Can Human Subject Pool Participation Benefit Sociology Students?

Lynn Gencianeo Chin¹ and Patricia Gibbs Stayte²

Abstract
Instructors at non–research institutions are less able to expose their students to research firsthand. Utilizing human subject pools (HSPs) in class may be a solution. Given that HSPs tend to be used in introduction to psychology classes at research institutions, we examine a community college HSP to answer three questions: (1) Do community college students positively assess the educational value of HSP experience? (2) Can sociology students perceive HSP experience to be as educationally effective as psychology students? (3) Can online students perceive HSP experience to be as educationally effective as in-person students? Results indicate that not only did community college students hold positive evaluations of their HSP experience, but sociology and online students also felt they benefited as much as psychology or in-person students. HSPs were also considered particularly effective by students taking research methods. HSP participation may be a viable teaching tool for sociology instructors at non–research schools.

Keywords
research methods, introduction to sociology, human subject pools, community college, online classes

Introductory sociology instructors often battle the misperception that sociology is not a science (Persell 2010; Persell, Pfeiffer, and Syed 2007). One solution to this problem may be to give students experience with research by incorporating participation in human subject pools (HSPs) into classes. HSPs are programs that formally organize groups of volunteers to participate in research studies. In most HSPs, students partake in studies in return for course credit (Landrum and Chastain 1995; Roskos-Ewoldsen et al. 1998; Sieber and Saks 1989). HSPs have been found to familiarize students with social research (Coren 1987; Rosell et al. 2005; Sullivan and Lashley 2009) and raise interest and satisfaction in associated courses (Bowman and Waite 2003; Elliott et al. 2010; Landrum and Chastain 1995; Moyer and Franklin 2011). HSP participation also helps dispel myths about the lack of scientific evidence in the social sciences (Rosell et al. 2005). To our knowledge, however, there has been no prior report of HSPs being utilized in: (1) a sociology course, (2) a community college, or (3) an online class. Can sociology students, particularly those at non–research institutions or in online classes, obtain educational benefits from human subject pool participation?

Little is known if HSP participation can benefit students in different institutional contexts. HSPs are mostly associated with psychology courses at research institutions. Sieber and Saks (1989) found that 74 percent of graduate-level psychology departments have developed HSPs and that 93 percent of HSPs are used in “introduction to psychology” courses. Landrum and Chastain (1999) also found high use of HSPs in

¹Washington and Lee University, Lexington, VA, USA
²Foothill College, Los Altos, CA, USA

Corresponding Author:
Lynn Gencianeo Chin, Department of Sociology & Anthropology, Washington and Lee University, 210 Newcomb Hall, Lexington, VA 24450, USA.
Email: chinl@wlu.edu
undergraduate institutions that grant bachelor degrees and have active researchers. As a result, HSP research has focused mainly on their benefits for psychology students taking in-person courses at research institutions. Structural (e.g., time constraints) and motivational factors were found to limit HSP participation at a large public commuter university (Elicker, McConnell, and Hall 2010). Would similar barriers, enhanced by a disciplinary difference, also inhibit community college sociology students from deriving benefit from HSP participation?

To answer this question, we examine an HSP that services community college students to see if community college students taking a sociology or online course perceive as much benefit from HSP participation than those taking psychology or in-person classes. Using exit survey data, we examine: (1) whether community college students had positive educational evaluations of their HSP experience and (2) whether HSP involvement enhanced perceived interest and understanding of research as much for sociology as psychology students and (3) as much for students in online versus in-person classes.

INSTITUTIONAL DIVIDE IN STUDENT RESEARCH EXPERIENCE

Over the past decade, there has been increased pressure to integrate research into undergraduate education (Bauer and Bennett 2003; Ishiyama 2002; Lopatto 2004). This trend has been particularly apparent at four-year universities and liberal arts colleges (Kain 2006). While it would be ideal to have introductory students conduct hands-on research or work on professors’ projects (Landrum and Nelsen 2002; Takata and Leiting 1987; Thieman et al. 2009), not every institution has the resources to offer students direct research experience. Creating firsthand alternatives is crucial because undergraduate research participation has been found to improve students’ technical, professional, and interpersonal skills (Hunter, Laursen, and Seymour 2007; Landrum and Chastain 1995; Lopatto 2003, 2004; Thieman et al. 2009) and encourage the pursuit of graduate education (Bauer and Bennett 2003).

