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Ethical judgments of deception in psychological research

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Ethical judgments of deception in psychological research

by

Paul L. Ascheman

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Psychology (Counseling Psychology)

Program of Study Committee:
Norman Scott, Major Professor
Patrick Armstrong
Douglas Bonett
Philip Martin
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Iowa State University

Ames, Iowa

2013

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ABSTRACT

This quantitative study assessed the applicability of a Social Contract Theory (Kimmel, Smith & Klein, 2011) that proposes a social contract, potential agreement between researchers and participants, as a means of addressing and potentially diminishing ethical dilemmas associated with use of deception in psychological research. The responses of 212 undergraduate research participants were obtained and compared with those of 189 graduate student or faculty psychological researchers by examining within-and between-group consensus in agreement (> 80% of each sample) for a set of ten Social Contract Statements.

While there was consensus for the five fundamental statements (similar to the APA Code of Ethics), only two of five more specific principle statements garnered support from both groups. Statements that expressed a preference for non-deceptive methods, and general disclaimers to participants by researchers that deception could be used, were supported solely by researchers and participants, respectively. Between-group equivalence in ratings of agreement was predicted; however, meaningful equivalence (< 10% difference) was found only for the prohibition of physical pain in deception research.

This study also extended the applicability of the social contract to selected examples of published deception studies described in twelve brief vignettes. Participant and researcher equivalences and differences in perceived ethicality ratings of the twelve vignettes were obtained. Prior research indicated that researchers perceived deceptions as less ethical compared to participants (e.g., Schreier & Stadler, 1992); however, this study found researchers and participants made equivalent ratings for all but four vignettes. Similar results were obtained for hypothetical consent to participate in a vignette study. Consent was strongly associated with perceived ethicality ratings. In contrast to the prior literature, when differences were present, researchers held statistically (but not meaningfully) more favorable perceptions of the vignette studies than participants. This study also provided preliminary empirical support for the Sieber Taxonomy method of coding and categorizing deceptions into three levels of intensity.

The results suggest that the prospects for a social contract for deception research may not be as strong as had been hypothesized. A revised social contract is proposed which focuses on areas where actual consensus was observed.

CHAPTER 1. INTRODUCTION

The objective of this online survey study was to examine the level of consensus within and between potential participants and researchers about the appropriate use of deception in research, as well as to assess the perceived ethicality of deception research designs. The study was guided by Social Contract Theory (SCT), a form of contractarianism, articulated in the context of deception research by Kimmel, Smith, and Klein (2011), and tests the plausibility of a social contract as it applies to deception research in psychology.

There is an ongoing debate in the areas of philosophical and applied ethics concerning the ethicality and acceptability of deception research. However, theoretically-based empirical research identifying areas of agreement between potential participants and researchers concerning the ethical uses of deception methods has been lacking. Several writers (e.g., Kimmel, Smith, & Klein, 2011; Schuler, 1982) have suggested that such agreement among interested parties would support the use of a social contract. Specific to this study, a social contract analysis would be performed by measuring consensus between potential participants and researchers about their beliefs about the ethics and practice of deception in research. The outcomes of this analysis could guide future researchers who seek to ethically utilize deception methods and potentially facilitate research review of deception studies.

This study sought to examine the utility of a social contract by attending to two primary research questions; (1) *Are there areas of consensus between participants and researchers about what Fundamental concepts and specific Principles should guide the ethical use of deception in research?*, and (2) *What methods of deception do participants and researchers agree may be ethically used in psychological research?*.

This two-stage study has several objectives. Stage I sampled undergraduate students and measured (1) the level of within-group agreement for Social Contract Statements (SCS), (2) perceptions of ethicality for twelve vignettes describing a range of deception methods that have been reported in the professional literature, and (3) personal factors that may be related to judgments of ethicality including, demographic items and brief self-report standardized measures of social desirability (Marlowe-Crowne Social Desirability Scale – Short Form (MCSDS-SF), Barger, 2002) and ethical ideology (Ethics Position Questionnaire (EPQ), Forsyth, 1980). The primary objective of Stage I was to identify areas of within-group consensus concerning general ethical guidelines related to the use of deception and perceived ethicality of specific deception methodologies.

The objective of Stage II was to directly address the possibility of a social contract for deception by sampling psychological researchers and comparing their responses to those collected from potential participants (i.e., undergraduate data collected in Stage I). Stage II included an identical presentation of the twelve deception vignettes used in Stage I; however, for brevity, Stage II was limited to select Social Contract Statements, focusing specifically on those items identified with sufficient consensus among participants in Stage I. Stage II did not include additional measures of social desirability or ethical ideology. Within- and between-group variability in Social Contract Statement (SCS) items and deception vignette responses were measured with greatest attention paid to those areas where consensus and equivalence, based on a comparison of confidence intervals for proportions in each distribution, existed between participant and researcher ratings.

The primary outcomes of this two-stage study included estimates of within- and between-group variability in responses concerning two main dependent variables: (1) *Agreement with*

Social Contract Statements (SCS) (i.e., Agree/Disagree) and (2) *Perceived Ethicality (PE)* of *deception vignettes* (i.e., Ethical/Unethical). To better understand respondents' ethical decision-making, this study simultaneously measured the decision (i.e., binary Agree or Disagree for each SCS item and Ethical or Unethical for each deception vignettes), as well as the certainty of the decision (i.e., strength of agreement or strength of perceived ethicality). Responses to each item or vignette relevant to ethical decision-making were made on an 11-point Likert-type scale where the poles represented strong beliefs about the decision and the midpoint represented ambiguity in beliefs. To examine decision-based responses, the 11-point scale ratings were dichotomized (e.g., scores of five or less were categorized as disagree/unethical and scores six or more categorized as agree/ethical). To capture the certainty or strength of the decisions made, the 11-point scale was used and the distance from the mid-point conveyed the degree of certainty in the rater's judgment of ethicality/acceptability. By examining both the decision and strength of that decision, it was believed that a comprehensive exploration of ethical decision-making about deception research could be provided in this study.

The value of a social contract for deception research is contingent on its acceptance by those identified as contractors. It may be too far a reach to believe that if participants and researchers can agree on how to ethically conduct deception research, the need for extensive institutional review of research proposals involving mutually accepted deception methods may be reduced. However, by better understanding areas of within- and between-group agreement, disagreement, and ambiguity in beliefs about conducting deception research with human subjects, those parties directly (i.e., researchers) and indirectly (i.e., IRB reviewers) involved in designing and monitoring research could better weigh the costs and benefits of deception

methods and their likely acceptance by those who are studied (e.g., undergraduate research participants).

In the following chapters and sections, a theoretical case is made for the possible utility of a proposed social contract for deception research (Kimmel, et al., 2011) involving undergraduate participants and university researchers. A review of the available literature indicates that the available body of empirical data comparing different group's beliefs about deception research is both lacking and out of date. An effort is made to define deception in research as it applies to this area of study and to investigate a possible method of categorizing types of deception methodologies (Sieber, 1982, 1983). Hypotheses are presented concerning predicted consensus, equivalence, and differences for the social contract statements, deception vignettes, the potential categorization of deception designs, and the relationship between perceived ethicality and hypothetical consent to deception research.

CHAPTER 2. LITERATURE REVIEW

This study's objectives and methodology were driven by the theoretical literature examining the philosophical concept of a social contract and its relation to ethics and ethical decision-making processes concerning deception research. The following sections provide an overview of the available literature in three areas: (1) Social Contract Theory, (2) Deception Research Methods, and (3) Ethical Decision-Making.

Social contract theory

Overview of social contract theory.

A social contract can be defined as a set of norms, beliefs, or assumptions that society considers equitable or appropriate for those persons involved in the specific relationship (Edwards & Karau, 2007). Its purpose is to create social order and prevent harm caused when individuals act exclusively in their own interest (i.e., the "state of nature" described by Thomas Hobbes, 1588-1679). The philosophical concept of a social contract is most commonly discussed with respects to the establishment of government authority. All individuals living under a government are party to a social contract in which they hypothetically agree to abide by laws set by that government with the assumption others will do likewise (Hobbes, 2003). This governmental social contract provides safety, predictability, and shared benefits to the governed by assuming the authority to enforce the social contract.

Social Contract Theory (SCT) is based on the idea that "the authority of moral principles can come from the agreement of those affected" and is rooted in the disciplines of ethics and morality (Kimmel, et al., 2011, p. 237). Within SCT, morality and ethics define principles regulating behavior, which rational individuals would accept on the condition that others also accept such conventions (Rachels, 1993). Social norms are therefore regulated and reinforced by

social contracts. At times, social contracts require shared sacrifice (e.g., sharing limited food supplies) or use of transactional rules (e.g., prepaying for movie tickets). Individuals may even follow morally-based social contracts such as, taking risks “for the common good” even when he/she may not directly benefit from taking the risk (e.g., as is commonly the case in research participation).

Although variants of social contracts have been around, arguably, as long as philosophy itself, historians generally associate Social Contract Theory’s modern emergence with the works of Thomas Hobbes’ (1588-1679) (e.g., Becker, 2001). Throughout its development, SCT has attracted many notable philosophers, including Hobbes, Locke, Hume, and Rousseau (Jos, 2006 provides a good comparison of these philosophers' views on social contracts). Interest in social contracts was renewed in the 1970’s, influenced heavily by Rawls’ A Theory of Justice (1971). While it is occasionally described as a descriptive approach, SCT is philosophically a normative theory (i.e., statements of what should be rather than what is, though without an assumption that what should be is necessarily universal or constant).

