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STUDENTS' PERCEPTIONS OF

COERCION IN RESEARCH

by

Azure L. Midzinski

A thesis submitted in partial fulfillment
of the requirements for the degree

of

EDUCATIONAL SPECIALIST

in

Psychology

Approved:

Melanie M. Domenech Rodríguez, Ph.D. Major Professor	Donna Gilbertson, Ph.D. Committee Member
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UTAH STATE UNIVERSITY
Logan, Utah

2010

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ABSTRACT

Students' Perceptions of

Coercion in Research

by

Azure L. Midzinski, Educational Specialist

Utah State University, 2010

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Department: Psychology

The purpose of this study was to examine how students perceive the most common methods of recruitment for research participation, and whether these recruitment strategies are perceived by the participants to be coercive. Ethical research guidelines prohibit the use of coercion in recruiting participants. Previous studies in this area have either focused on the perceptions of the researchers, or have approached the concept of coercion in a limited way. This study treated coercion as a multidimensional construct and examined student perceptions. Additionally, participant responses indicated which recruitment practices resulted in a decision to participate in the research. Findings indicate that some of the most common research recruitment methods are perceived by students to be coercive.

(71 pages)

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Azure L. Midzinski

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CHAPTER I

INTRODUCTION

Background

Historically, human rights violations have occurred under the guise of advancing science (National Institutes of Health, 2002; NIH). Measures have been taken to prevent gross maltreatment of humans in research; however, researchers face more subtle challenges at present. Researchers have to be particularly wary of ethical issues involving the coercion of populations to participate in research (American Psychological Association, 2002; APA). The majority of modern psychological research involving human participants is being conducted with college students (Sieber, 2000). This population can be considered vulnerable to coercion because often requests for research participation come from professors who directly or indirectly control students' grades. College students are not de facto coerced, but are at a particularly high risk for coercion. Specifically, methods used by researchers to recruit students to participate in research may not comply with the spirit of current regulations regarding noncoercive procedures in research and publication established by the APA ethics code and institutional review boards (Diamond & Reidpath, 1992).

Noncompliance may be due to benign neglect and compounded by the ambiguity in the statements of the APA ethics code. When common recruitment practices were surveyed from universities, the findings revealed a great variety of methods in use (Dalziel, 1996; Menges, 1973; Seiber, 2000; Sieber & Saks, 1989). This suggests diversity of interpretation and application of established ethical guidelines. Researchers

sought to examine recruitment practices for their adherence to ethical standards, but the conclusions that have been drawn from this work were based upon researchers' perceptions, and not those of the participants (Leak, 1981; Scott-Jones, 2000). Because coercion is defined in the literature by an individual's decision being "constrained by concerns about personal losses and gains that are independent of the value and quality of the research" (Scott-Jones, 2000, p. 29), it requires that "judgments of the coerciveness of various recruitment procedures are best viewed and evaluated from the perspective of our research participants" (Leak, 1981, p. 148). Curiously, research about students' perceptions of coercion in research participation is very limited. There are only a few known studies (Keith-Spiegel, Tabachnick, & Allen, 1993; Leak, 1981; Miller & Kreiner, 2008) specifically investigating what students perceive to be excessive or inappropriate inducements for research participation.

Purpose and Objectives

The purpose of this research was to examine perceptions of coercion among college students by specifically assessing their perceptions of various inducements for research participation in university-based research. This research investigated how students perceive different research recruitment methods and their perceptions of the fairness and acceptability of research recruitment practices common in leading universities. Findings will help researchers better understand what constitutes ethical and coercive practices in recruitment of college samples. The findings may have implications for recruitment practices as well as institutional review board (IRB) regulations and ethics code mandates. The following questions will be addressed:

1. Are there differences in how students perceive common participant recruitment methods (required participation, incentivized participation, voluntary participation) across the dimensions of coercion?

2. What is the relationship between the dimensions of coercion across the common participant recruitment methods?

3. How does the method of recruitment affect participants' willingness to participate in research?

CHAPTER II

REVIEW OF LITERATURE

Ethical mandates and IRB regulations share the stated obligation on the part of researchers to protect the welfare of human participants in their research. History is replete with examples of atrocities that have been perpetrated against human beings in the name of science and research. The NIH (2002) cited several events that shaped the current system of guidelines for protection of human participants. Their report included the harmful experiments conducted on unwilling human participants who were prisoners of concentration camps during World War II. This event has come to be known as the Nazi Medical War Crimes (1939-1945). Another significant demonstration of maltreatment of human subjects was the Tuskegee Syphilis Study (1932-1972), in which treatment was withheld from African American men infected with syphilis, with the scientific intent of continuing to study the natural progression of the disease after a successful treatment had been found. Later, in the Willowbrook Study (1963-1966), developmentally delayed children at the Willowbrook State School in New York City were deliberately injected with the hepatitis virus so researchers could monitor the effectiveness of gamma globulin in treating the disease.

The Nazi War Crimes Tribunal, the Tuskegee Syphilis Study, and the Willowbrook Study are significant events that inspired an international movement that led to the formulation of ethics codes for the protection of human subjects in research. Medical doctors established the Nuremberg Code, a document written to provide ethical guidelines for research on human participants, as a result of the Nazi War Crimes

Tribunal. A later document, the Declaration of Helsinki, refined these guidelines. They are important to the present study because the international community's response to these crimes against humanity led to the development of the Belmont Report. Modern-day IRBs were put in place after this important report was published with the purpose of regulating and promoting ethical research practice. The codes for research ethics that we use today are an evolution of these Ethical Principles and Guidelines for the Protection of Human Subjects of Research (commonly called the "Belmont Report"), issued by the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (1979).

The Belmont Report outlines three fundamental principles that guide the ethical conduct of research involving human participants: (a) respect for persons (autonomy), (b) beneficence, and (c) justice. The use of coercion to secure research participants violates the first fundamental principle that guides the ethical conduct of research involving human participants: respect for persons and their autonomy. According to this principle,

> an autonomous person is an individual capable of deliberation about personal goals and of acting under such deliberation. To respect autonomy is to give weight to the autonomous person's considered opinions and choices while refraining from obstructing his or her actions. (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979, Part B, ¶ 3)

Respecting autonomy means that prospective research participants must be given sufficient information to determine whether or not to participate in a study. Potential participants must be free to decide whether a particular study has merit and whether their involvement in the study is appropriate. There should be no pressure to participate and sufficient time to make their decision. Respect for persons demands that participants

enter into the research voluntarily and with adequate information (i.e., informed consent). Finally, decisions to participate in research must not be unduly constrained by concerns about personal losses and gains that are independent of the value and quality of the research.

Beneficence is clearly defined by the Belmont Report: “Two general rules have been formulated as complementary expressions of beneficent actions in this sense: 1) do not harm and 2) maximize possible benefits and minimize possible harms” (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979, Part B, ¶ 7). This definition obligates the researcher to take an active role in securing the well-being of research participants.

Justice, as defined by the Belmont Report, involves the equitable treatment of all people in several ways:

> These formulations are 1) to each person an equal share, 2) to each person according to individual need, 3) to each person according to individual effort, 4) to each person according to societal contribution, and 5) to each person according to merit. (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979, Part B, ¶ 11)

The report goes on to suggest that in cases where “some classes...are being systematically selected simply because of their easy availability, their compromised position, or their manipulability” (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979, Part B, ¶ 13), the requirements of justice have not been met.

Today, violation of ethical principles through inappropriate coercive conduct with research participants may not be so obvious or as severe as in the past. The more subtle

presence of coercion may be observable among the student populations at universities across the country. Currently, the majority of research involving humans is being conducted using college student participant pools (Sieber, 2000). A survey of the 76 most-cited universities found that 70 (92%) used some form of introductory psychology participant pool (Miller, 1981), and another study of 366 psychology departments (Sieber & Saks, 1989) yielded a similar percentage (93%). A study of Australian universities (Diamond & Reidpath, 1992) found that 68% of psychology departments recruited their participants from introductory courses. The reason for such frequent use of college students in research may simply be convenience. Using student participant pools allows researchers to gather large amounts of data quickly and easily. It is easier, faster, and less expensive than recruiting comparable numbers of participants from the general public.

To secure participation from students, researchers often employ recruitment strategies that have the potential to place students at risk for coercion. In order to address this potential problem, the APA (2002) explicitly addressed in their Ethical Principles of Psychologists and Code of Conduct (ethics code) the prevention of coercion in research and publication. Specifically, section 8.04(b) of the APA ethics code states, “When research participation is a course requirement or an opportunity for extra credit, the prospective participant is given the choice of equitable alternative activities” (p. 11). Additionally, section 8.06(a) states, “Psychologists make reasonable efforts to avoid offering excessive or inappropriate financial or other inducements for research participation when such inducements are likely to coerce participation” (p. 11). The APA ethics code closely follows the federal guidelines from the Office for Human Research

Protections (OHRP). The federal regulations, often referred to as the “common rule” call for similar protections of human subjects, including minimizing the possibility of coercion, which is delineated as occurring “when an overt or implicit threat of harm is intentionally presented by one person to another in order to obtain compliance” (OHRP, 2009). As with the APA code, the definition of coercion is somewhat vague, as the concept of “harm” can be interpreted and perceived in many ways.