Community college students may be doubly disadvantaged when it comes to obtaining research opportunities. First, community college faculty frequently carry heavy teaching loads that virtually prohibit active research and constrain their ability to supervise student projects (Stein 1977; Twombly and Townsend 2008; Weeber 2006). Second, many community college students take their social science classes online, which further decreases opportunities to interact with peers and faculty on research. Public two-year universities are more likely to offer online courses than any other type of institution (Parsad and Lewis 2008), and over half of all online students are enrolled at associate-level colleges, especially in the social sciences where the penetration rate of online programs is the highest (Allen and Seaman 2008).

Institutional disadvantages can compound existing differences in the risk of attrition between community college students and their four-year university counterparts. Community colleges disproportionately serve students who possess characteristics that increase the risk of not obtaining a degree (Alfonso 2006). Community college students are more likely to be first-generation college students, older, have dependents, work full-time, and need remedial classes (Cohen and Brawer 2003; Hawley and Harris 2005). These same characteristics are also negatively related to student engagement (Hu and Kuh 2002; Kuh 2003). Given that more students will be exposed to sociology at a community college or trade school than at a four-year university (Kain et al. 2007; Twombly and Townsend 2008), finding solutions to create more equity in research opportunities between teaching and research institutions is imperative.

HSP PARTICIPATION AS A POTENTIAL SOLUTION

One solution may be for community college instructors to incorporate HSP participation in their courses. HSPs offer instructors the ability to give students opportunities to directly experience social research as a process, even when they cannot offer research assistantships or oversee projects. They are prime candidates to bridge the institutional research divide because the benefits associated with HSP participation parallel the benefits related to direct undergraduate research experience, particularly in the increased understanding of the research process (Bauer and Bennett 2003; Hunter et al. 2007; Ishiyama 2002; Landrum and Nelsen 2002; Lopatto 2003, 2004; Thieman et al. 2009). In general, student evaluations of what they have learned from HSP participation have been found to be much more positive than negative (Moyer and Franklin 2011; Waite and Bowman 1999). Across
several studies, the majority of students stated they found HSP participation to be a valuable learning experience (Davis and Fernald 1975; King 1970), which increased their knowledge of psychology (Coren 1987) and the social research process (Landrum and Chastain 1995; Sullivan and Lashley 2009). Even when students’ relative perceptions of the educational value of HSPs were lower than other program evaluations (e.g., researcher politeness or study explanations), the absolute value of their evaluations were still high (Britton 1979).

Beyond student perceptions, Rosell et al. (2005) found that compared to lecture alone, students’ actual knowledge about participants’ rights and informed consent increased more when they also participated in experiments. In a controlled experiment, Elliott et al. (2010) found that students learned as much about a specific topic from experiment participation than a lecture but preferred study participation over lecture (Trafimow et al. 2006). In another experiment, Gil-Gomez, Leon, and Pascual-Ezama (2012) found that students who took part in HSP studies achieved higher scores on a methods exam than students who did not. They even found no differences in the methods exam grades between students whose HSP participation was randomly assigned to only taking studies, compared to those whose participation also involved written reflections of their experience. Despite this, most research finds the educational benefits of HSP experience are enhanced when reflective assignments are paired with HSP participation (Cromer, Reynolds, and Johnson 2013; Davis and Fernald 1975; Moyer and Franklin 2011; Richardson, Pegalis, and Britton 1992).

This success of HSP participation for psychology students attending research-oriented institutions raises the question of whether HSPs can also benefit community college students, even when their classes are online. We ask three questions:

Research Question 1: Do community college students feel they have become more engaged with social research after taking HSP studies?
Research Question 2: Can participation in an HSP be perceived to be as educationally engaging for sociology students as psychology students?
Research Question 3: Can participation in an HSP be perceived to be as educationally engaging for online students as in-person students?