As a form of moral contractarianism, SCT claims that binding ethical/moral obligations can be identified through the agreement (hypothetical or actual) of moral agents (i.e., individuals capable of moral reasoning) (Kimmel, et al., 2011, p. 237). This contracting may take place at a societal, organizational, group, or individual level (Thompson & Hart, 2006). As a body of theoretical postulations, the most notable difference among approaches to SCT is the one between hypothetical and actual contracts. It is, in part, the intent of this research study to suggest that both hypothetical and actual approaches are needed to bridge differences between the need for a theoretically-sound and empirically-grounded approach to contractarianism.

There are criticisms of both hypothetical and actual social contracts. If it is argued that genuine contracts require actual consent or refusal from specific persons for all relevant situations, we are then greatly limited in our ability to attend to situations in which we could not adequately predict consequences of actions or contracts. This is an extreme approach to contractarianism that, in practice, would cripple governments or other contracting agents.

In contrast, a purely hypothetical approach to social contracts raises serious questions about the validity of the theoretical assumptions of a social contract. There is a major risk in using the 'hypothetical' to guide the 'actual' implementation of contracts. If we suspend the requirement of actual consent but then enforce the obligations we believe others would hold, without evidence, then we arguably have no contract at all.

It is this author's opinion that it should not be a question of 'actual' or 'hypothetical' that is important to developing a meaningful social contract, but rather to consider to what extent we (i.e., a society, an institution, or a group of individuals) accept the hypothetical in lieu of the actual consent of persons. This continues to be an ongoing debate in many fields of study (e.g., law, philosophy), and there is no attempt made here to resolve the issue, but rather to provide evidence relative to the applicability of a social contract within the specific area of deception in psychological research among undergraduate participants and university researchers.

Social contract theory applied to psychological research.

Social Contract Theory, applied to psychological research (i.e., agreement between the researcher and the researched participant), has received much less attention than in other disciplines (e.g., business ethics and the relationship between employer and employee), and has suffered from a lack of quality empirical research (Kimmel, et al., 2011; Sieber, 2004). One of the major criticisms of social contracts within the scientific discipline of psychology is its

speculative nature. While useful as a tool of philosophical debate, a meaningful social contract should arguably demonstrate both theoretical and empirical validity. To date, no known studies have directly tested the utility of a social contract for deception research in psychology using quantitative analysis of data collected from both participants and researchers. Such information is needed to better understand the theoretical and practical aspects of questionable psychological research methodologies.

Likely, in no other area of psychological research is the need for a social contract greater than in deception research. The fundamental lack of information to participants required by deception methodologies has the potential to conflict with professional ethical principles intended to protect the well-being and autonomy of participants (Koocher & Keith-Spiegel, 1998). The use of deception has a long history of ethical and methodological debate; and, despite a large number of professional ethical guidelines (e.g., APA, 2002), institutional research oversight policies (e.g., The Belmont Report; National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979) and governmental regulations (e.g., Protection of Human Subjects, 2001), there are still many areas of research where the appropriate use of deception methods remains unclear.

Advanced consent. There have been many efforts to resolve the ethical issues associated with deception research methods. Stanley Milgram was a frequent defender of the use of deception (preferring the term ‘technical illusion’) in social psychological research, but believed ‘*advanced consent*’ (i.e., obtaining a global pre-consent from participants in research pools about what they would be willing to undergo with regards to future participation, including deceptive methods) to be an ideal means of resolving these issues (Milgram, 1964, 1977). A social contract is differentiated from advanced consent in that the latter is specific to an individual who will, at

some later time, be a participant of research, whereas a social contract is not limited to an individual and uses potential participants to make assumptions about what other, not yet identified participants are likely to agree to with regards to research participation.

Presumed consent. Milgram (1977) was also a proponent of a standard of ‘*presumptive consent*,’ or consent obtained from others representing or representative of the actual participants. As a method of avoiding ‘*uninformed*’ consent (which could occur in deception studies where fully informing individuals about all details of the study would compromise the experimental design), presumptive consent use decisions made by surrogates or representatives with full information to determine if the actual participants would consent if fully informed.

The core purpose of any presumptive consent is an attempt to resolve a methodological issue related to inability or undesirability of establishing fully informed consent. This is similar to the legal-medical term ‘*presumed consent*’ which originated as a means of gaining consent to organ donation from comatose patients unable to provide direct consent. In legal settings, this concept of hypothetical consent is akin to the “reasonable [person]” standard frequently referenced in situations where the appropriateness of a person’s behaviors are referenced against a hypothetical standard of what other persons would do if similarly situated. Within the psychological literature, the term “presumed consent” is often used in situations where consent to participate (usually by proxy) involves individuals with significant mental illness or intellectual disability that limits their ability to make decisions about their participation.

Presumed consent and the concept of a social contract are not synonymous, despite sharing some similarities. Therefore, it is important to distinguish the concept of presumed consent from that of social contract as they relate to the ethical use of deception research. Presumed consent is differentiated from a social contract in that presumed consent is best

understood as a one-directional process where researchers and/or proxies make assumptions about what participants would and would not agree to, while in contrast, a social contract is a two-directional process in which assumptions are made about both researchers' and participants' obligations to one another during the research process. Where presumed consent primarily serves the researcher in very specific situations to meet his/her ethical obligation to obtain an individual's consent, a social contract is a broader set of agreements aimed at defining what is ethically permissible (similar to presumed consent) and uniquely, what is forbidden in the relationship, and what obligations contractors have to one another.

A proposed social contract for deception research.

Kimmel, Smith, and Klein (2011) proposed utilizing Social Contract Theory as a means of defining the ethical obligations of researchers and participants, and for the purpose of working toward greater understanding and resolution of some of the ethical debates concerning deception research practices. By developing a base of knowledge concerning what individuals involved in research (i.e., participants and researchers) believe about the broad and specific aspects of deception, social contracts for research deception could be developed that would specify guidelines for the ethical use of deception methods. As a tool for helping researchers make ethical decisions about their utilization of deception methods, this theoretically-based application of a social contract makes a number of assumptions; of which there is limited or mixed empirical evidence. This study sought to evaluate such assumptions and quantify participants' and researchers' agreement with the proposed social contract for deception. The Fundamental and Principle social contract statements proposed by Kimmel et al. (2011) are described below and presented in list format in Appendix A.

Kimmel et al. (2011), articulated five Fundamental aspects of a social contract for deception that they hypothesized researchers and participants (called “contractors”) would agree upon. As a starting point, they assumed contractors would agree deception should be used with caution and that the professional ethical codes (e.g., American Psychological Association's Ethical Principles and Code of Professional Conduct (APA Code); APA, 2002) provide a reasonable set of constraints on the use of deception in research. This assumption relies in part on the fact that the Fundamental statements in the Kimmel et al. social contract are quite similar to the existing APA Code. Given that the APA Code was developed through multistage iterations involving feedback from professional association members, they expected that researchers would strongly support the Fundamental aspects of this contract. Additionally, these ethical concepts exist outside of psychology and are consistent with other public and well-known legal-ethical documents (e.g., Nuremberg Code, Declaration of Helsinki, The Belmont Report) which were developed through similar collaborative processes, including opinions of individuals who have been subjected to questionable and often harmful research. For this reason, it was predicted that the Fundamental aspects of the proposed social contract would also be supported by a vast majority of individuals in the role of participant.

In developing a social contract for deception research, Kimmel et al. (2011) acknowledged that operationalizing dignity is challenging, but posited that voluntary participation and informed consent are derivations of respect for human dignity, for which serious efforts should be made to protect the individual’s right to make informed and autonomous choices (Kimmel et al. clarified that commitments to voluntary participation and informed consent are not theorized to be unconditional obligatory requirements, but are moral

ideals). Consistent with this perspective, the present study measured attitudes about voluntary participation and informed consent as a way of attending the ethical principle of dignity.

Fundamentals. Kimmel et al. believed contractors would agree to four general constraints stemming from a core belief that human dignity should be respected and protected: (1) *Fundamental to any research study is respect for human dignity and a commitment to voluntary participation and informed consent*, (2) *Participants are reminded that their participation is voluntary and that they can and should withdraw, if they deem necessary, from a study at any time, without penalty*, (3) *Deception is used only where remedial measures are employed, including forewarning and debriefing, as appropriate*, and (4) *Harmful deceptions, identified as fully as possible through the rigorous application of procedures, are never permissible*. The present study attempted to capture the proposed Fundamental aspects, while differentiating between specific elements that may be differentially agreed upon (e.g., physical vs. psychological harms).

Principles. In addition to these general ideals for a social contract for deception research, Kimmel et al. proposed five social contract Principles:

Principle 1, *“The use of deception as a last resort, once all alternative procedures are ruled out as unfeasible”* (2011, p. 239). This statement acknowledges the potential value of deception methods, but suggests that if an individual were unaware of his/her role in a study (a “veil of ignorance” as participant or researcher), he/she would likely wish the use of such deception to be minimized to a level considered acceptable in daily life and used only as a last resort. This first principle challenges assumptions that deception is, as a default, necessary to research by asking investigators to unambiguously justify the need to utilize deception methods in a given study.

Principle 2 states “*Researchers using deception increase the scope of informed consent and explicitly forewarn that deception may be used in behavioral science research.*” Kimmel et al. assumed responsible moral agents would desire a general forewarning about the potential use of deception and debriefings to be used to the fullest extent without compromising the study. In practice, this could involve using standardized language in all informed consent documents for psychological research stating deception may be used in the current (and any other) study. Within the professional literature, the use of explicit forewarning that deception may occur in a study has been thoroughly debated with no clear agreement regarding its use (discussed in more detail in subsequent sections focusing on deception research practices).