There also remains much ambiguity regarding the terms “equitable alternative activities” and “excessive or inappropriate inducements.” A survey of the literature reviews on recruitment practices utilized at universities shows great diversity in the interpretation and application of these terms (Dalziel, 1996; Menges, 1973; Sieber, 2000; Sieber & Saks, 1989). When the recruitment strategies reported in these reviews are compiled, a wide variety of recruitment methods emerges. From these reviews, scenarios can be generated based on common qualities and trends. Documented inducements for student participation in research range from punitive (e.g., lowering grade for nonparticipation) to rewarding (e.g., earning extra credit for participation). Observable categories in recruitment strategies allow these varied practices to be organized more systematically. Common methods can be grouped into four major categories: (a) required participation without options to fulfill that requirement (i.e., penalties for nonparticipation), (b) required participation with other option to fulfill that requirement, (c) offering incentives/inducements for participation (rather than penalties for nonparticipation), and (d) strictly voluntary basis (i.e., no punishment or reward).

Recruitment activities that fall under the first method—required participation

without options—do not appear to comply with APA ethical code. Recruitment activities that fall in the second and third groups attempt to comply with the APA ethics code by offering some form of alternative activities or incentives. Whether these choices are truly "equitable" or "excessive or inappropriate" is questionable. The fourth category does not seem to violate the APA ethics code by not offering any type of inducements or making research participation any type of course requirement. However, some might argue that the mere act of a current professor asking a student to participate in research could constitute emotional coercion (e.g., student may be overly eager to please a current professor). The variety of recruitment strategies, and their differential compliance with APA and IRB ethical codes, has caused concern among ethicists and researchers who have sought to gather information on recruitment practices across universities to determine whether these methods comply with ethical standards (Dalziel, 1996; Menges, 1973; Sieber, 2000; Sieber & Saks, 1989).

However, there is some discussion over whether IRBs are evaluating research proposals against ethics criteria that are "beyond their scope" (Mueller, 2007). The issues in this discussion center on a perceived expansion of what should be considered in an ethical review. For example, Mueller states that IRBs no longer seek to evaluate whether research activities would put the public at "greater than everyday risk," but whether the research poses "minimal" or "zero risk" (Mueller, 2007). Some argue that the quality of research may suffer if it is overregulated and influenced by institutional concerns over such factors as liability. Others insist that regulations are necessary to prevent abuses like those that led to the development of ethics codes and IRBs in the first place. In either

case, it is necessary to understand what participants perceive when they engage in research.

Coercion exists if individuals do not *feel* they can refuse to participate in research, if refusal causes a *perceived* substantial loss to the individual, or if individuals *believe* that participation is not truly voluntary (Scott-Jones, 2000). Thus, coercion should be defined according to the perception of the participant (Leak, 1981). However, only a few known studies have focused on students' perceptions of common recruitment practices (Keith-Spiegel et al., 1993; Leak, 1981; Miller & Kreiner, 2008), and those studies that have been done are dated. There is a dearth of research in this area that needs to be addressed.

Leak (1981) found that student participants' perceptions were well divided concerning the coercive nature of awarding extra credit for research participation: 47% said that this recruitment procedure was coercive, 39% indicated it was not coercive, and 14% remained neutral (see Table 1). Interestingly, respondents did not object to the coercion inherent in receiving extra credit for participation. This information suggests an interesting paradox with regards to coercion with this population that needs further examination. Although a procedure may be perceived as coercive, it does not necessarily follow that the participants object to the procedure. For example, they may prefer "coercive" extra credit to none at all, perhaps preserving the perception of beneficence, but potentially at the cost of autonomy. These findings have implications for how to define coercion and what policies to implement to prevent it from occurring. It is possible that the construct of coercion needs to be separated into two areas: perception of freedom

Table 1

Percentages of Agreement on Coercion Items from Two Studies

Item	Yes	Neutral	No
Do you object to being recruited in class for participation? [a]	1%	3%	96%
Did you feel coerced or forced into participating? [a]	2%	1%	97%
Is the giving of extra credit for participating coercive to you? [a]	47%	14%	39%
Do you object to being given extra credit for participation? [a]	3%	1%	96%
Is a professor encouraging students to volunteer to participate in their research projects as subjects unethical?[b]	34.8%	1.7%	63.5%
Is having a student be research a participant as part of a course requirement (with no alternative) unethical? [b]	71.4%	1.5%	27.2%

[a]Items from study by Leak (1981).
[b]Items from study by Keith-Spiegel et al. (1993).

of choice and perception of acceptability of choices. The Leak (1981) study only evaluated one method of recruitment: extra credit with no penalty for not participating. Students who completed the questionnaire did so voluntarily, receiving neither penalty nor reward for participation, and no alternatives were offered. The present project sought to expand Leak's research by examining students' perceptions of many of the most common methods (gathered from the literature) used in recruiting students for research participation and their level of acceptability.

Acceptability has been studied separately from the notion of coercion. In 1993

Keith-Spiegel et al. published research findings on the acceptability of (a) professors encouraging students to volunteer to participate in their research projects and (b) having students as research participants as part of a course requirement with no alternative way of satisfying the class requirement (see Table 1). This inquiry was part of a broader study about students' views of professors' actions. The authors found that while the majority (63.5%) of students did not believe that a professor encouraging students to volunteer to participate in their research project as subjects was unethical, a substantial number of students (34.8%) believed it was unethical. In contrast, 71.4% believed that having students be research participants as part of a course requirement with no alternative was unethical, but 27.2% believed it was not.

Another study on student perception of coercion (Miller & Kreiner, 2008) examined three common recruitment practices of course requirement or credit, extra credit, and monetary compensation. Their results confirmed Leak's (1981) findings. Forty-five percent of the participants in Miller and Kreiner's study reported that extra credit was coercive to them, but the majority of participants (98%) did not object to the recruitment practice. Fewer participants (27%) reported course credit as being a coercive recruitment practice. Interestingly, when asked whether these recruitment practices would be coercive to others, a significantly higher number of participants indicated that it would be. Miller and Kreiner (2008) attribute this to optimistic bias, or the judging of one's own risk as being less than that of others.

While Miller and Kreiner (2008) did examine student perceptions, and include three common recruitment practices, their study had several limitations. First, the sample

size was relatively small (*N* = 60), limiting the generalizability of their findings. Second, common recruitment practices are more complex than the three categories Miller and Kreiner (2008) considered. For example, the course requirement recruitment method can be split into a course requirement with an alternative option for credit, and a requirement without an alternative. Likewise, the items on Miller's and Kreiner's questionnaire did not consider the degrees of coerciveness possible within each method (e.g., offering a small monetary compensation vs. a large monetary compensation), nor did they define coercion for their participants. Coercion among student participants might be better understood if future research utilized the definition of coercion in the instruments used.

There are no additional known studies that specifically examine coercion in research recruiting practices from the perspective of students. There are, however, studies that offer related descriptive information that can help contribute to the understanding of coercion. For example, Diamond and Reidpath's (1992) survey of Australian schools found that 57% of research participation in student participant pools is strictly voluntary, but that 43% failed to comply with acceptable ethical standards on coercion because "some form of coercive pressure was put on students to increase their likelihood of participating as research subjects" (p. 107), and participation is therefore not genuinely voluntary. Diamond and Reidpath suggested that for research to be ethical, it must be voluntary, and concludes that although institutional ethics committees have a duty to protect all research participants, the final responsibility for conducting research in an ethical manner lies with the individual researcher's judgment.

To comply with ethical mandates, alternatives to research participation should be

no more difficult or time-consuming than research participation and should be equal in the effort required and in educational value if these activities affect students' grades (Seiber & Saks, 1989). However, the decision as to what constitutes an equitable alternative to participation ultimately falls on the researcher and the IRB at the institution where the research will take place, and there are no federal guidelines or criteria to make this determination (T. Rubal, personal communication, January 21, 2003).

In a survey on common recruitment procedures (Miller, 1981) used by the 100 most-cited universities, 43 of the 70 (61.4%) universities that responded required participation in research. Miller also found that 27.2% (n = 19) of universities in the sample gave extra credit for research participation, but approximately half of these (n = 9) did so without offering an alternative option for earning the extra credit. Miller (1981) points out that this may be inconsistent with APA ethical guidelines. At least one scholar has argued that the preoccupation with coercion of college students resulting from including research participation as part of the curriculum is misguided or perhaps exaggerated (Dalziel, 1996). Dalziel argues that requiring research participation is comparable to other equally coercive course expectations such as attendance, essays, and exams.

