjoyed the experience, they may have reported choosing the study because it was fun, even if they did not know it would be fun beforehand. Future research could address this by having

students report reasons for selecting a study before participation (e.g., during the sign-up process).

Conclusion

It is common for psychology undergraduate students to have mandatory research participation requirements and a choice of studies to meet those requirements. Our findings suggest that students base their decisions primarily on convenience and interest in the topic. Although recall of the topic and protocols of these studies were common, self-reported learning was low. This suggests that it is beneficial to offer a wide range of potential studies as students can tailor participation to match their interests, but researchers may need to improve their debriefing strategies to ensure students derive educational benefit from participation and understand what it is that they learned.

Authors’ Note

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Note

1. This relatively high rate of nonconsent occurred because the consent process required students to actively “opt in” by ticking a checkbox on the diary coversheet to indicate whether they consented to their data being analyzed. A large proportion of students left this first page completely blank.

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