Principle 3, “*Researchers anticipate and make allowances for possible vulnerabilities of participants in developing studies that use deception and in seeking informed consent*” highlights unique circumstances and populations which may require special attention when considering deception designs. It calls upon researchers to pay special attention to the risks inherent in working with vulnerable populations (e.g., prisoners, elderly, intellectually disabled). As a foundation, the principle assumes every individual should always be informed that their participation is voluntary and can withdraw without penalty or loss of promised compensation, and additionally proposes that individuals should be informed that they not only can, but should, withdraw from the study if they have concerns about procedures used.

Principle 4, “*Researchers never expose participants to procedures or risks that they themselves would be unwilling to accept if similarly situated,*” is quite similar to the ‘*Golden Rule*’ (i.e., do only onto others what you would have them do to you), which is a nearly universal principle expressed in most major religious and philosophical traditions (Kimmel, et al., 2011). Recognizing individual differences in tolerance for risk, Kimmel et al. suggest contractors would

agree, at a minimum, that harms should be avoided or minimized whenever possible to the extent that they are knowable and result in discomfort no greater than what is experienced in day-to-day life (termed the “ubiquity argument” by Benham, 2008).

Principle 5 specifies that participants also have obligations in a social contract. Kimmel et al. proposed a social contract in which, in addition to the obligations of the researcher to the participant, research participants have an ethical obligation to “*cooperate fully and in good faith in research studies they have accepted to participate in*” (2011, p. 242). This expression of a two-way relationship between the research and the researched participant goes beyond the traditions of presumed or advanced consent and highlights the need for a consent document which is contractual as well as informative.

A starting point: Comparing ethical judgments of participants and researchers.

Kimmel et al. proposed a hypothetical social contract, and seemingly did not intend to test it with empirical methods. While this study has not sought to create an explicit social contract between participants and researchers (one involving actual consent of each individual engaged in research), it does seek to combine a hypothetical social contract for deception research with actual ethical judgments made by individuals representative of the populations of contractors in the proposed social contract. As a starting point, let us examine what is already known about variation in ethical judgments between participants and researchers.

There is a relative scarcity of quantitative research examining *consensus* or *agreement* between participants’ and researchers’ ethical judgments about deception research, and only a marginally greater amount of research addressing *differences* in judgments between these groups. Two notable exceptions include Sullivan and Deiker’s (1973) work contrasting the perceptions of deception by participants and researchers, and Schreier and Stadler’s (1992) comparison of

ethical judgments made by participants, researchers, and IRB members. While both studies provided valuable descriptive information, neither were rooted in a theoretical framework and both concluded a great deal more research was needed to understand the ethical judgments of these groups.

Sullivan and Deiker (1973) queried undergraduate students ($n = 357$) and psychologists ($n = 285$) about their hypothetical willingness to participate and perceived ethical justification of deceptive research. Each participant was randomly assigned to one of four hypothetical experiments ranging from alterations in self-esteem to experimentally induced pain, stress, or unethical behavior. Respondents were asked two dichotomous (Yes/No) questions, “Would subjects volunteer knowing details of study?” and “Is the deception unethical?”. The investigators explored the effect of personal characteristics, including gender, previous experience with research as a participant or researcher, major/specialization, and years since degree (for psychologists), on these ethical judgments and found no statistically significant differences in perceived ethicality or willingness to participate across factors beyond the classification of “student” or “psychologist.”

Sullivan and Deiker found that psychologists were significantly more ethically conservative than students in approving studies (i.e., psychologists perceived studies as less ethical). One notable exception was in the electric shock vignette, where both groups were equally restrictive. Among the other findings from this study, the researchers found experience in previous studies as a participant did not have a significant effect on willingness to participate ratings. In the context of the ethical arguments concerning deception research during that time in history, this article provided evidence counter to unsubstantiated claims made in the professional

literature that deception research would not be perceived as morally justifiable by participants (hypothesized by Baumrind, 1964; Orne, 1962).

Schreier and Stadler's (1992) study used a sample of 100 student research participants, 107 psychological investigators, and 45 IRB members to explore ethical perceptions of a single hypothetical research protocol including multiple questionable research procedures. Respondents replied to 10 items (5-pt. Likert) assessing agreement about the presence of questionable aspects of the hypothetical proposal. The items were consolidated into six areas: Debriefing procedures, Risks to participants, Benefits to others, Informed consent, Comfort with the study, and Change to study. The results indicated that both IRB members and researchers were less comfortable endorsing the study and more likely to think changes were needed compared to students. Students were more likely to view the study as beneficial, despite lacking any great deal of experience as participants.

Deception research methods

Previous attempts to understand the ethical judgments about deception by participants and researchers have relied heavily on vignettes depicting deception research methods. In most cases, the vignettes have been brief summaries of published research involving deception methods. One potential criticism of previous research using such vignettes is that they have not provided a broad enough sampling of types of deception or have not provided a rationale for the selection of vignettes. This criticism is not completely surprising considering broader difficulties in the field defining and classifying deception methods. The following sections provide a rationale for the operational definition of deception used for this study and suggest the use of a theoretical taxonomy for classifying deception research methods. The selections of vignettes

used in this study are consistent with the presented rationales and attempted to broadly sample various forms of deception research methods from the published literature.

Deception defined.

In human-subjects research, deception is used when valid results could not be achieved by fully informing participants about the real purposes or procedures of a study. Deception is frequently employed to avoid confounding data with biases caused by demand characteristics; for example, a participant's awareness of the hypotheses may lead him/her to alter his/her responses. Traditionally, informed consent is a legal and ethical requirement of research, and it implies the full disclosure of information, to a potential participant, that would be relevant to his/her decision to voluntarily participate. Most researchers engage in full disclosures of relevant information in informed consent documents; however, it is not always prudent to fully disclose information that could alter the participant's responses. For example, researchers exploring racial bias often minimize participants' efforts to be seen in a favorable light by not disclosing the methods they use to measure racial attitudes.

Research involving deception almost always involves a level of incomplete informed consent (Menges, 1973). A deception methodology may not inform potential participants of the topic of interest or may provide a diversionary cover story as a means of misleading participants and preventing alteration of their natural responses. In instances where researchers *intentionally* omit or mislead potential participants, the term deception is appropriate; however, the *unintentional* lack of information in a consent document is not necessarily equivalent to deception (although it may represent other ethical violations). It should be noted that at least one prominent author in the area of deception research (i.e., Baumrind, 1964, 1985), and who is opposed to deception in research, defines deception in both intentional and unintentional

contexts. Whether or not this is a meaningful distinction, the APA's Ethics Code (APA, 2002) has identified *intentional* deception as the major source of ethical dilemma.

Therefore, for the purposes of this study, deception in research refers to *intentional acts* of *omission* (leaving out important information) or *commission* (misleading the reader) by the investigator, and that are aspects of the design (not forms of coercion to increase participation rates). Intentional omission should only be considered deceptive when it is done for the purpose of concealment, and may be considered "*passive deception*." In contrast, most participants are generally aware of and accept that there will be some specific details of a study that they do not know at the time of consent (e.g., they may be informed of the topic of survey questions without knowing the specific items); this is not deception. Where participants are intentionally not told important details that might alter their beliefs about their participation (e.g., participants are purposely not informed that the study is assessing covert racism) the term "*active deception*" is warranted. Additional areas that should be considered deceptive methods include the use of 'confederates' (researchers or assistants posing as non-research personnel) (e.g., conformity studies conducted by Asch, 1955; Milgram, 1963), false feedback about performance on laboratory tests (e.g., Feather, 1969), intrusive measurements (e.g., observations of urination in public restroom's by Middlemist, Knowles, & Matters (1976)) and staged field research settings (e.g. public transit users witness an actor walking with a cane collapse and bleed from the mouth (Piliavin & Piliavin, 1972)).

Simple classification of research deception.

Several attempts have been made to develop a simple classification scheme for deception research designs. Kimmel et al. (2011) differentiated *mild* and *strong* (or "*severe*") deceptions using the following criteria: *Mild deceptions* are those that create false beliefs about relatively

unimportant issues not directly related to the individual's self-concept. Such mild deceptions are commonly used in studies of reaction time or memory where participants are not informed that their reaction time or recall will be tested in order to prevent non-natural effort or attention. Any negative reactions to mild deceptions are extinguished during the debriefing session, if not before.

Strong deceptions, according to Kimmel et al. (2011), are those that can create false beliefs about central, important issues related to the individual's self-concept or behavior. This may occur when an experimenter manipulates an individual's beliefs about their level of self-esteem or intelligence (such as in false feedback or mood manipulation). Strong deceptions may also involve negative affect that lasts beyond the debriefing (e.g., continued suspiciousness about self-esteem).

In a separate attempt to classify deceptions, Sieber (1982) suggested a possible three-level classification ranging from *mild* to *strong* forms of deception based on level of consent. In the *mildest* forms of deception, the participant is "specifically informed about the purpose, procedures, and actual risks and benefits of the various experimental conditions that might occur, without being told to which condition the subject is actually assigned" (p. 3). A *moderate* form of deception could occur when a participant consents to be deceived (in a general sense) and waives his/her right to be fully informed. In this kind of deception, members of a subject pool might pre-consent to be deceived from time to time and agree not to be informed when it occurs. They may also consent to a study and be informed that deception will occur, but waive their right to know any more about the method of deception. Finally, *strong* forms of deception, according to Sieber, would include consenting to participate, but with false information or without knowing that the research could involve deception. Sieber points out,

“It is important to note, however, that even the very strongest form of deception, and the form that violates the largest number of ordinary moral obligations to persons, can be used in utterly harmless and delightful ways as well as in potentially dangerous and objectionable ways, depending on the means of deception and the nature of the research”

(Sieber, 1982, p. 3).