Overall, the protection of human subjects in research has become a priority in recent decades. Various organizations have developed codes and regulations to help guide researchers in this pursuit. A large amount of human research is conducted using student subject pools and, therefore, ethicists and researchers have shown concern for the potential risk for coercion among this population. However, the ethics codes that address

this issue remain diversely interpreted in research practices. This is partly due to the manner in which ethics codes are written to be broadly applied, which allows for adaptability and flexibility, but may also increase risks for coercion and other ethical violations if the intent of the codes is not clearly understood. Previous studies relating to this issue have been centered on common recruitment practices and researchers' perceptions of their adherence to ethics codes for coercion. However, fundamental to the definition of coercion is the perception of the participant. The few studies that have specifically examined students' perceptions of coercion have remained limited in the scope and depth of their inquiry.

CHAPTER III

METHODS

Participants

Participants in this research were 274 students enrolled in entry-level psychology courses at Utah State University at the time of data collection. The data was collected in the fall of 2003 as part of an Undergraduate Research and Creative Opportunities (URCO) grant awarded to Azure Midzinski. Respondents ranged from 18 to 44 years of age (M = 19.8, SD = 3.5) and were primarily female (59%). Of those that reported their ethnicity, over 92% were White American. The majority of respondents were first-year students (65.9%), with some substantial numbers of second-year (16.5%) and third-year students (12.3%). There were 44 majors represented in the sample, with prepsychology majors representing the largest number of declared majors (n = 30, 11%), closely followed by nursing (n = 22, 8.1%), and business/finance (n = 20, 7.3%). There were also a large number of students with undeclared majors (n = 55, 20.1%). For full demographics, see Table 2.

Measures

This research used two sections of a six-section survey created for this specific study (Appendix A). A team of three researchers that included the present author (Azure Midzinski), a faculty advisor (Melanie Domenech Rodríguez), and a psychology doctoral student (Penny Sneddon) was formed. The team developed the study survey. The first section used was a short questionnaire asking about demographic characteristics of

Table 2

Demographics

Demographic		*N*	Percent	Mean (*SD*)
Age		269		19.88 (3.32)
Cumulative GPA		184		3.44 (0.44)
Major GPA		51		3.46 (0.51)
Gender	Female	160	58.6	
	Male	112	41	
Ethnicity	White/Caucasian	241	88.3	
	Latino/Hispanic	5	1.8	
	Asian/Pacific Islander	10	3.7	
	African American	2	0.7	
	Asian Indian	1	0.4	
	American Indian	1	0.4	
	Mixed/other	1	0.4	
Year in college	First year	182	66.7	
	Second year	44	16.1	
	Third year	33	12.1	
	Fourth year	5	1.8	
	Fifth + years	5	1.8	

participants.

The next section used was composed of 21 recruitment scenarios drawn from the common elements of all the recruitment methods documented in the literature. The 21 scenarios represented both specific recruitment practices and an interpretation by this study's investigators of trends in recruitment practices. Each of the 21 scenarios represented one of the common methods of recruitment for research participation among universities (see Table 3). The scenarios were developed by researchers who divided areas in need of scenarios and wrote items independently, and then revised items collaboratively. The completed questionnaire was then piloted for readability by peers. The feedback received indicated that the measure's directions and content were clear and understandable.

To validate this conceptualization and the construction of the measure, a survey was created to be completed by experts in the areas of ethics and practices in psychological research (Appendix B). For this survey, respondents were asked to read each of the 21 scenarios, randomly sorted, and indicated the category of recruitment practice in which it fell (voluntary, required, or incentivized). Respondents were selected for their expertise in ethics, and were recruited through the professional networks of Dr. Domenech Rodríguez. The four experts had an average of 21 years of postgraduate experience in their field, and all worked in the field of psychology. Of the four experts, one had both used research participants and served on an IRB, another had served on an IRB, and a third had used research participants but did not have IRB experience. Their responses to the survey supported the construction of the measure for the student

Table 3

Scenarios of Common Methods of Recruitment

Participation with incentive	
1:	3-5% extra credit with one-page reaction paper
2:	Receive the higher of borderline final grade with one-page reaction paper
3:	Receive 1-2 free consultations for medical or mental health services
4:	Receive $5 gift certificate
5:	Receive $15 gift certificate
6:	Receive $5 cash
7:	Receive $15 cash
Required with alternative	
8:	Required one-page reaction paper with alternative of 3-page essay on journal article
9:	Required one-page reaction paper with alternative of taking an extra quiz
10:	Required one-page reaction paper with alternative of 1-page summary of journal article
11:	Required one-page reaction paper with alternative of 1-page reaction paper on class topic
12:	Required one-page reaction paper with alternative of written outline of chapter from class text
13:	Required one-page reaction paper with alternative of attending a campus lecture outside of class with one-page reaction paper.
14:	Required one-page reaction paper with alternative of viewing a psychology movie and one-page reaction paper
Required without alternative	
15:	Required as 5% of grade - studies are announced as they become available
16:	Required as 5% of grade - studies are outlined on syllabus at beginning of semester
Voluntary	
17:	Research announced in class by instructor without penalty or reward for participation
18:	Research announced in class and instructor encourages participation without penalty or reward
19:	One of many options for fulfilling a course requirement
20:	Instructor uses class time for research participation without penalty or reward, but all students must remain in class during research time
21:	Instructor uses class time for research participation without penalty or reward, but the instructor and students not participating leave during research time

participants in this study. With the exception of two scenarios, there was 100% agreement between all raters on the category of recruitment practice in which each scenario fell, and their categorization matched the categorization of the student participant measure.

Of the two scenarios on which the expert respondents disagreed, one had 75% agreement. This scenario was written as follows: You are enrolled in a psychology course and your professor announces in class that a colleague will be coming in to class to administer a survey as part of a broader research effort. The survey will take 15 minutes, and participation is voluntary. Your professor remains in the room and asks that everyone else stay in the room as well, whether they chose to participate or not, so that lecture can start immediately after the survey is administered. You receive no penalty or reward for your participation in this research. Three of the expert respondents felt that this method of recruitment fell under the voluntary category, but one of the respondents categorized it as "required," and indicated in a separate communication:

> There can be subtle forms of coercion present such as a professor staying in the room. Students may think that the professor might hold it against them if they don't complete the survey and feel pressure to participate. One could question if that is really voluntary participation or if a subtle form of coercion is taking place.

This is a valid concern. The respondent's statement illustrates the complex and subtle nature of coercion, and the need to better understand how the students perceive this method of recruitment.

On the remaining item for which the excerpt respondents disagreed, there was only 50% agreement. That scenario was written as follows: Your psychology class requires that you participate in psychology-related activities outside of the classroom.

The activities include filling out journals (e.g., a dream journal), participating in research, attending campus lectures, and reading recommended articles. There are enough items in each activity category that a student may choose to participate only in one set of activities (e.g., attending campus lectures) and fulfill class requirements. This scenario was categorized as “voluntary” on the student participant measure, but only one of the experts agreed with that conceptualization. Two of the respondents indicated that it was “required” and one indicated that it was “incentivized.” This scenario was intended to represent the recruitment practice where potential participants are given a research opportunity as one of many choices for completing course requirements. It was thought that in having many choices, the selection of the research opportunity would be seen as voluntary. But it may be that because a selection is required, and the research opportunity is one of the choices, then the research opportunity is, by extension, required as well. Again, the varied responses by the experts to this scenario demonstrate the need for a better understanding of student perceptions.

On the student participant measure, each of the 21 scenarios was followed by four statements and two questions (see Table 4). The statements were intended to uncover perceptions of coercion, while the questions were about what course of action participants would choose to take (i.e., stay matriculated, participate in research). For the statements, participants indicated whether they *strongly agreed* (1) or *strongly disagreed* (4) with the statements. For the questions, participants indicated whether they would choose to participate in the research given the conditions of each scenario. The next section asked participants to rank different scenarios in order of acceptability.

Table 4

Statements and Questions Following Each Scenario

	Item
Statements	I would feel free to choose to participate (or not) in the research.
	I think this is a fair arrangement.
	I would feel forced to participate in the research.
	These conditions for research participation are acceptable.
Questions	Given the scenario, would you continue enrolled in this class?
	Given the scenario, would you participate in the research?

Participants first ranked scenarios within their respective groups (e.g., participation with incentives), and then the most and least acceptable of these were each ranked across different groups of recruitment methods. The final section asked participants to answer some questions about their own definition of the concept of coercion. The questions for this study purposely avoided the use of the term “coercion” because it was not clear whether or not students would understand its meaning. Instead a series of questions that tapped the dimensions of coercion were asked (i.e., freedom of choice, fairness, and acceptability).

Cronbach’s alpha coefficients were then calculated to determine reliabilities for each statement within the three methods of recruitment on the item mean responses (Table 5).