To answer these questions, we obtained IRB approval to access student records from a multidisciplinary collaborative HSP servicing community college students. Our study’s IRB is separate from the IRB approval of the HSP program itself. The data we examine come from demographic, participation, and exit survey data originally collected by the HSP program. Our analyses concentrate on student evaluations of their HSP experience and not on actual learning outcomes (e.g., grades). While actual learning outcomes would have been an ideal measure of educational effectiveness, the HSP does not have access to student grades. Student perceptions still make an informative gauge of a program’s educational effectiveness, as it is unlikely that a successful program will produce negative student evaluations and vice versa.

OVERVIEW OF THE MULTIDISCIPLINARY COMMUNITY COLLEGE HSP

The HSP we examine was modeled after several different psychology HSPs. As such, its operating procedures are very similar to other existing HSPs at research institutions. Participation in the program is voluntary on the part of community college instructors and their students. Instructors decide how HSP participation will be incorporated into their course and how much program participation will be worth. Instructors are also required to provide comparable alternatives to students who decline to be part of the program. Thus, students can decline participation even in classes where the instructor makes HSP participation a class requirement.

Like most modern psychology course-related HSPs, this HSP utilizes an online scheduler and provides students credit based on the amount of time they participate in studies. Students receive credit for each half hour of participation. The number of study hours required varies slightly based on each course instructors’ needs since some instructors use the program for extra credit and others incorporate it more fully into their curriculum. On average, this HSP asks online students to complete three hours of studies and in-person students four hours of studies outside of class during the academic term of their course. These requirements were determined as fair by the community college instructors who have no vested interest in the research studies being offered to the students. The students also receive credit for signing up for the program, which includes providing demographic data, and taking a mandatory exit survey about their experience.
Very few (N = 2) paid studies have ever run in this HSP. The HSP forbids researchers from advertising monetary benefits and researchers cannot offer money in place of credit. Students have full control over their participation. Using the online scheduler, students choose what studies they want to participate in by reading descriptions of available studies, manage their study schedule, and track their earned credits. Their online account is also assigned an ID number to preserve the anonymity of their identity from researchers.

The HSP in this study also brings together several factors that make it unique in the HSP literature. The first unique factor is that the HSP is a collaborative product between a research university and a community college that is directly aimed at increasing research experiences for community college students. The HSP participants are community college students whose teachers agree to use the HSP in their course, and the HSP studies come from IRB-approved university projects that have applied to run their study in the HSP. Other HSP studies are student projects from the community college’s social methods class, which is cross-listed between psychology and sociology.

The second unique factor is that the HSP recruits both participants and researchers from many disciplines. Participating students are not only recruited from psychology classes but also from sociology courses as well. Each term, the number of classes using the HSP is usually evenly split between psychology and sociology. Most classes tend to be Introduction to Psychology or Introduction to Sociology, but instructors have also used the HSP in other sociology and psychology courses (e.g., Marriage and the Family or Social Psychology) and in sociology-psychology cross-listed classes like Research Methods and Designs. Moreover, the HSP offers research experiences from disciplines other than psychology, most notably sociology. In fact, about 40 percent of the HSP studies have come from the research university’s sociology department. In addition, the HSP also recruits studies from other disciplines, such as political science, communications, economics, organizational behavior, education, and engineering. Researchers utilize a wide spectrum of methods: surveys, interviews, and experiments. Nevertheless, like most HSPs, this HSP offers more experiments than surveys or interviews. This is a product of the type of research that tend to recruit students for studies. This is important to note because experimentation is not as commonly used in sociology as in psychology. It is an empirical question as to whether this difference negatively impacts sociology students’ perceptions of HSP’s educational impact.