This statement makes clear that knowing only the kind of deception that is used tells us little about how harmful or objectionable any particular study could be. In order to more fully understand the combination of conditions that determine the possible degree of wrongfulness or risk of harm, we must look at the ways researchers use different kinds of deception in conjunction with specific devices of deception and view this in the context of the nature of the deception and its potential outcomes (Sieber, 1983).

Advanced classification of research deception.

Although a number of writers have put forward simple classification schemes of research deception, Sieber’s Taxonomy of Deception Research (1982, 1983; Sieber, Iannuzzo, & Rodriguez, 1995) is the only known published comprehensive conceptualization scheme of deception research. Frequently cited in the ethics literature, but less commonly mentioned within actual research rationales, the Sieber Taxonomy encompasses a framework which includes seven ‘*kinds of deceptions*’ or failures to inform, three ‘*devices for deceiving*,’ and attends to the ‘*nature of the research*,’ ‘*potential upsets*,’ and ‘*ethical objections*’ that may result from the deceptive research. Each element is briefly discussed in the following sections (the Sieber Taxonomy can be found in Appendix B).

Kinds of deception. There are two basic sub-types within the category of kinds of deception; (A) *deceptions by the researcher* and (B) *deceptions by others*. Deceptions by the researcher include five levels of informing, ranging from full informing to no informing. Not

surprisingly, potential ethical objections increase as researchers move further away from fully informing the research participant during the consent process (Sieber, et al., 1995).

First, the kind of deception least likely to involve ethical objection is *fully informed consent*, in which the subject consents to participate in one of several clearly described conditions, knowing that the researcher will not initially inform them of which condition they receive.

Second, *consent to deception* occurs when the participant agrees to be deceived in some way by the researcher where enough information is provided for the participant to adequately assess potential risks from participation.

Third, *consent to waive informing* has slightly more risk of potential ethical objection because the participant waives his/her right to be informed, but is not forewarned that deception methods may be used (deception by omission).

Forth, *consent and false informing* occurs when subjects consent to participate in research, but are actively misinformed about the nature of the study (deception by commission).

Fifth, *no informing and no consent*, has the potential for strong ethical objections because subjects are neither informed that they are participating in a research study, nor are they informed that deceptions are occurring within that involuntary participation.

Sieber additionally identifies two (less common) kinds of deception that are not carried out by the researcher directly. *Self-deception* is a unique situation in which the researcher skeptically studies the ongoing questionable beliefs or behaviors of a participant. Self-deception research often involves surveying the attitudes or behaviors of individuals with idiosyncratic views (e.g., middle-class Americans who believe in ghosts or ESP); however, Sieber (1982, 1983) notes that this classification depends in part on whose point of view is taken. This is

generally viewed as a mild form of deception and is often accidental; however, the potential for unintended harm to participants is an ethical issue warranting attention.

The other kind of deception not by the researcher is *deception by a third party*, which is used when researchers are not actively engaged in research deception, but observe naturalistic acts of deception in society. Examples of third party deception might include, observation of reactions to false advertising by a third party or to a physician who withholds potentially upsetting information from a cancer patient.

Devices of deception. Sieber (1982) describes three devices of deception that can co-occur in a single study. *Technical deception* occurs when the researcher misrepresents procedures, measures, or other research objects for the purpose of misleading the participant. In the Milgram shock study (1963), the fake shock apparatus and pre-recorded screams of the supposed learner are clear examples of technical deception. *Role deception* involves one or more person from the research team misrepresenting themselves as part of the experiment. Again, in Milgram's study, the use of a confederate pretending to be another research subject is a form of role deception.

Finally, *implicit deception* occurs when the methods of the study are so different than what the participant naively expects that the individual responds based on incorrect assumptions which are not corrected by the researcher. Milgram elegantly used implicit deception in his landmark study by focusing on the "teacher," not the "learner," as the object of the study. While role deception was used to deceive about role the learner, the participants' implicit judgments that the focus of the study was on the learner, and not themselves, was a form of implicit deception; the research aims were so different from what the participants expected that they acted under false assumptions (i.e., that they were not being measured as subjects).

Nature of the research. In addition to the kinds of deception and devices of deceiving, Sieber (1983) highlights a number of aspects of research designs other than the deception that influence potential ethical objections or harm to participants; (1) *social perception of the behavior*, (2) *privacy of the behavior*, (3) *induction of behavior*, and (4) *confidentiality* afforded by the researcher's design. It is important to note that variations in these elements do not, by default, make a deception design harmful or objectionable. However, the risk of ethical objections is presumably raised when, for example, socially undesirable private behavior is strongly induced in a way that produces limited confidentiality for the participant. For a detailed description of each of these elements, please refer Appendix B and resources by Sieber and colleagues (Sieber, 1982, 1983; Sieber, et al., 1995).

Upsets caused by deception. The expected consequences of a deception study are critical in determining the ethicality of a deception. Among the possible upsets that could be caused by deception designs are (1) primary upsets from the treatment condition (e.g., learning you received the placebo), (2) secondary upsets after learning the outcomes of a deception study (e.g., undesirable findings related to you as a member of the sample), (3) upsets caused during the debriefing (e.g., realizing the study was not what you thought it was about), or (4) upset from learning you were in a deception study (e.g., upset you were fooled). Although perceptions of upsets are highly subjective, Sieber's (1983) writings about this area suggest these items may help ethicists consider *possible* upsets even if they are not as accurate in predicting *likely* upsets.

Potential wrongs caused by the use of deception. Sieber (1982) examined the kinds of deception and proposed that some forms may be perceived as less ethical due to increased potentials for moral or ethical objections. In her review, she identified likely ethical objections relevant to deception research: (1) Invasion of privacy, (2) No informing, (3) No self-

determination, (4) No debriefing, (5) Researcher lies, and (6) Researcher conceals pertinent information. Compared to *fully informed consent* designs, *no informing and no consent* designs were much more likely to have multiple accompanying ethical objections.

When all of the elements are considered together, Sieber supposed that ethically-interested parties could have sufficient information to make more reasoned moral judgments about the permissibility or acceptability of a given research design, and if necessary, seek modifications of one or more element in a proposed study. While many of the possible ethical objections to deception appear to be captured in the Sieber Taxonomy, there are also a number of more global objections to the use of deception methods in research. The following section provides a brief overview of the broader philosophical/methodological debate for and against the use of deception in research.

Ethical decision-making

Ethical arguments for and against the use of deception in research.

There is broad consensus that research deception is among the most debated ethical issues in psychology (Baumrind, 1985; Fisher & Fyrberg, 1994; Hertwig & Ortmann, 2008; Kelman, 1972; Kimmel, 1998). Since its first published use (see Cason, 1925), deception has been criticized on moral and methodological grounds (Kimmel, et al., 2011). Further, several highly publicized deception studies have helped shape the harsh criticism of deception methods in psychological research including, Milgram's shock study of conformity to authority (Milgram, 1963), the Stanford Prison Study (Haney, Banks, & Zimbardo, 1973), and Schachter & Singer's (1962) study of emotion and misattribution of arousal following epinephrine injections.

In examining the extant literature, those writers who support the use of deception tend to rely on teleological or consequentialist philosophical rationales, both which focus on the

consequences of actions as the means of deciding an action's ethicality. Similarly, engrained in many ethical guidelines and policies in research and psychology is the philosophical theory of utilitarianism, which is a specific form of teleological ethics that seeks to produce the maximal balance of benefits over harms, or at least minimize harms. The APA *Ethical Principles of Psychologists and Code of Conduct* (2002) explicitly reference a utilitarian approach to deception in Principle C: Integrity, "...deception may be justifiable to maximize benefits and minimize harm" (p. 3). Institutional review boards (IRBs) also use a 'maximize benefits, minimize harms' approach in evaluating the appropriateness and ethicality of research proposals (Workman, 2007).

In general, defenses of deception research often focus on benefits accrued in scientific knowledge produced from research. Another common defense includes methodological arguments which maintain that deception protects internal validity of findings by ensuring the collected data was not confounded by knowledge of the hypotheses or purposes of the study that would lead a person to alter their behavior or responses.

In contrast, opposition to deception frequently focuses on deontological or rule-based ethical theories. Such ethical theories generally reject or limit using the consequences of an action as an acceptable rationale for its use. Deontological ethics theory maintains that the actions themselves have moral value and acts should be judged based on how well they fit with applicable universal laws. Although the APA Code makes many references to utilitarian ethics, a number of sections also include, sometimes conflictingly, deontological ethical perspectives. For example, Principle E: Respect for People's Rights and Dignity, is clearly written from a deontological perspective by identifying 'fundamental' rights to privacy, confidentiality, and self-determination (APA, 2002). From this perspective, deception is morally wrong because it

misleads research participants and so robs them of their right to self-determination and informed consent; this despite explicit permissions to utilize some deceptions under utilitarian rationales.