Alpha coefficients for the “required” subscale indicated satisfactory reliability for

Table 5

Alpha Reliabilities for Methods of Recruitment

	Method of recruitment		
	Incentive	Required	Voluntary
Free to choose	α = .76	α = .89	α = .61
Fair	α = .77	α = .90	α = .72
Forced	α = .81	α = .89	α = .62
Acceptable	α = .75	α = .90	α = .74

the manner in which participants rated each scenario on the four statements, ranging from 0.89 to 0.90. For the “incentive” scale, alphas were acceptable for all dimension scales except perceptions of fairness. In the reliability analyses, the output showed an alpha of 0.64; however, removing the items for scenario #2 would move the alpha to 0.76. A careful analysis of the reliability output for the three other scales showed a similar pattern for improved alphas when the item for scenario #2 was removed. Thus, scenario #2 was removed from the “incentive” scale. The final incentive scales were comprised of six items each. For the “voluntary” scale, alpha coefficients were low, indicating low reliability. This may suggest that the concept of “voluntary” is understood differently by instructors and students, as reflected in the differing expert opinions on one of the “voluntary” scenarios.

Procedures

The working definition of coercion for this project is the one set forth by Scott-

Jones (2000) and is the same one used by the Utah State University institutional review board (T. Rubal, personal communication, January 20, 2003). The definition is “the act of inducing or pressuring an individual to consent to participate in research or to stay in research.” Beginning in the spring of 2003, electronic searches of the research literature were conducted and the resulting articles were reviewed for content relating to coercion among student subject pools, including conceptualizations of coercion and common recruitment practices. The primary investigator and her research mentor (Dr. Domenech Rodríguez) then utilized this information to develop a questionnaire. The resulting survey was 11 pages in length (see Appendix A). IRB approval for the project was obtained in April 2003.

In the summer of 2003, instructors of introductory psychology courses at Utah State University were contacted to recruit students from their fall courses for this study. The sample was obtained from two classes. There were no inclusion or exclusion criteria for participants, and no participants were excluded for partial participation. No offer or attempt was made to disseminate data to participants following the conclusion of the study. Informed consent was obtained verbally to insure confidentiality and promote honest responses to the questionnaire.

In the first course (Group 1, n = 76), the method of recruitment required participation with other options to fulfill this requirement. Students were required to earn “lab credits” from several choices of activities outside of class, and this survey was one of the options available to them. Because of this course requirement, if a participant withdrew from the study after partial participation, they received no credit for that lab

option. No participants exercised their option to withdraw. Their instructor was not present during the data collection sessions. Participants signed a roll to verify their participation for their instructor, but these signatures were not associated in any way with the participants' individual questionnaires. The data from the students in this class was collected from multiple sessions across a period of several weeks.

In the second course (Group 2, n = 198), the method of recruitment was strictly voluntary; students were not penalized or rewarded for their participation. The instructor used a portion of a class period to administer the survey to the students in attendance that day, and students who declined to participate had the option to leave without penalty. The instructor remained in the classroom, and the data from this class was collected in a single session.

T tests were conducted comparing the two recruitment groups on all demographic variables to determine whether they could be treated as a single homogenous sample in subsequent analysis. The two groups were compared on their age, sex, ethnicity, cumulative grade point average (GPA), and Major GPA. The only variable in which the two groups differed was cumulative GPA. The GPA for Group 1 (M = 3.57, SD = .38) was higher than the GPA for Group 2 (M = 3.39, SD = .38) to a statistically significant degree $t(182) = 2.62$, $p = .009$. There were no other significant differences between the two groups, and it is not thought that the difference in GPA constitutes a violation of the homogeneity of the sample for the purposes of this study. For all subsequent analyses, the two groups were treated as a single sample (N = 274).

CHAPTER IV

RESULTS

Research Question One

Research question one is, how do students perceive the common methods of recruitment to research participation?

For each method of recruitment (incentive, required, and voluntary), mean scores were calculated from the participants' responses to each of the four statements following each scenario (Tables 6-8). Participants indicated whether they felt "free to choose," whether it was a "fair" arrangement, whether they felt "forced to participate," and

Table 6

Mean Responses for Incentive Recruitment Scenarios

Scenario	Free to choose M(*SD*)	Fair arrangement M(*SD*)	Forced to participate M(*SD*)	Acceptable M(*SD*)
1	1.20 (0.48)	1.18 (0.46)	3.27 (0.85)	1.26 (0.49)
2	1.46 (0.72)	1.66 (0.85)	2.66 (1.09)	1.65 (0.81)
3	1.28 (0.57)	1.37 (0.60)	3.52 (0.71)	1.44 (0.65)
4	1.09 (0.33)	1.24 (0.53)	3.72 (0.57)	1.28 (0.56)
5	1.07 (0.29)	1.18 (0.48)	3.70 (0.60)	1.17 (0.42)
6	1.10 (0.35)	1.31 (0.60)	3.67 (0.68)	1.34 (0.62)
7	1.07 (0.30)	1.18 (0.47)	3.67 (0.66)	1.24 (0.55)
Overall mean	1.13 (0.27)	1.25 (0.38)	3.59 (0.51)	1.29 (0.38)

Note. 1 = *strong agreement*; 4 = *strong disagreement.*

Table 7

Mean Responses for Required Recruitment Scenarios

Scenario	Free to choose M(*SD*)	Fair arrangement M(*SD*)	Forced to participate M(*SD*)	Acceptable M(*SD*)
8	2.06 (1.05)	2.17 (0.89)	2.09 (1.01)	2.12 (0.86)
9	1.91 (0.95)	2.12 (0.89)	2.39 (0.99)	2.07 (0.86)
10	1.69 (0.90)	1.73 (0.82)	2.76 (0.97)	1.74 (0.79)
11	1.56 (0.80)	1.68 (0.82)	2.99 (0.94)	1.67 (0.78)
12	1.67 (0.90)	1.92 (0.88)	2.79 (1.02)	1.82 (0.82)
13	1.64 (0.85)	1.79 (0.86)	2.83 (1.00)	1.75 (0.82)
14	1.41 (0.72)	1.63 (0.76)	3.14 (0.86)	1.58 (0.72)
15	2.73 (1.23)	2.34 (0.95)	1.68 (0.93)	2.30 (0.94)
16	2.37 (1.16)	1.98 (0.84)	1.94 (1.03)	1.95 (0.83)
Overall mean	1.89 (0.70)	1.92 (0.63)	2.51 (0.71)	1.89 (0.61)

Note. 1 = *strong agreement*; 4 = *strong disagreement.*

whether the conditions of the research were “acceptable,” where a 1 indicated *strong agreement* and 4 indicated *strong disagreement*.

The mean responses indicated that participants reported less freedom of choice, fairness, and acceptability for those scenarios where participation was required when compared to scenarios involving incentive or voluntarism, while they felt more forced in the scenarios involving required participation.

A repeated measures analysis of variance (ANOVA) was conducted to determine whether the category of recruitment method had any effect upon participants’ mean

Table 8

Mean Responses for Voluntary Recruitment Scenarios

Scenario	Free to choose M(*SD*)	Fair arrangement M(*SD*)	Forced to participate M(*SD*)	Acceptable M(*SD*)
17	1.17 (0.59)	1.58 (0.81)	3.84 (0.53)	1.53 (0.78)
18	1.32 (0.64)	1.62 (0.78)	3.32 (0.88)	1.68 (0.84)
19	1.64 (0.90)	1.66 (0.79)	2.75 (1.10)	1.67 (0.76)
20	1.62 (0.85)	1.88 (0.91)	2.71 (1.10)	1.94 (0.88)
21	1.21 (0.50)	1.43(0.65)	3.48 (0.74)	1.50 (0.72)
Overall mean	1.39 (0.44)	1.63 (0.54)	3.22 (0.56)	1.66 (0.56)

Note. 1 = *strong agreement*; 4 = *strong disagreement.*

responses to their agreement with the scenario statements on the dimensions of coercion. For the coercion factor of “free to choose,” the results were significant $F(2,544) = 202.74$, $p < .001$, with mean responses of 1.89 ($SD = .70$) for required participation, 1.38 ($SD = .44$) for voluntary participation, and 1.13 ($SD = .27$) for incentivized participation. For the coercion factor of “fairness,” the results were significant $F(2,540) = 156.79$, $p < .001$, with mean responses of 1.92 ($SD = .63$) for required participation, 1.63 ($SD =.54$) for voluntary participation, and 1.25 ($SD =.38$) for incentivized participation. For the coercion factor of “forced to participate,” the results were significant $F(2,540) = 338.85$, $p < .001$, with mean responses of 2.51 ($SD = .71$) for required participation, 3.22 ($SD = .56$) for voluntary participation, and 3.59 ($SD = .51$) for incentivized participation. For the coercion factor of “acceptable arrangement,” the

results were significant $F(2,540) = 134.02$, $p < .001$, with mean responses of 1.89 (*SD* = .61) for required participation, 1.66 (*SD* = .56) for voluntary participation, and 1.29 (*SD* = .38) for incentivized participation. Results were significant ($p < .05$) for all pairwise comparisons.