The biggest difference between studies for students is not disciplinary, especially since studies do not list their discipline in study descriptions. Instead, the biggest distinction for students is whether a study takes place in a face-to-face (FTF) laboratory at a set time or online on one’s own time. While there are no disciplinary differences in FTF versus online studies, “procedural” differences tend to exist. FTF studies tend to provide students more contact with researchers and involve more action (e.g., group work) while online studies tend to be more passive (e.g., reading). Regardless of type, all studies are required to explain their study’s purpose and hypotheses to students. Finally, this HSP also offers talks and tours led by program researchers as an alternative activity.

The third unique factor is that to join this HSP, students do not have to take an in-person class where students physically meet on campus. Instead, students can also join the HSP when taking an online class where students participate entirely online. This distinction is important because research has focused around differences in student engagement and retention between in-person and online classes. Although online classes can be as engaging as in-person classes (Allen and Seaman 2008, 2013), especially if a course has been planned well (Bergstrand and Savage 2013; Clark-Ibanez and Scott 2008; Conaway, Easton, and Schmidt 2005; Driscoll et al. 2012; Pearson 2010), existing demographic differences put online students more at risk of dropping out of their course than in-person students. Online students tend to be older, work more hours, and have lower GPAs (Driscoll et al. 2012), which are all associated with low student engagement (Kuh 2003). Taking courses online increases the likelihood students will withdraw from class at community colleges (Jaggars 2011).

STUDENT DEMOGRAPHICS AND PROGRAM USAGE BY CLASS TYPE

Between spring 2012 and summer 2013, students took a mandatory exit survey after they completed their HSP credit hours. All students were asked to evaluate the effectiveness of HSP participation in increasing their personal understanding and interest in the research process. Table 1 provides an overview of the demographic breakdown of student characteristics by course type (N = 1,594).
Students who were double-enrolled in both (1) an online and an in-person class (N = 2) or (2) an extra credit and mandatory class (N = 21) were eliminated from analysis to keep differences between class types clean. As can be seen, about the same amount of students were enrolled in in-person classes (51 percent) and online classes (49 percent). Despite this, there were many statistically significant demographic differences between HSP students in in-person versus online courses. Students in online classes were more likely to be women ($\chi^2[1, N = 1,579] = 11.67$, $p < .001$), older ($t[1,572] = 8.44$, $p < .001$), fully employed ($\chi^2[1, N = 1,579] = 81.58$, $p < .001$), and U.S. citizens ($\chi^2[1, N = 1,579] = 42.40$, $p < .001$). Online students were also more likely to be Asian but less likely to be Hispanic ($\chi^2[1, N = 1,579] = 11.10$, $p < .05$). As expected, online students were older and were more likely to work full-time (Driscoll et al. 2012). Unexpectedly, in-person students did not have higher GPAs, nor was there a difference in average family income. This may be because the community college is located in an affluent neighborhood near a booming technology corridor, which may have attracted educated professionals to be part of the online student population.

Table 2 describes behavioral differences in program usage between in-person and online students. While both types of students participate in mostly online studies and rarely participate in talks and tours, in-person and online students’ HSP study experiences still qualitatively differ. Compared to online students, in-person students attended a higher number of FTF studies ($t[1,592] = 36.42$, $p < .001$) and talks and tours ($t[1,592] = 6.73$, $p < .001$) but took part in a lower number of online studies ($t[1,592] = 21.37$, $p < .001$). Given that most FTF studies, talks, and tours take place during work hours, it is not surprising that less employed in-person students, who already come to campus for class, were more likely to take part in these activities.

Course subject areas also differed between online and in-person students ($\chi^2[4, N = 1,594] = 212.61$, $p < .001$). A higher percentage of in-person students took psychology (59 percent), while a higher percentage of online students took sociology (66 percent). Moreover, around 8 percent of in-person students took Research Methods and Designs (a class cross-listed in sociology and psychology), but no online students took this course since it is only offered in person. Finally, the percentage of students who joined the HSP for extra credit differed by class type as well ($\chi^2[1, N = 1,594] = 24.01$, $p < .001$). While most HSP students fulfilled a mandatory course requirement, a higher proportion of in-person students (17 percent) took studies for extra credit than online students (9 percent).