Several critics of deception (e.g., Baumrind, 1985; Blatchley & O'Brien, 2007) have also claimed that the use of deception should be abandoned or greatly reduced due to its potential to harm participants and sully the reputation of psychologists and the scientific community. The first argument, “deception will harm participants,” is based in the maxim of nonmaleficence (do no harm), which might suggest exposure to deception is a potentially physically and mentally damaging research activity. Evidence for such claims is mixed, but there is a growing body of literature suggesting the calamitous predictions by Baumrind (1985) and others have not come to fruition. In fact, most participants do not report any negative reactions to participating in deception experiments (e.g., Milgram, 1964; Ring, Wallston, & Corey, 1970; C. P. Smith, 1981) and find deception research participation to be less boring and more enjoyable than non-deceptive research participation (e.g., Finney, 1982; S. S. Smith & Richardson, 1983).

Fisher & Fyrberg (1994) examined reactions to deception research methods and found prospective participants viewed many commonly used deception procedures as acceptable and appropriately balanced in terms of potential benefits and harms. Several other researchers have provided conflicting accounts; for example, Allen (1983) and Cook et al. (1970) found evidence that participants exposed to deception methods rated the value of the experiments lower than those without deception methods. Oliansky (1991) provided evidence that deception methods (in this case learning about deception by a confederate) might result in strong negative emotional reactions.

The second common claim against deception is that it might mar the reputation of psychologists and science. Sometimes referred to as the ‘*reputational spillover effect*’ (Blatchley

& O'Brien, 2007), it was argued that the use of deception will both be methodologically harmful (reducing the number of non-suspicious or naïve subjects) and self-destructive (reducing public support for psychology research, thus jeopardizing funding and public trust). Baumrind (1985) argued that if it becomes known among participants that researchers deceive, they may become less inclined to participate in good faith and honesty. Kimmel (1998) put this claim to empirical test and concluded that “the effects of suspiciousness on research performance, although somewhat inconsistent, appear to be negligible” (p. 804). Sharpe, Adair, and Roese (1992) looked at the effect of continued use of deception on attitudes within a participant pool and found it did not increase negative attitudes toward researchers.

Despite the presence of empirical evidence demonstrating generally more positive than negative consequences (utilitarian criterion), critics of deception research are likely to rely on universal rules or moral values (deontological criteria) that maintain that the practice of deception is analogous to lying and breaches of a broader social contract in daily life that persons should be honest and respectful of others' rights to autonomy and informed consent.

A less dogmatic approach that attempts to follow universal principles, but acknowledges that there are exceptions where principles conflict, most cleanly characterized by a rule-utilitarian approach, may make allowances for some deceptive practices; however, this perspective is still generally unlikely to support most deceptive practices (Baumrind, 1979). What seems clear is that individuals utilizing different ethical/philosophical theories are likely to have differing fundamental perspectives on what makes a research design ethical or unethical, even if they come to similar conclusions about a given deception study.

Factors influencing ethical decision-making.

The factors influencing the beliefs underlying social contracts are numerous and varied (Rousseau, 1995). To date, much of the literature on ethical decision-making has been nonempirical (Trevino, 1986). There have been a number of models attempting to describe ethical decision-making; however, there have been far fewer attempts to test these theoretical models (Ford & Richardson, 1994). Additionally, while some models are quite pragmatic, most are not well-grounded in an established theory of decision-making or ethics. In a review of the empirical literature in ethical decision-making, Ford and Richardson (1994) stated that ethical decision-making models generally “divide the postulated influences on an individual’s decision behavior into two broad categories... (1) variables associated with the individual decision maker... and (2) variables which form and define the situation in which the individual makes decisions” (pp. 205-206).

This literature review highlights some of these individual and situational factors. The following sections identify factors explored in this research study and provide a review of the available empirical literature suggesting their potential influence on ethical decision-making about deception research. First, one of the individual factors believed to influence ethical decision-making is beliefs or preferences toward a style or model of ethical decision-making, termed ‘*ethical ideologies*’ (Forsyth, 1980; Schlenker & Forsyth, 1977). Other factors in this category include personal attributes such as social desirability, gender, age, race/ethnicity, as well as religious and political affiliations/importance. Experience and education are also potentially important individual factors and include degree status, area of study, years of experience and amount of prior exposure to deception research.

Situational factors include influences external to the individual which have bearing on decision-making. Such situational factors may include organizational values or rules. This study highlights the influence of an individual's referent group (i.e., participant or researcher) on their acceptance of social contract statements and perceptions of ethicality of deception studies. Despite its logical importance, the influence of one's referent group on ethical decision-making has arguably received the least attention of the factors identified in either category.

Ethical ideology. It is not uncommon for two persons to come to different moral judgments when each is provided with identical information about an ethical dilemma, even despite similarity in religious and political views (Forsyth, 1980). In an effort to explain this phenomenon, Schlenker and Forsyth (1977) developed *Ethics Position Theory*, which posited that individual ethical/moral attitudes and judgments were part of an "integrated conceptual system of personal ethics" (Davis, Andersen, & Curtis, 2001, p. 36). Built upon previous efforts to explain ethical decision-making (e.g., Hogan, 1970; Kohlberg, 1969; Rest, 1979), Ethics Position Theory focuses on two important dimensions of ethical judgment, *idealism* and *relativism*.

Idealism refers a belief that 'right' actions will produce ideal outcomes and that moral judgment and behaviors should be based on the degree of intrinsic 'rightness' of an act. Individuals high in idealism principally emphasize concepts like nonmaleficence (i.e., *do no harm*). Individuals who are non-idealists or low in idealism are generally more pragmatic and focus on the range of possible consequences of actions in making ethical judgments. These individuals low in idealism recognize that good and bad consequences can co-occur (e.g., harm to others is sometimes needed to produce the greatest good for those involved).

The second dimension of ethical ideology, relativism, describes the extent to which individuals reject universal moral rules in judging moral dilemmas (Forsyth, 1980). Individuals high in relativism reject the idea of using universal moral rules as a guide to ethical decision-making, in favor of a flexible and culture specific set of guiding values. They believe that actions should be judged with respect to unique circumstances and possible outcomes. In contrast, individuals low on the relativism scale, or non-relativists, believe all situations should be judged by a set of universal rules or principles that are relatively ridged across situations.

Philosophers have traditionally contrasted moral theories emphasizing the morality of the actions (deontological or rule-oriented models) or consequences (teleological or consequence-oriented models). Rather than assuming individuals are exclusively either rule- or consequence-oriented, Forsyth's Ethics Position Theory (1980) assumes individuals can range from high to low in their concurrent beliefs about the need to select the right action (*idealism*) and the amount of emphasis placed on evaluating the unique circumstances of a situation (vs. relying on prescriptive/proscriptive ethical dogmas) (*relativism*) in making judgments about moral dilemmas. The combination of idealism and relativism could then be used to classify and describe different ethical ideologies.

Early works to quantify idealism and relativism where undertaken by Schlenker and Forsyth (1977), and later improved by Forsyth (1980, 1985). These efforts provided a parsimonious and empirically-supported approach to explaining individual variations in styles of ethical judgment consistent with the two-dimensional model (idealism and relativism), measured by the *Ethical Positions Questionnaire* (EPQ, Forsyth, 1980) (see measures section for validity and reliability information).

The EPQ contains two 10-item scales measuring idealism and relativism. The scores for each scale are identified as high or low (relative to the sample mean), and the combination of elevations between scales is used to classify the individual's ethical ideology across four types *Situationism*, *Absolutism*, *Subjectivism*, and *Exceptionism*, which are unique combinations of high and low scores for each scale (see Table 1). The factors and resulting ethical ideologies are defined and illustrated in the following sections.

Table 1.

EPQ Ethical Ideology Categories

| | | <u>Relativism</u> | |
|-----------------|------|-------------------|--------------|
| | | Low | High |
| <u>Idealism</u> | High | Absolutism | Situationism |
| | Low | Exceptionism | Subjectivism |

Situationism (relativistic and idealistic). These individuals reject the idea of universal moral principles (high relativism), but maintain that individuals should seek to find the right or best action for the circumstances (high idealism). Several philosophies share aspects of this ideology. *Utilitarianism* is a similar approach in that judgment of each situation requires a unique balancing of the greatest good for the greatest number of persons. In a slightly different form, *situation ethics* argues that the best “fit” or acceptable resolution is preferable (or at least more practical) to seeking an action that is best or right (Fletcher, 1966). The goal of outcomes in the Situationist ideology is finding the contextually appropriate moral solution. Concerning

deception, Situationists are likely to espouse the idea that deception can be allowable if it results in the best possible outcome in a given situation (Forsyth & Pope, 1984).

Absolutism (not relativistic, but idealistic). Absolutists contend that the best possible outcomes can always be achieved (high idealism) by strictly following universal ethical rules (low relativism). This type of individual is likely to condemn any action believed to violate the “do no harm” principle of maleficence. This ethical ideology is most closely related to the philosophical system of deontology. Deontologists attempt to use universal moral rules to judge actions. German philosopher Immanuel Kant’s (1724-1804) ‘Categorical Imperative’ is a good example of the absolutist/deontological perspective. In Kant’s view, principles derived from a categorical imperative are universal and without exception. For example, a principle such as “Keep your promises as long as they benefit you” would not qualify as a categorical imperative because it negates the concept of a promise. The maxim “Always keep your promises” does not allow inconsistency and therefore qualifies as a moral absolute (Forsyth, 1992). Related to perceptions of deception, Forsyth and Pope (1984) suggest Absolutists are likely to maintain that deception should always be avoided due to its violation of universal moral principles of trustworthiness and honesty.