Research Question Two

Research question two is, how are students' perceptions of freedom to choose, fairness, and acceptability of various methods of recruitment related to each other?

Correlation coefficients were calculated within the methods of recruitment and for coercion dimensions across methods of recruitment (Table 9). Many correlations were significant both within the method of recruitment, and within the dimensions of coercion across recruitment methods. The "required" category of recruitment method was highly interrelated, with correlations ranging from -0.61 to 0.89 within the category. For the "voluntary" category of coercion correlations ranged from -0.52 to 0.85 within the category. For the "incentive" category of coercion, correlations ranged from -0.37 to 0.72 within the category. Correlations further demonstrate that the "incentive" and "required" categories are not highly related, with correlations ranging from 0.01 to 0.27 across coercion dimensions; the categories of "incentive" and "voluntary" are related, with correlations ranging from -0.29 to 0.55 across coercion dimensions; and there is a moderate relationship between "voluntary and "required," with correlations ranging from -0.62 to 0.36 across coercion dimensions.

Table 9

Correlations Between Methods of Recruitment

	Required				Voluntary				Incentive			
	Choose	Fair	Forced	Acceptable	Choose	Fair	Forced	Acceptable	Choose	Fair	Forced	Acceptable
Required												
Choose		0.74**	-0.71**	0.68**	0.27**	0.13*	-0.15*	0.15*	0.07	0.05	-0.02	0.09
Fair			-0.61**	0.89**	0.34**	0.29**	-0.31**	0.34**	0.15*	0.27**	-0.12	0.27**
Forced				-0.62**	-0.14*	-0.12*	0.34**	-0.62**	0.01	-0.003	0.25**	-0.10
Acceptable					0.28**	0.29**	0.28**	0.36**	0.12*	0.18**	-0.11	0.26**
Voluntary												
Choose						0.63**	-0.57**	0.58**	0.55**	0.39**	-0.24**	0.37**
Fair							-0.52**	0.85**	0.44**	0.38**	-0.23**	0.35**
Forced								-0.49**	-0.24**	-0.30**	0.45**	-0.29**
Acceptable									0.40**	0.38**	0.20**	0.41**
Incentive												
Choose										0.58**	-0.37**	0.49**
Fair											-0.37**	0.72**
Forced												-0.44**
Acceptable												

* $p < .05$; ** $p < .01$.

Research Question Three

Research question three is, how do students' perceptions of freedom of choice, fairness, and acceptability predict students' decisions to participate or not participate in the research?

The question of how student perceptions of the dimensions of coercion predicts their willingness to participate in the research can best be answered by examining the frequencies of their responses to the question of whether they would choose to participate given the conditions of each scenario. These frequencies are summarized in Tables 10-12.

A survey of these data shows that the highest number of "yes" responses to

Table 10

Frequencies of Responses on Choosing to Participate in Research: Incentivized Participation

	Participation %		
Scenario	Yes	No	Maybe
1: 3-5% extra credit with one-page reaction paper	84.6	1.5	13.2
2: Receive the higher of borderline final grade with one-page reaction paper	82.4	0.7	15.8
3: Receive 1-2 free consultations for medical or mental health services	46.9	15.4	37.4
4: Receive $5 gift certificate	62.3	6.6	30.4
5: Receive $15 gift certificate	82.8	1.8	15.4
6: Receive $5 cash	57.1	6.6	35.9
7: Receive $15 cash	81.3	1.8	16.8

Table 11

Frequencies of Responses on Choosing to Participate in Research: Required Participation

	Participation %		
Scenario	Yes	No	Maybe
8: Required one-page reaction paper with alternative of 3-page essay on journal article	68.5	5.1	25.3
9: Required one-page reaction paper with alternative of taking an extra quiz	64.8	8.1	25.3
10: Required one-page reaction paper with alternative of 1-page summary of journal article	64.8	6.6	26.0
11: Required one-page reaction paper with alternative of 1-page reaction paper on class topic	61.2	10.3	27.5
12: Required one-page reaction paper with alternative of written outline of chapter from class text	65.2	9.2	23.4
13: Required one-page reaction paper with alternative of attending a campus lecture outside of class with one-page reaction paper.	67.8	7.0	23.4
14: Required one-page reaction paper with alternative of viewing a psychology movie and one-page reaction paper	60.1	15.0	23.4
15: Required as 5% of grade - studies are announced as they become available	75.1	5.5	19.4
16: Required as 5% of grade - studies are outlined on syllabus at beginning of semester	78.0	4.8	17.2

Table 12

Frequencies of Responses on Choosing to Participate in Research: Volunteer Participation

	Participation %		
Scenario	Yes	No	Maybe
17: Research announced in class by instructor without penalty or reward for participation	8.4	44.3	46.9
18: Research announced in class and instructor encourages participation without penalty or reward	13.2	35.9	50.5
19: One of many options for fulfilling a course requirement	60.1	9.5	30.0
20: Instructor uses class time for research participation without penalty or reward, but all students must remain in class during research time	53.8	11.7	34.1
21: Instructor uses class time for research participation without penalty or reward, but the instructor and students not participating leave during research time	28.6	24.2	46.5

research participation was obtained for scenarios offering incentives, but not all incentives appeared to be equally motivating for participation. For example, participation increased by 20% or more when the amount offered in both gift cards and cash rose from a $5 value to a $15 value. When participation was required, “yes” responses were consistently above 60%. The lowest percentage of “yes” responses were obtained for scenarios in which participation was voluntary, as were the highest percentages of “no” responses. “Maybe” responses were problematic. Because the student measure did not ask the reason for a “maybe” response, it was impossible to know the reason for the participants’ ambivalence. If a researcher is most concerned with obtaining participants,

or in other words “yes” responses, it may be that “maybe” responses could be collapsed into “no” responses. For the purposes of the present research, the response categories were conceptualized on a continuum where 1 (no) is equal to “would never participate,” 2 (maybe) is equal to “may or may not participate,” and 3 (yes) is equal to “would participate.” This allowed for the creation of a mean score for each condition (required, voluntary, incentivized) on willingness to participate in research.

For the purposes of an exploratory analysis, another repeated measures ANOVA was conducted to determine whether the category of recruitment method affected participants’ willingness to participate in the research. The results were significant $F(2,436) = 551.98$, $p < .001$, with mean responses of 0.74 ($SD = .27$) for required participation, 1.94 ($SD = .43$) for voluntary participation, and 1.50 ($SD = .54$) for incentivized participation. Results were significant ($p < .05$) for all pairwise comparisons. These results indicated that participants’ reported the greatest willingness to participate in research when the recruitment method was voluntary. The lowest measure willingness was found for recruitment methods where participation was required. Willingness was moderately high for incentivized recruitment methods.

CHAPTER V

DISCUSSION

The purpose of this study was to examine the perceptions of coercion among college students regarding their participation in university-based research. The results demonstrate the complex nature of coercion. They illustrate the need for a better understanding of coercion in common recruitment practices for psychological research so investigators can conduct their inquiries ethically, while at the same time successfully recruiting participants.

For most methods of recruitment, reliability estimates indicated that participants responded consistently with one another when indicating how free they felt to choose to participate, the fairness of the arrangement, whether they felt forced, and whether the scenario was acceptable to them. For recruitment practices utilizing incentives, participants' mean responses indicated that they felt free to choose, that the arrangement was fair, that they were not forced, and that the conditions of the scenario were acceptable to them. These results differed from those found by Leak (1981) and Miller and Kreiner (2008), where extra credit (an incentivized recruitment method) was reported as coercive by participants in both studies. The disparate results might be attributable to the use of the word "coercion" in the two cited studies, while the present study used terminology related to the dimensions of coercion, but not the term "coercion," itself. When compared with incentivized practices, recruitment strategies in which research participation is required (either with or without alternatives to participation) participants' mean responses indicated that they did not feel as free to choose, the arrangement was

less fair, they felt more forced to participate, and the scenario was less acceptable to them, presenting a possible contrast to Miller and Kreiner's finding that only 27% of participants in their study reported that course-required participation was coercive. But again, this may be due to differing language on the instruments used in the research. When research participation is voluntary, participants' mean responses indicated that they felt free to choose, that the arrangement was fair, they did not feel forced, and the scenario was acceptable to them.

There were a few exceptions to these patterns. One notable example emerged in the expert validation of the measure. One expert indicated that the presence of an instructor in the room might have a coercive effect, even if it was explicitly communicated that participation was voluntary. Responses on the "forced" dimension of coercion bore this out. Both scenarios 20 and 21 described a scenario in which research takes place in the classroom. In scenario 20, the instructor leaves the classroom, but in scenario 21, the instructor remains in the classroom. Participants' mean responses indicated that they would feel more forced to participate if the instructor remained in the classroom.