### Table 1. Student demographics by class type (spring 2012-summer 2013), N = 1,594.

<table>
<thead>
<tr>
<th></th>
<th>In-person classes (N = 816)</th>
<th>Online classes (N = 778)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percentage</td>
<td>Mean</td>
</tr>
<tr>
<td>Female</td>
<td>63***</td>
<td>71</td>
</tr>
<tr>
<td>Age (years)</td>
<td>21.53***</td>
<td>24.41</td>
</tr>
<tr>
<td>(21)</td>
<td>(27)</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>33*</td>
<td>32</td>
</tr>
<tr>
<td>Black</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td>Asian</td>
<td>38</td>
<td>42</td>
</tr>
<tr>
<td>Native American</td>
<td>.37</td>
<td>.39</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>US citizen</td>
<td>72***</td>
<td>85</td>
</tr>
<tr>
<td>Family income ($)</td>
<td>94,692</td>
<td>94,289</td>
</tr>
<tr>
<td>(2,522)</td>
<td>(2,442)</td>
<td></td>
</tr>
<tr>
<td>Employed full-time</td>
<td>8***</td>
<td>25</td>
</tr>
<tr>
<td>Mean GPA</td>
<td>3.20</td>
<td>3.24</td>
</tr>
<tr>
<td>(0.02)</td>
<td>(0.02)</td>
<td></td>
</tr>
</tbody>
</table>

Note: *p < .05 and ***p < .001 indicate significant difference between in-person and online classes ($\chi^2$ and two-tailed t tests).
OVERALL EVALUATIONS OF HSP EFFECTIVENESS

Students were directly questioned: “To what extent has your participation in the [HSP Name] ... ?”. (1) “increased your understanding of how social science research is conducted,” (2) “increased your interest level in social science research,” (3) “sparked a personal interest in conducting your own social research,” (4) “increased your general understanding of the class material in your [HSP] course(s),” and (5) “helped you connect the material you learned in your [HSP] class back to your own life and/or the real world”? Response choices ranged from 1 (not at all) to 5 (completely). Table 3 shows the raw breakdown of student opinions about the effectiveness of their HSP participation without controlling for demographic or behavioral differences (N = 1,594). Regardless of class type, across all five questions, community college students tended to express moderately positive evaluations of the effectiveness of the program. Students’ modal opinion (ranging from 35 percent to 41 percent) was that HSP participation only “somewhat increased” their interest or understanding of social research or their course. Evaluations dropped for personal research, where the most common opinion was that HSP participation only “sparked a little interest” (31 percent) in pursuing one’s own research study.

It is also clear that students tended to think that HSP participation was more effective at increasing some learning outcomes over others. First, the relative distribution of evaluations indicate that students were most positive about the extent that they thought HSP participation increased their understanding of how social research is conducted. A higher percentage of students expressed the opinion that HSP participation increased understanding of the research process a lot or completely (32 percent) compared to other student outcomes where these categories contained less than 30 percent of students. Also, only 4 percent of students thought HSP participation had no impact on improving their understanding of the research process, which is much lower compared to the other types of learning outcomes.

Second, compared to helping them understand the general content of their class, students thought HSP participation was more effective at increasing their interest in research and improving their ability to see connections between their class and the real world. More students thought that their HSP experience had no impact on improving their understanding of the research process, which is much lower compared to the other types of learning outcomes.

Table 2. Student use of the program by class type (spring 2012-summer 2013), N = 1,594.