Subjectivism (relativistic, but not idealistic). Similar to situationists, the Subjectivist rejects moral absolutes (high relativism), but they are less optimistic than situationists about the potential for ideal outcomes. Individuals of this type believe moral judgments can only be made in reference to what is best for the individual. This ideology parallels *ethical egoism*, which states that because no morals are valid except in reference to one's own behavior, moral judgment ultimately depends on personal perspective. Therefore, conclusions based on this philosophy suggest people promote their own self-interest rather than attempting to produce

positive outcomes for others. This is not to mean that a moral agent does not consider consequences, but that all moral agents must individually consider the desirability of outcomes for themselves. Concerning deception from the Subjectivists viewpoint, judgments about the ethicality of deception are a personal matter to be decided by those involved, not by moral rules, and not with any expectation of ideal outcomes for all (Forsyth & Pope, 1984).

Exceptionism (neither relativistic nor idealistic). Exceptionists share the absolutist's belief that moral truths exist; however, they are less optimistic about the possibility of obtaining ideal outcomes. Aspects of this approach resemble deontological philosophy, while at the same time there is a respect for the pragmatic approach of utilitarianism. This combination of philosophies is most closely resembles *rule-utilitarianism*, the belief that while moral principles provide a useful guide in making decisions, and are likely to produce the best choices, there may be exceptions in which the principled choice would result in harm to others. It is in these instances that the Exceptionist ideology permits deviance from the moral principle. Applied to deception, if the deception cannot be avoided, it may be allowed with proper safeguards (Forsyth & Pope, 1984).

The notion that moral judgments are related to an individual's prescriptive beliefs about how such judgments should be formulated has been supported with empirical research (e.g., Forsyth & Berger, 1982; Forsyth & Pope, 1984; Nye & Forsyth, 1984). Forsyth and Pope (1982) sought to identify key concerns associated with moral judgments about social psychological studies. Using a small sample of 24 undergraduate participants, they presented summary vignettes of 15 controversial social psychology experiments and measured 105 paired comparison ratings between studies. Participants rated each study across nine items (e.g.,

invasiveness of the study, potential for harm to participant, scientific value) and identified the degree to which they believed the study was unethical, using a nine-point scale.

The researchers then conducted a series of multidimensional scaling (MDS) analyses of the reactions to the vignettes and concluded a model with three factors provided the best fit for the total sample. The three general factors were labeled (potential harm to participant, use of manipulative illegitimate procedures, and risk/benefit ratio) using the correlations between coordinates generated by the MDS analysis. Most importantly, they found that the extent to which these factors contributed to ethical judgments about the vignettes depended on the participant's ethical ideology.

They reevaluated the data and labeled the types of concerns within each ethical ideology by "examining the correlations between the coordinates of the studies generated by MDS and the ratings of the stimulus on the nine items" (Forsyth & Pope, 1984, p. 1370). They found significant differences in the relative strengths of concerns related to judgments of ethicality across studies for the four ethical ideologies, which suggested individuals from the four ethical ideologies relied on different dimensions of concern (e.g., invasion of privacy or potential harm) when judging the ethicality of a study.

As hypothesized, compared to other ethical ideologies, respondents classified as situationist viewed studies perceived to have few risks and many benefits to be the most ethical. Dimensional analysis of responses for this group showed situationists were highly concerned with participant harm, specifically if the participant was likely to be upset by the experiment. The percentage of variance in ethical ratings accounted for by these two dimensions (subject harm and subject upset) was high ($R^2 = 83.1$). In contrast, absolutists had the strictest ethical appraisals across the 15 studies. They were most condemning of studies with negative

consequences to the participant, especially potential for psychological harm, and generally risky procedures ($R^2 = 78.5$).

By comparison, subjectivists focused most strongly on potential harm to participants and the invasiveness of the methods, and to a lesser degree, the perceived scientific legitimacy of the study. For subjectivists, these three dimensions accounted for 67.9% of the variance in their ethical judgments. Lastly, the exceptionists attended most closely to the magnitude of costs, the good and bad consequences, the scientific legitimacy, and aspects of informed consent ($R^2 = 81.8$).

Forsyth and Pope (1984) also made interesting discoveries when they compared similar key dimensions (mentioned in the previous paragraph) used by each ethical ideology. Specifically, there were many instances where the key dimensions used by each group shared conceptual similarity to dimensions used by other groups. By correlating the MDS configuration weights across dimensions with similar names or concepts, they were able to examine subtle characteristic differences between ideologies.

For example, the situationist and absolutist ideologies both had a cost-benefit dimension ($r = -.43$); however, the ratio was evaluated differently by each group. For situationists, a broad range of factors (i.e., survey items attending to potential benefits and/or potential harms) correlated with the cost-benefit ratio dimension, whereas the absolutist's cost-benefit ratio focused almost exclusively on harm avoidance (emphasized importance of items related to nonmaleficence to the exclusion of beneficence items).

What seemed most interesting about Forsyth and Pope's (1984) work was that it demonstrated the importance of ethical ideology on ethical decision-making, while also illustrating how differing ethical ideologies could come to the same ethical decisions, but by the

use of slightly different vantage points. By better understanding how ethical ideology plays a role in ethical decision-making about deception research, it may be possible to identify areas of sufficient agreement about the ethicality of certain deception designs (ethical or unethical) and begin to focus on developing a resolution about acceptable and unacceptable forms of deception; thus, meaningfully leaving the remaining areas of disagreement as fodder for continued ethical/philosophical debate.

Social desirability. Social desirability can be defined as the “tendency to endorse items in response to social or normative pressures” instead of accurate self-reports (Ellingson, Smith, & Sackett, 2001, p. 122). Social desirability can severely limit interpretations of self-report data and may involve intentional and unintentional efforts to portray oneself in a favorable light or bias responses in favor of, or in contrast to, the researcher’s hypotheses. Because these efforts confound research findings, researchers frequently screen for social desirability when examining personality or in situations where there may be demand characteristics (e.g., good-participant role).

Many social desirability scales have been developed over the years; however, the Marlowe-Crowne Social Desirability Scale (MCSDS; Crowne & Marlowe, 1960) and its short forms are among the most widely used (Barger, 2002). Li and Sipps (1985) examined various short forms of the MCSDS and recommended Reynolds’ (1982) short form version based on its routine superiority to other versions cited in the literature (see measures section for details). This study assessed for social desirability response tendencies affecting strength of agreement with Social Contract Statements and strength of perceived ethicality of deception vignettes among undergraduate-participant respondents.

Gender. Differences in ethical judgments across gender have been examined, primarily within the business ethics literature, with inconsistent findings for gender effects. In one study, female students were more ethically restrictive in judging a series of ethically questionable business practices (Knotts, Lopez, & Mesak, 2000). In contrast, Davis et al. (2001) found gender did not contribute significant variance in regression equations of ethical judgments about business practices.

Within the psychological literature, early work by Schlenker and Forsyth found females reacted more negatively than males to scenarios of social issues. Females were more likely than males to conclude that the proposed research vignette was a “greater threat to the dignity and welfare of participants and that the experimenter was more cruel, unethical, and bad ($ps < .05$)” (1977, p. 389). A later study, by Forsyth (1980), found little evidence of gender differences in ethical behavior using the EPQ. In a three factor ANOVA (idealism x relativism x gender), gender was significant in only one vignette (compliance with 55 mph speed limit), with females reporting greater obedience to the posted limit than males. Forsyth also explored the influence of gender within four ethical ideologies and found male absolutists (high idealism – low relativism) generally took the most extreme positions (across gender and ideology) about a variety of contentious social issues including marijuana use, abortion, and euthanasia (1980). Interestingly, situationist (high idealism – high relativism) males were most liberal in their views of euthanasia compared to females and males of other ethical ideologies.

Other studies have explored gender effects within other variables of interest, such as moral values (Graham et al., 2011). In Graham et al.’s study, women had stronger endorsement on three of five moral foundations, as measured by the Moral Foundations Questionnaire. Women were more concerned than men about Harm, Fairness, and Purity, even when political

ideology was considered. They reported that the effect of gender was also stronger than culture (Eastern or Western culture). This study provides additional contexts (Deception Vignettes) in which gender effects on ethical judgments could be examined.

Religion. Religious beliefs are commonly recognized as a potential source of ethical norms and rules; however, there is limited empirical evidence documenting their effect on ethical decision-making (J. W. Clark & Dawson, 1996). In a study of business ethics, Clark and Dawson (1996) found, unexpectedly, religious persons to be more accepting of questionable business practices than the non-religious. Knotts et al. (2000) found religious commitment, but not religious affiliation, significantly influenced ethical judgments by college students. Individuals who were more committed religiously evaluated scenarios as more unethical compared to those with lesser religious commitment.

Politics. Although political views are undoubtedly multifaceted, Jost (2006) suggests a simple continuum between liberal and conservative has adequate predictive validity for voting behavior and a range of other issues. Individuals with liberal views are those who celebrate individual liberty and view human potential with optimism. In contrast, conservatism generally restricts actions based on tradition or source of authority (e.g., God, Constitution, etc.). Conservatives also may hold views that are more pessimistic concerning the perfectibility of humans. In the current study, further explication of these value sets as applied to ethical decision-making about deception research may provide a greater understanding of how individuals can reach the same ethical conclusions using different judgment frameworks.

Prior exposure to deception research. Evidence collected by Sullivan & Dieker (1973) suggested that experience in previous studies did not reduce students' estimates of others' willingness to participate in hypothetical studies. Despite Hamsher and Reznikoff (1967)

suggestion that there was an inverse relationship between researcher's experience and his/her interest in ethical problems, psychologists' experience with research, measured by number of studies conducted and self-rated number of experiments using questionable methods was not significantly correlated with judgments of the ethicality of hypothetical studies (Sullivan & Deiker, 1973). Holmes (1967) found higher levels of research experience (among participants) was associated with greater perceptions that such research had scientific value.