One aspect of coercion that this study did not examine, but which has relevance to ethical guidelines, is the level of risk posed by the coercion. As the present study has shown, coercion is a multidimensional construct, with degrees of intensity. A student may feel low levels of coercion, or high levels of coercion. If the coercion a participant experiences is mild, or perhaps only irritating, one would assume that the risk posed to that participant would be low. And if risks posed by coercion are low, how objectionable

is the coercion? To what extent should researchers attempt to eliminate all coercion (Mueller, 2007)? As Dalziel (1996) pointed out, some coercion was present for students simply by their presence in a college course requiring performance for a grade. It may be that a certain level of coercion can be deemed acceptable, if it is not found to increase risk to the participants and preserves their autonomy.

However, even low levels of perceived coercion might have a negative impact on student perceptions of research practice and participation as a whole, without posing individual risk. Given the findings of Keith-Spiegel et al. (1993) where professors recruiting or requiring participation were viewed by a majority of participants as unethical, we must consider the effect such perceptions might have on the field of psychological research. A negative image of research might discourage participation, or even promote skepticism and distrust of findings by the layperson. Even if risk is found to be low, the effort to minimize or eliminate coercion should be considered for the benefit such efforts might have for the perception of research practices.

But the fact remains that current ethical standards disallow the use of coercion to obtain participants for research. The average responses from the participants in this study indicated that they perceive some recruitment strategies to limit their freedom to choose, to be less fair, to contain an element of force, and to be less acceptable. Overall, those practices where research was required are perceived to be the most coercive.

These responses are interesting when considered in context with participants' answers to the question of whether they would choose to participate. Recruitment practices where participation is required result in more than half the respondents

indicating that they would take part in the research. This presents researchers drawing from student populations with a dilemma. The needs of their research require participants, and thus a successful method of recruitment is desired. But if requiring participation results in a perception of coercion as indicated by the participants in this study, then that recruitment strategy may be unethical. Additionally, students who are unwilling to participate, but are required to do so, may not participate with sincerity and honesty, calling into question the results of studies that required participation.

However, voluntary participation, which was less coercive to the participants in this study, results in a much lower rate of participation. Incentives, therefore, may be a way to satisfy both the need for participants, and the mandates of ethical research practices. Incentivized recruitment strategies yield both an acceptable level of perceived coercion and, in some cases, a very high rate of participation.

The “maybe” responses are problematic for the direct application of these results. This study did not examine the reasons why participants endorsed the “maybe” response, and those reasons could be conditional. In other words, participants in this study may have indicated “maybe” when they could think of conditions under which their response would change. It is possible that for some participants, “maybe” could be a favorable response (i.e., “I would participate if I needed the extra credit.”). But the maybe response could also be less favorable (i.e., “I would participate if I didn’t have anywhere else to be.”). This presents a challenge in how to interpret the “maybe” responses when responses do not necessarily reflect actual rates of participation. It also represents a limitation of the measure used for this study. Future research should consider either

eliminating “maybe” as a response to a question of whether a respondent would chose to participate, or collect data on the reasons for a “maybe” response so the results can be better understood.

These results indicate that some common recruitment practices currently used are perceived by students to be coercive, and may constitute a violation of ethical standards. Because the data were being collected on only one college campus, cultural climate and values may limit the generalization of the results. However, the inspection of varying methods of recruitment could increase its applicability to many university settings. Future research should examine the perceptions of students elsewhere. For example, in more financially affluent student populations, a monetary incentive may not be sufficient to promote participation, but in a less wealthy student population, monetary incentive might actually be seen as coercive.

REFERENCES

American Psychological Association (APA). (2002). *Ethical principles of psychologists and code of conduct.* Washington, DC: Author.

Dalziel, J. R. (1996). Students as research subjects: Ethical and educational issues. *Australian Psychologist*, *31*, 119-123.

Diamond, M. R., & Reidpath, D. D. (1992). Psychology ethics down under: A survey of student subject pools in Australia. *Ethics & Behavior*, *2*, 101-108.

Keith-Spiegel, P. C., Tabachnick, B. G., & Allen, M. (1993). Ethics in academia: Students' views of professors' actions. *Ethics & Behavior*, *3*, 149-162.

Leak, G. K. (1981). Student perception of coercion and value of participation in psychological research. *Teaching of Psychology*, *8*, 147-149.

Menges, R. J. (1973). Openness and honesty versus coercion and deception in psychological research. *American Psychologist*, *28*, 1030-1034.

Miller, A. (1981). A survey of introductory psychology subject pool practices among leading universities. *Teaching of Psychology*, *8*, 211-213.

Miller, W. E., & Kreiner, D. S. (2008). Student perception of coercion to participate in psychological research. *North American Journal of Psychology*, *10*, 53-64.

Mueller, J. H. (2007). Ignorance is neither bliss nor ethical. *Northwestern University Law Review*, *101*, 809-836.

National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. (1979). *The Belmont Report: Ethical principles and*

guidelines for the protection of human subjects of research. Retrieved from http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.htm

National Institutes of Health (NIH). (2002). *Human participant protections education for research teams.* Retrieved from http://cme.cancer.gov/c01/pdf/

Office for Human Research Protections (OHRP). (2009). *OHRP informed consent frequently asked questions.* Retrieved from http://www.hhs.gov/ohrp/ informconsfaq.html#q6

Scott-Jones, D. (2000). Recruitment of research participants. In B.D. Sales & S. Folkman (Eds.), *Ethics in research with human participants* (pp. 27-34). Washington, DC: American Psychological Association.

Sieber, J. E. (2000). Planning research: Basic ethical decision-making. In B.D. Sales & S. Folkman (Eds.), *Ethics in research with human participants* (pp. 13-26). Washington, DC: American Psychological Association.

Seiber, J. E., & Saks, M. J. (1989). A census of subject pool characteristics and policies. *American Psychologist*, *44*, 1053-1061.

APPENDICES

Appendix A

Students' Perception of Research Participation

STUDENTS' PERCEPTION OF RESEARCH PARTICIPATION

We are interested in how students perceive their involvement in research being conducted with college students. The survey has three main parts. The first part of this survey is a short questionnaire about your experiences in research. In the second part we present a series of scenarios for you to rate. The third and final section asks you to rank different scenarios in order of acceptability and asks about your definition for the concept of coercion. You must be 18 years of age or older to participate in this survey.

DEMOGRAPHIC CHARACTERISTICS

Your age: _____ Gender: [ ] female [ ] male Ethnicity: _____

Year in college: [ ] first [ ] second [ ] third [ ] fourth [ ] fifth +

Overall GPA: _____ Major: _____ Major GPA: _____

PART I: Please rate how much you agree or disagree with the following statements

	Strongly Agree	Agree	Neither	Disagree	Strongly Disagree
1. I gladly participate in research.	1	2	3	4	5
2. Research is important to moving knowledge forward.	1	2	3	4	5
3. I value research.	1	2	3	4	5
4. Research has served a purpose historically, but we know all we need to know now.	1	2	3	4	5
5. I have been involved in research as a part of class requirements in the past.	1	2	3	4	5
6. Research has allowed psychologists to develop new and important treatments for mental illness.	1	2	3	4	5
7. I think research is a waste of time.	1	2	3	4	5
8. I can read a journal article and understand it well.	1	2	3	4	5
9. I have been involved in research in the past.	1	2	3	4	5
10. The federal government spends millions of dollars in psychological research every year that would be much better spent elsewhere.	1	2	3	4	5
11. I plan to be involved in research in the future.	1	2	3	4	5
12. Research only serves to distract my professors from teaching and mentoring students.	1	2	3	4	5
13. The value of research may not be immediately	1	2	3	4	5

	seen, but that doesn't mean it's pointless.				
14.	Participation in any research is educational for students.	1	2	3	4	5
15.	Participation in research should be required for college students.	1	2	3	4	5
16.	Participation in research is only educational when it is related to the student's major field of study.	1	2	3	4	5
17.	It's OK to require research participation as part of a student's class grade.	1	2	3	4	5
18.	It's OK to give students bonus points in class for participating in research.	1	2	3	4	5
19.	Required participation in research is no different than other course requirements.	1	2	3	4	5
20.	I expect research participation to be a requirement in some of my psychology courses.	1	2	3	4	5

PART II Instructions: Please read each scenario carefully and answer the questions that follow each one:

Scenario #1: You are enrolled in a psychology course. The syllabus explains that you can earn bonus points (worth an additional 3-5% of your grade) by participating in research outside of class and turning in a 1-page reaction paper to your professor.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

Scenario #2: You are enrolled in a basic psychology course. The syllabus explains that if your final class grade is on the borderline between two grades, you will receive the higher grade if you have participated in research outside of class and document that participation by turning in a 1-page reaction paper.