<table>
<thead>
<tr>
<th></th>
<th>In-person classes (N = 816)</th>
<th>Online classes (N = 778)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Percentage</td>
<td>Mean</td>
</tr>
<tr>
<td>Number of in-person studies</td>
<td>2.14***</td>
<td>.29 (0.04)</td>
</tr>
<tr>
<td>Number of online studies</td>
<td>3.30***</td>
<td>5.01 (0.05)</td>
</tr>
<tr>
<td>Number of talks and tours</td>
<td>.29***</td>
<td>.07 (0.03)</td>
</tr>
<tr>
<td>Psychology class</td>
<td>59***</td>
<td>33</td>
</tr>
<tr>
<td>Sociology class</td>
<td>32</td>
<td>66</td>
</tr>
<tr>
<td>Social methods classa</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>One psychology and one sociology class</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Methods and one psychology/sociology class</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>HSP is extra credit</td>
<td>17***</td>
<td>9</td>
</tr>
</tbody>
</table>

Note. ***p < .001 indicates significant difference between in-person and online classes (χ² and two-tailed t tests).

HSP = human subject pool.

*Methods is cross-listed psychology and sociology.
their ability to connect their class to the real world, while 27 percent thought it increased that ability a lot or completely. Third, students thought HSP participation was least successful at raising interest in conducting research. Almost a quarter of students mentioned that HSP participation failed to spark any interest in starting a personal research project.

In all, community college student evaluations of the educational effectiveness of their HSP experience were modestly positive. Unlike research institutions where student opinions about the educational value of HSP participation fell well above scale midpoints (Britton 1979; King 1970; Waite and Bowman 1999), community college students in this study seem generally less enthusiastic about their HSP experience. Although they were not effusive, student opinions were not negative either. The majority of community college students thought that HSP participation was responsible for at least a small to moderate increase in their understanding and interest in social research and course material. Furthermore, students perceived HSP participation to be more conducive for some educational outcomes over others. Community college students believed HSP participation was most effective at increasing their understanding of how social research is conducted but least effective for exciting them to conduct their own research.

HSP EVALUATIONS BY CLASS TYPE AND COURSE DISCIPLINE

Next, we examined whether student opinions about the effectiveness of HSP participation differed by (1) class type or (2) course discipline. Table 3 seems to indicate that HSP participation was less effective for students in online classes in increasing interest in social research, conducting one’s own study, and understanding class material. It must be noted, however, that these basic statistical comparisons do not take into account the demographic and participation differences between the class types.

To remedy this problem, we reexamined the raw breakdown of attitudes in Table 3 to account for demographic and participatory differences. We ran ordinary least squares regression models with robust standard errors of the impact of being in (1) an online versus in-person class and (2) a sociology versus psychology class on student evaluations of the educational benefits of HSP participation while controlling for all the demographic characteristics and behavior differences listed in Tables 1 and 2.
We removed all cases missing any demographic or participatory information from analysis, which decreased our sample size by 107 respondents to N = 1,487. Student GPA accounted for the majority of missing cases (missing GPA = 104); all other controls were missing less than 20 cases. However, even when GPA was removed from analysis, all results remain robust if not strengthened, except in one already marginal statistically significant result indicated in the following.

Dummy-coded variables indicate whether a student was taking an online class or an in-person class (1 = online) and indicate the subject area of a student’s HSP course (reference category was psychology: sociology, one psychology and one sociology class, Research Methods, and Research Methods plus one other psychology or sociology course). Besides demographic traits, the models also control for participation behavior, which includes the number of (1) FTF studies, (2) online studies, and (3) talks and tours each participant took, and a dummy indicator for if a student participated for extra credit. All controls for HSP participation behavior are displayed in Table 4, but due to space constraints none of the demographic variables are shown or described in this article.²

Does Online Enrollment Negatively Impact HSP Effectiveness Perceptions?

Table 4 shows that once demographic and participation differences are controlled, there are no perceptual differences between in-person and online student evaluations of the educational effectiveness of HSP participation. Across all outcomes, perceptions of online students were not found to hold any statistically significant differences from those of in-person students. This suggests that online students feel as if they obtained just as much value from their HSP participation as in-person students.

Does Sociology Enrollment Negatively Impact Effectiveness Perceptions?