Statement of purpose

Despite significant ethical advances in the last quarter century, including the development of professional codes and research review processes, deception methods in research continue to be a contentious focus of debate in the social sciences. Social Contract Theory has been identified as one approach to assessing and potentially resolving ethical uncertainties concerning the use of deception in research (Kimmel, et al., 2011). This theoretical approach currently lacks sufficient empirical examination. It is not known to what degree individuals agree, within or between groups (i.e., participants and researchers), about what is ethical in broad terms or specific methods.

The main purpose of the study was to examine the level of consensus for (1) agreement with broad statements about how to ethically conduct deception research, and (2) perceived ethicality of deception vignettes, for the purposes of testing the utility of a social contract for deception research between potential participants and researchers. Consistent with this objective, the methods of this study were designed to answer two primary research questions, (1) *Are there areas of consensus between participants and researchers about what broad concepts should guide the ethical use of deception in research?*, and (2) *What types of deception studies do participants and researchers agree may be ethically used in psychological research?* These

questions were addressed by examining the between-group equivalence of ratings of (1) *agreement with social contract statements* and (2) *perceived ethicality of deception vignettes*.

Within-group consensus is a prerequisite for establishing between-group consensus and is essential to Social Contract Theory. For this reason, this study first addressed within-group consensus for the variables of interest by determining whether there was sufficient agreement concerning opinions about deception research, within independent groups of participants and researchers, to support the inclusion of each social contract statement or deception vignette in a between-group social contract. Where there was sufficient within-group consensus in both groups, there was support for that items inclusion in a social contract for deception research between participants and researchers.

Exploratory analyses were included to examine variability in strength of agreement and strength of perceived ethicality ratings between groups. In some instances analyses were included to reexamine the findings of previous studies that, for example, suggested researchers might be more ethically restrictive of certain forms of deception than their participant counterparts. Additionally, there is a body of literature suggesting personal and situational factors (e.g., demographics, social desirability, and ethical ideology) may influence ethical decision-making. To further understand the factors influencing ethical judgments within the context of deception research, participants in the first data collection group (Stage I) were asked to complete several standard measures and experimental items assessing ethical ideology (EPQ), social desirability (MCSDS-SF) and common demographic features.

Finally, secondary to the tests of Social Contract Theory, this study sought to examine two areas of difficulty in the practice of researching ethical decision-making. First, there is variation among studies in the use of ratings of perceived ethicality or hypothetical consent. This

study utilized both types of ratings to determine if meaningful and practical relationships exist between these variables. Second, many studies of ethical decision-making have included vignettes describing one or more deception research design, but few studies have included vignettes covering a wide array of deception methods, and fewer have utilized methods of categorizing these deceptions based on their methods and potential impact on the participant. To increase the generalizability of these results, it was important that the deception vignettes presented in this study represented a range of deception elements commonly utilized in psychological research. The Sieber Taxonomy provided a theoretical framework for categorizing deception designs and addressed two secondary research questions; (1) *Do the selected vignettes adequately represent a range of deceptions as described by the Sieber Taxonomy?*, and (2) *Are any differences in perceived ethicality ratings of deception vignettes consistent with the theorized categories of Mild, Moderate, and Strong deception, as identified by the Sieber Taxonomy?*

Hypotheses

In addressing the research questions, the following hypotheses were developed to test the utility of a social contract for deception research and explore additional factors contributing to ethical judgments about the use of deception methods.

H1: Within-group consensus for social contract statements.

Hypothesis 1a) In Stage I, a high proportion, at least 80% (95% CI), of potential participants will indicate agreement with the Fundamental and Principle Social Contract Statements (SCS), consistent with Kimmel et al.'s (2011) social contract for deception research.

Hypothesis 1b) In Stage II, a high proportion, at least 80% (95% CI), of psychology researchers will indicate agreement with the Fundamental and Principle Social Contract Statements (SCS), consistent with Kimmel et al.'s (2011) social contract for deception research.

Kimmel et al. (2011) proposed a social contract for deception research in psychology which rests on the belief that “the authority of moral principles can come from the agreement of those affected” (p. 237). The fundamental premise of a social contract is agreement within and between those parties affected by deception research, and in order for there to be a meaningful agreement between participants and researchers, there must first be adequate consensus within each group. Kimmel et al. hypothesized, but did not test, that the social contract statements they hypothesized would be consistently accepted by both participants and researchers. To test this hypothesis of consensus, the Social Contract Statements (SCS) described in Kimmel et al.’s social contract for deception research were presented to representative samples of participants and researchers.

Critical to the testing this theory, it was important to set an appropriate quantitative benchmark for consensus. Terms like “majority” and “plurality” are frequently defined in politics as “more than half” of the votes or the candidate with the “greatest number of votes,” respectively. These terms are likely inadequate in establishing a level of consensus that would be necessary for ethical decision-making. Given the fact that complete agreement (100%) on any issue is highly improbable, and a simple majority, $> 50\%$, is likely too liberal to adequately protect minority opinions, an arguably more practical and relatively stringent estimate of $\geq 80\%$ agreement (minimum lower limit of 95% CI) has been used for this study. A lower 66% (2/3 majority) cutoff was also examined.

Additionally, while the dichotomy “agree” or “disagree” is preferable to range of agreement for understanding decisions, in seeking to better understand ethical decision-making, this study also explored the strength of agreement/disagreement for Social Contract Statements using an 11-point Likert type scale (0 to 10) where the poles represented strong agreement or

disagreement and the midpoint of the scale represented ambivalence. If individuals are fairly ambivalent about their agreement with the Social Contract Statements, the overall strength of a social contract including these statements will be weak and arguably less ethically defensible. For this reason, examination of agreement included both measurement of strength, using the 11-point Likert scale, and absolute decision, agree/disagree dichotomized from this scale. Means and standard deviations are reported for the former and frequencies for the later.

H2: Between-group consensus for social contract statements.

Hypothesis 2) Proportions of agreement for the Fundamental and Principle Social Contract Statements, consistent with Kimmel et al.'s (2011) social contract for deception research, will be equivalent between participants and researchers among statements with sufficient within-group consensus.

This hypothesis directly tests the plausibility of a social contract for deception research, concerning statements hypothesized by Kimmel et al. (2011), by analyzing the statistical equivalence of ratings between participants and researchers. There are no known studies that have examined this set of social contract statements using quantitative analyses. This hypothesis compares agreement with the SCS items between groups, which are items that had previously demonstrated within-group consensus in both participant and researcher samples ($\geq 80\%$ within-group agreement). A series of 90% confidence intervals were constructed to test equivalence in proportions of agreement between groups. When the 90% CIs of the differences between groups fell fully within the a priori equivalence interval ($\pm 10\%$ difference between groups), any differences were considered meaningfully insignificant and functionally equivalent. Where equivalence was not supported, Pearson's chi squared tests of independence were calculated to detect statistical differences in frequencies of agreement to the SCS items across participant and researcher samples.

H3: Categorization of deception research methods.

Hypothesis 3) There will be significant differences in the strength of perceived ethicality ratings across categories of deception vignettes, Mild, Moderate, or Strong deception, as described by the Sieber Taxonomy for Deception Research.

The selection of appropriate stimuli is an important step in demonstrating the potential generalization of the proposed social contract across many types of deception methods. A number of previous studies of deception research methods have included deception vignettes from psychology (e.g., Fisher & Fyrberg, 1994; Forsyth & Pope, 1984; Gerdes, 1979; Sullivan & Deiker, 1973), as well as business (e.g., Knotts, et al., 2000). While the use of deception vignettes, drawn these professional literatures, has been a common methodological procedure in this type of study, ethics researchers have generally paid less attention to theoretical and empirical methods of classifying such vignettes (c.f., Fisher & Fyrberg, 1994).

Some studies have put forth efforts to present diverse deception vignettes tied to the Sieber Taxonomy; however, these have generally been limited to variation in only one aspect of the categorization scheme. For example, Fisher and Fyrberg (1994) developed brief descriptions of three published psychology studies involving deception methods, which typified three means of deception (implicit, technical, and role deception). This was arguably too simplistic of a categorization scheme because such means of deception are not mutually exclusive and can occur in concert with many other features of deception (e.g., level of informed consent, level of privacy, potential harms).

Using the theoretically-based Sieber Taxonomy of Deception Research (Sieber, 1982, 1983), each vignette presented in this study was pre-coded by two trained undergraduate research assistants and the primary researcher using the rating system developed by Sieber, Iannuzzo, and Rodriguez (1995). After initial training, the raters independently evaluated each vignette using

the Sieber Rating System, with majority agreement used (agreement as to a category by at least two of the three raters) as the basis for quantifiably defining the vignettes along a dimension of strength of deception (i.e., mild, moderate, strong).

While the taxonomy of deception methods is not central to development of a social contract between participants and researchers, it attends to a potential criticism that social contracts would need to be established for every possible deception design. Such a requirement would contradict the purpose of a social contract and would do little to resolve the need for a more balanced approach to ethical decision-making about deception research methods. A social contract that is too broad will not help resolve specific ethical dilemmas, and a social contract that is too specific will lack generalizability. A social contract that attends to a set of theorized and empirically-supported categories of deception balances the need for generalizability and specificity. If the theorized categorization is supported, the need for individual pilot testing of deception methods may be reduced to those deceptions not falling cleanly within a given category.

H4: Differences in perceived ethicality between groups.