	Very	Some	Not	Not at

	much		much	all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

Scenario #3: You are currently enrolled at a university. You learn of a research project that is looking for participants. Upon completion, you are entitled to receive 1-2 free consultations for medical or mental health services by participating in this research project.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

Scenario #4: You are currently enrolled at a university. You learn of a research project that is looking for participants. They are offering gift certificates worth $5 for use at a local merchant (e.g., restaurant, supermarket, department store) as incentives to participate.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

Scenario #5: You are currently enrolled at a university. You learn of a research project that is looking for participants. They are offering gift certificates worth $15 for use at a local merchant (e.g., restaurant, supermarket, department store) as incentives to participate.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

Scenario #6: You are currently enrolled at a university. You learn of a research project that is looking for participants. They are offering a cash incentive of $5 for participants' time.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

Scenario #7: You are currently enrolled at a university. You learn of a research project that is looking for participants. They are offering a cash incentive of $15 for participants' time.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

For the following scenarios, please pretend that you are enrolled in a psychology course which requires that you participate in research activities as part of the course. The research activities may or may not be directly linked to your course's content but rather are research projects being conducted by Department of Psychology faculty and graduate students. <u>This course requirement is clearly delineated on the syllabus.</u>

Scenario #8: Your psychology class requires each student to participate in a series of research projects. In order to earn the points, you must participate in the research projects and write an accompanying 1-page paper per study. Students have the alternative option of writing a 3–page essay on a scientific journal article related to class content for each study you chose not to participate in.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

If you would participate in the research, would you …
[ ] participate only in the research
[ ] participate in some research and write some papers

Scenario #9: Your psychology class requires each student participate in a series of research projects. In order to earn the points, you must participate in the research projects and write an accompanying 1-page paper per study. Students have the alternative option of taking a quiz covering a topic discussed in class instead of participating in a research study (one quiz per study you chose not to participate in).

	Very	Some	Not	Not at

	much		much	all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

If you would participate in the research, would you …
[ ] participate only in the research
[ ] participate in some research and take some quizzes

Scenario #10: Your psychology class requires each student participate in a series of research projects. In order to earn the points, you must participate in the research project and write an accompanying 1-page paper per study. Students have the alternative option of reading one scientific journal article and turning in a 1-page summary of the article for each study they chose not to participate in.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

If you would participate in the research, would you …
[ ] participate only in the research
[ ] participate in some research, and some write some journal summaries

Scenario #11: Your psychology class requires each student participate in a series of research projects. In order to earn the points, you must participate in the research project and write an accompanying 1-page paper per study. Students have the alternative option of writing a 1-page reaction paper on a topic of interest related to class content, for each study the student chooses not to participate in.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

If you would participate in the research, would you …
[ ] participate only in the research
[ ] participate in some research and write some reaction papers

Scenario #12: Your psychology class requires each student participate in a series of research projects. In order to earn the points, you must participate in the research project and write an accompanying 1-page paper per study. Students have the alternative option of outlining one chapter of the class text for each research study that you chose not to participate in.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

If you would participate in the research, would you …
[ ] participate only in the research
[ ] participate in some research and write some outlines

Scenario #13: Your psychology class requires each student participate in a series of research projects. In order to earn the points, you must participate in the research project and write an accompanying 1-page paper per study. Students have the alternative option of attending a campus lecture outside of class and turn in a 1-page reaction paper for each research study that students chose not to participate in.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

If you would participate in the research, would you …
[ ] participate only in the research
[ ] participate in some research and attend some lectures

Scenario #14: Your psychology class requires each student participate in a series of research projects. In order to earn the points, you must participate in the research project and write an accompanying 1-page paper per study. Students have the alternative option of watching a movie which depicts a psychological disorder (i.e. A Beautiful Mind), and writing a 1-page reaction paper per study the student chooses not to participate in.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

If you would participate in the research, would you …
[ ] participate only in the research
[ ] participate in some research and watch some movies

Scenario #15: Your psychology class requires that you participate in a series of research projects. This participation is worth 5% of your total grade. Research opportunities are announced in class as they become available.

	Very	Some	Not	Not at

	much		much	all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

Scenario #16: Your psychology class requires that you participate in a series of research projects. This participation is worth 5% of your total grade. A list of the research opportunities are given in the syllabus for students to chose from at the beginning of the semester.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

END OF REQUIRED PARTICIPATION SCENARIOS

Scenario #17: Your psychology class does not require research participation as part of your course grade. Your professor makes announcements in class about opportunities for participation in research as they arise. However, your professor makes it clear that participation in these activities is neither required for class, nor will be rewarded with any bonus points or extra credit.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

Scenario #18: Your psychology class does not require research participation as part of your course grade. Your professor makes announcements in class about opportunities for participation in research as they arise. Your professor tells you that participation in these activities is not required for class, and will not be rewarded with bonus points or extra credit. Your professor encourages all students to participate in these research opportunities and often says "good psychology students know that they have to contribute to our efforts to build knowledge in our field."

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

Scenario #19: Your psychology class requires that you participate in psychology-related activities outside of the classroom. The activities include: filling out journals (e.g., a dream journal), participating in research, attending campus lectures, and reading

recommended articles. There are enough items in each activity category that a student may choose to participate only in one set of activities (e.g., attending campus lectures) and fulfill class requirements.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

If you would participate in the research, would you …
[ ] participate only in the research
[ ] participate in a variety of activities including research

Scenario #20: You are enrolled in a psychology course and your professor announces in class that a colleague will be coming in to class to administer a survey as part of a broader research effort. The survey will take 15 minutes, and participation is voluntary. Your professor remains in the room and asks that everyone else stay in the room as well, whether they chose to participate or not, so that lecture can start immediately after the survey is administered. You receive no penalty or reward for your participation in this research.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

Scenario #21: You are enrolled in a psychology course and your professor announces in class that a colleague will be coming in to class to administer a survey as part of a

broader research effort. The survey will take 15 minutes, and participation is voluntary. Your professor stops class 15 minutes ahead of time, introduces the colleague who is administering the survey, and leaves. You receive no penalty or reward for your participation in this research.

	Very much	Some	Not much	Not at all
I would feel **free to choose** to participate (or not) in the research	[ ]	[ ]	[ ]	[ ]
I think this is a **fair** arrangement	[ ]	[ ]	[ ]	[ ]
I would feel **forced** to participate in the research	[ ]	[ ]	[ ]	[ ]
These conditions for research participation are **acceptable**	[ ]	[ ]	[ ]	[ ]

	Yes	No	Maybe
Given the scenario, would you continue enrolled in this class?	[ ]	[ ]	[ ]
Given the scenario, would you participate in the research?	[ ]	[ ]	[ ]

PART III: Please rank these selections in order from least acceptable to most acceptable, placing a 1 beside the selection that is **LEAST** acceptable. When we say "research participation" we are referring to participation in research that *may or may not be related to class content*, but rather research that requires you to be a respondent (e.g., this research project).

GROUP 1: Rank these from selections in order from least acceptable (1) to most acceptable (6).

____ Required research participation (3-6% of your grade) OR watching a video or attending a guest lecture and writing a 1 page response paper.

____ Requiring research participation (e.g., 3-6% of your grade), with a set number of options (i.e., you are required to participate in 3 studies, and only 3 studies are offered).

____ Required research participation (3-6% of your grade) OR taking an extra quiz.

____ Required research participation (3-6% of your grade) without options.

____ Requiring research participation (e.g., 3-6% of your grade), with a broad number of options (i.e., you are required to participate in 3 studies, and 9 studies are offered).

____ Required research participation (3-6% of your grade) OR an alternative writing assignment (such as, chapter outlines, journal article summaries).

GROUP 2: Rank these from selections in order from least acceptable (1) to most acceptable (2).

____ Getting extra credit for research participation without another alternative for extra credit (3-5% of your final grade).

____ Getting extra credit for research participation, among other alternatives for extra credit (3-5% of your final grade).

GROUP 3: Rank these from selections in order from least acceptable (1) to most acceptable (5).

____ Being recruited in class to participate in research that offers gift certificates for food or goods (~$5)

____ Being recruited in class to participate in research that offers $5 cash

____ Being recruited in class to participate in research that offers gift certificates for food or goods (~$15)

____ Being recruited in class to participate in research that offers $15 cash

____ Being recruited in class to participate for research that offers medical or mental health services (e.g., one or two free consultations with a psychologist)

GROUP 4: Rank these from selections in order from least acceptable (1) to most acceptable (3).

____ Having your professor announce a potential research opportunity, matter-of-factly

____ Having your professor announce a potential research opportunity, stressing the that being a "good psychology student" involves participating in research.