The models show that although HSP participation has a longer tradition in psychology courses and tends to involve methodology-like experiments that are not commonly used in sociology, students in sociology classes do not think they obtain less benefit from being a research participant than students in psychology. In fact, sociology students actually had marginally higher evaluations than psychology students (β = .10, p < .10) of the extent to which HSP participation increased their interest in social research, though this effect disappeared when GPA was removed from the model. Also, compared to those only taking psychology, students double-enrolled in both a psychology and a sociology course (β = .54, p < .05) were more likely to believe HSP participation increased their understanding of how research is conducted. These results indicate that sociology students perceive themselves as obtaining as much growth in familiarity and interest in social research from HSPs as psychology students.

Even more striking are the positive views of students taking Research Methods and Designs. Students learning research methods feel that they gain more educational benefit from HSP participation than psychology students across all outcomes except understanding the research process. These results remain even when the reference category is changed to sociology. Analyses indicate that methods students are more likely than psychology students to say that their HSP experience increased their general interest in research (β = .46, p < .01) and in conducting their own research (β = .69, p < .01). All students taking methods, whether alone (β = .36, p < .05) or in addition to another HSP class (β = .91, p < .01), indicate believing that being a subject increased their understanding of the Research Methods and Designs course. Students taking research methods plus another course also are more likely than psychology students to profess an increased ability to connect HSP course material to the real world (β = .35, p < .05).

Based on student perceptions, HSP participation seems to be as beneficial for sociology students as for psychology students. Moreover, HSP participation seems to be particularly beneficial in the eyes of Research Methods and Designs students in aiding their understanding of course material.

STUDY LIMITATIONS AND IMPLICATIONS

This study has several practical implications regarding the use of HSPs. First, given the lack of evaluative differences, results suggest HSP participation can engage sociology students with social research as much as psychology students despite the fact that most studies utilize experimental methods, which is less common in sociological research. Sociology students were even found to be marginally more likely than psychology students to state that study participation increased their interest in social research. Second, HSP participation might
be most effective as a course supplement by students in a research methods course. Although methods students may self-select because they are already interested in research, this does not erase the fact that they see a positive association between taking studies and understanding methods class and its connection to the outside world. Third, as long as there are online study options, HSP participation does not have to be limited to students in in-person classes but can also equally engage students online.

Despite this, results also indicate more research is needed to better understand the effects of HSP participation. The overall program evaluations by the community college students were only moderately positive. This highlights the fact that data in this analysis were not able to account for how different instructors utilize and incorporate HSP participation in their classes. Prior research has shown that when instructors create assignments that allow students to critically reflect upon their HSP experiences, they benefit more from study participation (Davis and Fernald 1975; Moyer and Franklin 2011; Richardson et al. 1992; Rosell et al. 2005; Sullivan and Lashley 2009). Merely adding HSP participation to coursework without critical reflection should feel more like a burden than a learning experience to students. If many instructors did this, then the moderately positive results are very understandable. More work is needed to understand how different ways of incorporating HSP experience into course curriculum can impact student perceptions of what they have learned.

This omission is particularly glaring when attempting to interpret the finding that students in in-person and online classes had similar evaluations of their HSP experience. Given the structural differences between how online and in-person classes are organized, as well as the fact that data indicate that in-person and online students comprise two very different demographic populations, it is not clear why this should be the case. While they may evaluate the program as equally effective educationally, online and in-person students may

| Table 4. Regression of student participation on outcome measures, N = 1,487. |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                 | Understand research | Interest in research | Personal research | Understand class | Connect class |
| Online classa  | .06              | −.08             | .01              | .11             | .07             |
|                 | (.07)            | (.09)            | (.09)            | (.08)           | (.08)           |
| Sociologyb     | −.02             | .10+             | .05              | .00             | .06             |
|                 | (.05)            | (.06)            | (.06)            | (.06)           | (.06)           |
| Methodsb       | .13              | .46***           | .69***           | .36*            | .10             |
|                 | (.14)            | (.13)            | (.15)            | (.16)           | (.13)           |
| Methods + 1b   | −.02             | .24              | .54              | .91***          | .35*            |
|                 | (.20)            | (.37)            | (.61)            | (.19)           | (.17)           |
| Psychology and sociologyb | .54*           | .36              | −.20             | .25             | −.02             |
|                 | (.27)            | (.29)            | (.30)            | (.27)           | (.26)           |
| Number face to face | .06*            | .04              | .09***           | .05+            | .02             |
|                 | (.03)            | (.03)            | (.03)            | (.03)           | (.03)           |
| Number online  | .04*             | .01              | .01              | .01             | .02             |
|                 | (.02)            | (.02)            | (.02)            | (.02)           | (.02)           |
| Number talks/tours | −.00            | .02              | .02              | .02             | .09**           |
|                 | (.04)            | (.04)            | (.04)            | (.04)           | (.04)           |
| Extra creditc  | .01              | .00              | .06              | −.01            | .01             |
|                 | (.08)            | (.08)            | (.09)            | (.09)           | (.08)           |
| F statistic     | 1.89*            | 3.54***          | 3.96***          | 5.14***         | 3.06***         |
| R²              | 2.7              | 4.2              | 5.3              | 4.3             | 1.9             |

Note: Demographic controls not shown due to space but available upon request.

aReference is in-person class.
bReference is psychology class.
cReference is mandatory credit class.

+p < .1. *p < .05. **p < .01. ***p < .001.
be responding to completely different stimuli. Students in online classes may think HSP participation is effective because it brings variety to reading lectures and posting forum comments, whereas students in in-person classes may be responding to actual classroom discussions about study experiences. Given that online and in-person students displayed different patterns of participation with regards to FTF studies, online studies, and talks and tours, much more work needs to be done to understand what parts of HSP participation are effective for online versus in-person students and how instructors of these different types of courses should frame and incorporate this type of experience into their classes.

This is especially true given that results suggest that the type of research activity students participate in differentially impacts what they feel they get out of their HSP experience. Our results indicate taking more FTF and online studies increased students’ perceptions that their HSP experience helped them understand the research process, but not the number of talks or tours. On the other hand, taking more talks and tours, but not FTF or online studies, increased student understanding of how class material relates to the real world. To ensure that students get the most out of their experience, it is important to understand how different educational outcomes are impacted by the type of studies students join. This knowledge can help instructors utilize HSPs better. For example, if instructors want to increase students’ ability to connect class material to the outside world, data suggest they should encourage students to attend research talks and tours.

In conclusion, this analysis highlights the rich potential for HSP participation as a pedagogical resource for sociology students at community colleges, even if they are taking an online class. Given the relative ease with which HSP participation can be incorporated into courses for instructors and students, we encourage more sociologists to consider using human subject pools as a resource in their courses, even if the activity does not take the traditional form of directly producing a research project.

ACKNOWLEDGMENTS

Thanks to all the REP students for their participation and support. Finally, thank you to the anonymous reviewers and TS editors for their extremely helpful suggestions.

NOTES

Reviewers for this manuscript were, in alphabetical order, Deborah Abowitz and Adelle Monteblanco.

1. The first author has been related to the human subject pool (HSP) as a course instructor, a researcher, and the program coordinator from 2006 to 2012. The second author has used the HSP in courses since spring 2008. To avoid conflict of interest, the data were collected (except for spring 2012) and analyzed after the first author left the employ of the HSP. Furthermore, the HSP does not offer any incentives to instructors using the program. Finally, none of the data had to be coded—all responses were already predetermined by the exit survey.

2. Full table and explanation of demographic effects are available upon request.

REFERENCES


**AUTHOR BIOGRAPHIES**

Lynn Gencianeo Chin is an assistant professor of sociology at Washington and Lee University. Her pedagogical interests include research methods, student engagement, and social psychology. Her research interests focus around interaction in small groups, status hierarchies, and organizational stereotypes.

Patricia Gibbs Stayte is a professor of sociology and Chair of the Sociology Department at Foothill College, Los Altos Hills, California. In 2013–2014, she received a Stanford Human Rights Education Initiative Fellowship. She has published popular press and scholarly articles on social issues. Her research interests lie in the race, class, and gendered dynamics of everyday life, popular culture, human rights, and Canadian-American relations.