____ Using class time to collect data (e.g., your professor allows a colleague to come in and administer a survey to the class)

Below please select all the items that you ranked as ***least acceptable*** (#1) in each of the groups above (i.e., groups 1 to 4). Once you have listed them, please rank them from least acceptable (1) to most acceptable (4):

LIST OF LEAST ACCEPTABLES	RANK
Group 1: _____	_____
Group 2: _____	_____
Group 3: _____	_____
Group 4: _____	_____

Below please select all the items that you ranked as ***most acceptable*** in each of the groups above (i.e., groups 1 to 4). Once you have listed them, please rank them from least acceptable (1) to most acceptable (4):

LIST OF MOST ACCEPTABLES	RANK
Group 1: _____	_____
Group 2: _____	_____

Group 3: _____ _____

Group 4: _____ _____

Please answer the following questions:

What do you understand "coercion" to mean?

_____

_____

_____

_____

For each of the following statements, please check whether you think they do, or do not, form part of the definition of coercion:

Coercive	Not Coercive	
[ ]	[ ]	Participation that is not genuinely voluntary.
[ ]	[ ]	Professor (authority figure) announces opportunities for research and exerts pressure to participate.
[ ]	[ ]	Participation in research will lead to additional learning only (i.e., no penalty or reward, other than an educational experience).
[ ]	[ ]	Mandating research participation (i.e., punishment for non-participation, but no reward for participation).
[ ]	[ ]	Requiring research participation without compensation (i.e., no punishment, no reward).
[ ]	[ ]	Limited and unattractive alternatives for those who do not wish to participate in research.
[ ]	[ ]	Participation that is entirely voluntary.
[ ]	[ ]	Voluntary participation, that is, no penalties for nonparticipation, no grades for participation, and no alternatives for participation.
[ ]	[ ]	Encouraging participation in research that is not educational.
[ ]	[ ]	Inaccurate or insufficient information concerning sanctions (rewards or penalties) associated with refusal to consent.
[ ]	[ ]	Professor (authority figure) announces opportunities for research without exerting pressure to participate.
[ ]	[ ]	Influencing the cost-benefit analysis during consent decision-making.
[ ]	[ ]	A professor asking a student to participate in research activities.

[ ]	[ ]	Participant is fully informed of the risks and benefits of participation prior to making a commitment to participate.
[ ]	[ ]	Use of persuasion to convince a student to comply.
[ ]	[ ]	Influence by development of reciprocal obligations (e.g., professor has done something for the student, and now the student feels indebted).
[ ]	[ ]	Forced choice (e.g., research participation or writing a paper).
[ ]	[ ]	The rewards for participation are equal to the costs of participating.
[ ]	[ ]	Cannot refuse to participate in research (e.g., refusal causes a substantial loss to the individual).
[ ]	[ ]	The value of the reward for participation is exaggerated in relation to choosing non-participation.

Appendix B

Research Recruitment Practices: Experts' Questionnaire

RESEARCH RECRUITMENT PRACTICES

EXPERTS' QUESTIONNAIRE

We have conducted research on college students' perception of coercion in research participation. A priori, we created three broad categories of recruitment strategies based on the research literature. We are now seeking experts' validation that these a priori categories are sound. As a professional with expertise in ethics and/or research, we are asking you to categorize these scenarios into one of three areas: completely voluntary, required or involuntary, and incentivized. A brief description of each follows:

> **Voluntary research**: In voluntary research no incentives are offered for participation. No course or program requisites are fulfilled through participation. In short: no punishment, no reward.
>
> **Required research**: In required research, students are asked to participate in research as part of course requirements. Students' participation may be flexible (e.g., there are multiple options for research studies) or not. In short: participation is required; non-participation implies a penalty.
>
> **Incentivized research**: In incentivized research, participation is voluntary and inducements are offered to encourage participation. There is no punishment, however, the student may lose out on a potential benefit.

Please answer the following questions, and then place each scenario in the category that you believe best describes the scenario.

1) How many years since you received your doctoral degree? _____
2) What is/are your degree(s) in? _____
3) Have you ever used university students as research participants? YES / NO
4) Do you currently sit, or have you previously sat on an institutional review board? YES / NO

	Volun-tary	Requi-red	Incen-tivized
You are currently enrolled at a university. You learn of a research project that is looking for participants. Upon completion, you are entitled to receive 1-2 free consultations for medical or mental health services by participating in this research project.			

	Volun-tary	Requi-red	Incen-tivized
Your psychology class requires each student to participate in a series of research projects. In order to earn the points, you must participate in the research projects and write an accompanying 1-page paper per study. Students have the alternative option of writing a 3–page essay on a scientific journal article related to class content for each study you chose not to participate in.			
Your psychology class does not require research participation as part of your course grade. Your professor makes announcements in class about opportunities for participation in research as they arise. However, your professor makes it clear that participation in these activities is neither required for class, nor will be rewarded with any bonus points or extra credit.			
You are enrolled in a psychology course. The syllabus explains that you can earn bonus points (worth an additional 3-5% of your grade) by participating in research outside of class and turning in a 1-page reaction paper to your professor.			
Your psychology class requires each student to participate in a series of research projects. In order to earn the points, you must participate in the research projects and write an accompanying 1-page paper per study. Students have the alternative option of taking a quiz covering a topic discussed in class instead of participating in a research study (one quiz per study you chose not to participate in).			
Your psychology class requires each student participate in a series of research projects. In order to earn the points, you must participate in the research project and write an accompanying 1-page paper per study. Students have the alternative option of watching a movie which depicts a psychological disorder (i.e. A Beautiful Mind), and writing a 1-page reaction paper per study the student chooses not to participate in.			
You are currently enrolled at a university. You learn of a research project that is looking for participants. They are offering a cash incentive of $15 for participants' time.			
Your psychology class requires that you participate in a series of research projects. This participation is worth 5% of your total grade. Research opportunities are announced in class as they become available.			

	Volun-tary	Requi-red	Incen-tivized
You are enrolled in a basic psychology course. The syllabus explains that if your final class grade is on the borderline between two grades, you will receive the higher grade if you have participated in research outside of class and document that participation by turning in a 1-page reaction paper.			
You are currently enrolled at a university. You learn of a research project that is looking for participants. They are offering a cash incentive of $5 for participants' time.			
Your psychology class requires that you participate in psychology-related activities outside of the classroom. The activities include: filling out journals (e.g., a dream journal), participating in research, attending campus lectures, and reading recommended articles. There are enough items in each activity category that a student may choose to participate only in one set of activities (e.g., attending campus lectures) and fulfill class requirements.			
You are currently enrolled at a university. You learn of a research project that is looking for participants. They are offering gift certificates worth $5 for use at a local merchant (e.g., restaurant, supermarket, department store) as incentives to participate.			
Your psychology class requires that you participate in a series of research projects. This participation is worth 5% of your total grade. A list of the research opportunities are given in the syllabus for students to chose from at the beginning of the semester.			
Your psychology class does not require research participation as part of your course grade. Your professor makes announcements in class about opportunities for participation in research as they arise. Your professor tells you that participation in these activities is not required for class, and will not be rewarded with bonus points or extra credit. Your professor encourages all students to participate in these research opportunities and often says "good psychology students know that they have to contribute to our efforts to build knowledge in our field."			
You are currently enrolled at a university. You learn of a research project that is looking for participants. They are offering gift certificates worth $15 for use at a local merchant (e.g., restaurant, supermarket, department store) as incentives to participate.			
	Volun-tary	Requi-red	Incen-tivized
Your psychology class requires each student participate in a series of research projects. In order to earn the points, you must			

participate in the research project and write an accompanying 1-page paper per study. Students have the alternative option of reading one scientific journal article and turning in a 1-page summary of the article for each study they chose not to participate in.			
You are enrolled in a psychology course and your professor announces in class that a colleague will be coming in to class to administer a survey as part of a broader research effort. The survey will take 15 minutes, and participation is voluntary. Your professor stops class 15 minutes ahead of time, introduces the colleague who is administering the survey, and leaves. You receive no penalty or reward for your participation in this research.			
Your psychology class requires each student participate in a series of research projects. In order to earn the points, you must participate in the research project and write an accompanying 1-page paper per study. Students have the alternative option of writing a 1-page reaction paper on a topic of interest related to class content, for each study the student chooses not to participate in.			
Your psychology class requires each student participate in a series of research projects. In order to earn the points, you must participate in the research project and write an accompanying 1-page paper per study. Students have the alternative option of outlining one chapter of the class text for each research study that you chose not to participate in.			
You are enrolled in a psychology course and your professor announces in class that a colleague will be coming in to class to administer a survey as part of a broader research effort. The survey will take 15 minutes, and participation is voluntary. Your professor remains in the room and asks that everyone else stay in the room as well, whether they chose to participate or not, so that lecture can start immediately after the survey is administered. You receive no penalty or reward for your participation in this research.			
Your psychology class requires each student participate in a series of research projects. In order to earn the points, you must participate in the research project and write an accompanying 1-page paper per study. Students have the alternative option of attending a campus lecture outside of class and turn in a 1-page reaction paper for each research study that students chose not to participate in.			