Hypothesis 4) Researchers, when compared with participants, will be more conservative in their ethical judgments of deception research. Researcher's rated strength of perceived ethicality across vignettes will be significantly lower than ratings provided by participants.

A series of directional *t*-tests (95% CI) were used to test for significant between-group differences in average strength of perceived ethicality ratings of each vignette category. Based on the available literature (e.g., Schreier & Stadler, 1992; Sullivan & Deiker, 1973), statistically significant differences were predicted between groups in this study, with researchers expected to express stronger objections to deception (lower perceived ethicality ratings) than participants.

While a number of studies have sampled, separately, participants' and researchers' opinions about the ethicality of deception research methods, few have examined between-group ratings (two notable exceptions are Sullivan & Deiker (1973) and Schreier & Stadler (1992)). Sullivan and Deiker (1973) explored perceived ethicality of deception vignettes to determine if differences existed between undergraduate students and psychologists. Based on a sample of 357 students and 285 psychologists, they concluded that such differences "clearly exist" (p. 590), with psychologists having made more conservative, more ethically stringent, ratings of ethicality than undergraduate students. They noted, however, that vignettes that involved receiving or delivering electrical shock produced equally proscriptive responses which were described as a "nonsignificant reversal" leaving open the possibility that student participants may be more sensitive than researchers to physically painful research procedures.

Sullivan's and Deiker's study presented a limited sample of four vignettes to respondents. These vignettes were selected because they represented controversial designs (i.e., drug-induced anxiety, receiving actual electric shock, false feedback/mood manipulation, and delivery of fictional electric shock to another person). One limitation of this study was that the majority of the vignettes involved physical discomfort, which could overshadow any ethical concerns related to psychological deception.

Related to this point about participant discomfort during research participation, Farr and Seaver (1975) examined undergraduate student ratings of perceived physical and psychological discomfort for various experimental procedures. Among the procedures presented, half of the procedures involving physical stressors were rated as likely to create an unbearable amount of stress or discomfort compared to only a third of procedures including psychological stressors. Although the conclusions of Farr and Seaver (1975) were somewhat limited due to issues of

possible item selection bias, the available results suggested that physical stressors represent a potent factor that is likely to influence ratings of ethicality or willingness to participant. In addressing that point in the current study, the Sieber Rating System (Sieber, et al., 1995) was used because it attends to the presence of psychological and physical stressors in deception designs, as well as many other areas. This study attempted to present a broad sampling of deception vignettes, which encompass a variety of stressors and forms of deception.

A more recent investigation of between-group differences in ethical decision-making by Schreier and Stadler (1992) examined responses made by participants, researchers, and IRB members. Using a single vignette involving multiple ethically questionable methods (e.g., minimal informed consent, ambiguous reporting of risks and benefits), they found researchers were more uncomfortable with the proposed research, were less likely to endorse its use, and expressed greater desires to amend the study. Post-hoc comparisons did not detect significant differences in ratings of perceived risk; however, student-participants were more likely to see potential benefit to society than the researchers or IRB members rating the same vignette.

H5: Behavioral intentions for consent and the relationship with perceived ethicality.

Hypothesis 5) Judgments that a deception design is ethically acceptable (decision based on perceived ethicality ratings) will be positively associated with stated behavioral intentions to hypothetically consent to the deception design. This relationship will be present in both samples (participants and researchers).

While perceived ethicality is important in understanding the ethical decision-making process, it is valuable only to the point to which differences in perceived ethicality have an effect on behavioral intentions. The theory of planned behavior (TpB; Ajzen, 1991) proposes that an individual's attitude toward a behavior leads to the formation of behavioral intentions and that actual behavior is likely to be consistent with those intentions. Due to the hypothetical nature of

this study, actual behaviors were not observable; however, behavioral intentions, defined as the subjective probability or individual's readiness to perform a given behavior (Ajzen & Fishbein, 1980) were assessed by asking respondents to indicate hypothetical consent to deception vignettes.

In their model of ethical decision-making, Hunt and Vitell (1986, 2006) postulated that ethical judgments influence behavior through behavioral intentions consistent with TpB. This linkage between judgments of and intentions to perform a given act has been well-established through empirical research (e.g., Bass, 1999; Randall, 1989; Dubinsky and Loken, 1989). Based on the above theoretical and empirical research, higher levels of perceived ethicality for vignettes were hypothesized to be strongly and positively associated with intentions to consent to deception vignettes.

By understanding more about the relationship between attitudes and behavioral intentions, the study of ethics can work toward developing a more clear understanding about what makes ethical dilemmas difficult to resolve. Toward these ends, the proportions of consent among each group were compared across vignettes. Additionally, the relationship between strength of perceived ethicality (continuous variable) and consent (dichotomous variable) was assessed by calculating a point-biserial correlation coefficient.

CHAPTER 3. METHODS

Study design

This online survey study was conducted in two stages and analyzed using both within- and between-group/stage tests of equivalence and difference. In Stage I, a survey of undergraduate research participants were presented fifteen written statements about a social contract for deception research and twelve brief vignette descriptions of published deception experiments. Their attitudes, perceptions, and reactions concerning social contracts and the ethical use of deception in research were ascertained by means of a self-report questionnaire. Additionally, Stage I survey participants' ethical orientations, social desirability, and demographic characteristics (i.e., age, gender, race/ethnicity, socioeconomic status, area of study, academic standing, religious and political views, and deception research experience).

Stage II surveyed faculty/professional and graduate student researchers' opinions about a social contract for deception research and ethical judgments about deception vignettes. Their responses were compared to responses made by undergraduate research participants collected in Stage I. Researcher demographic items were similar to those assessed in Stage I, with additional data collected regarding professional status (i.e., faculty or graduate researcher) and experience conducting deception research. To facilitate researcher response, Stage II, compared with Stage I, included a reduced number of items pertinent to the social contract, focused only on perceived ethicality and consent for each of the deception vignettes, and omitted measures of ethical ideology and social desirability.

Respondents

Undergraduate participants.

Selection of Stage I sample. Undergraduate college students were selected as participants for this Stage I study. This population represents the most frequently utilized participant group for psychology research, and they are a participant pool likely to be exposed to deceptive research designs (Higbee, Millard, & Folkman, 1982; Sears, 1986). In Stage I, a total of 266 undergraduate student participants in a psychology department subject pool were initially recruited from a large Midwestern state university. After reviewing the informed consent documents through the Psychology Department's SONA system (Appendixes C & D), a total of 250 (94.0%) undergraduates volunteered to participate in the online study (hosted on *Qualtrics*). After preliminary data analyses (see Data Examination section in this chapter for details), the final sample included 212 undergraduate student participants (84.8% of initial volunteers were retained). These participants received two experimental credits in specific courses for their participation. No other forms of compensation were provided to participants of the study. All stages of this study were reviewed and approved by the Iowa State University Institutional Review Board (#12-089; Appendix E).

Stage I demographics. Demographic information was collected from participants as part of the online survey (see Appendix F). There were 103 (48.6%) females, 108 (50.9%) and one (0.5%) transgender respondent. Participants were predominately Caucasian ($n = 182$, 85.8%). There were also persons who were Black/African ($n = 14$, 6.6%), Asian/Pacific Islander ($n = 6$, 2.8%), Latino ($n = 5$, 2.4%), and Multiracial ($n = 5$, 2.4%) among the participants. Seven individuals (3.3%) reported being raised outside of the United States. These demographic

characteristics roughly approximate associated university statistics shown in Table 2 (Iowa State University, 2012).

Most participants were first-year students ($n = 108, 50.9\%$), with a decreasing number of persons across the more advanced education levels ($n_s = 51, 39, 14$, respectively for sophomore, junior, and senior education levels). Participants ranged in age from 18 to 38 years, with a mean (SD) age of 19.75 (2.14); median and modal age were both 19 years.

Most individuals reported being raised in middle class ($n = 102, 48.1\%$) or upper-middle class ($n = 66, 31.1\%$) households. Working class and lower-middle class made up a combined 18.4% of the sample ($n = 12, 5.7\%$ and $n = 27, 12.7\%$, respectively). Five participants reported being raised in upper class (2.4%) households.

Table 2.

Comparison of Population and Sample Demographics for Stage I

| | University | Sample |
|-------------------------------|------------|--------|
| Gender | | |
| Male | 56.50% | 50.90% |
| Female | 43.60% | 48.60% |
| Transgender | NR | 0.50% |
| Race/Ethnicity | | |
| Caucasian | 88.90% | 85.80% |
| Minority (combined) | 11.10% | 14.20% |
| Minority | | |
| Amer. Indian or Alaska Native | 0.20% | 0.00% |
| Black | 2.60% | 6.60% |
| Asian/Pacific Islander | 2.90% | 2.80% |
| Hispanic/Latino | 3.90% | 2.40% |
| Multiracial | 1.60% | 2.40% |

Note. From Iowa State University Fall Semester 2012 Undergraduates Enrollment Report

Professional and graduate student researchers.

Selection of Stage II sample. The Stage II sample was comprised of psychology researchers who were identified and randomly sampled from major U.S. academic/research institutions. From a list of 185 institutions, housing 562 top-ranked psychology doctoral programs identified by the National Research Council's Committee to Assess Research-Doctorate Programs (2011), 100 institutions were randomly selected using a random numbers table.

From this list of institutions, one psychology program per institution was randomly selected and an email soliciting survey participation was sent to the program training directors to be forwarded to graduate students and faculty within their program. The email contained a brief description of the study and a web link to the informed consent and electronic survey. The recruitment letter and informed consent document presented to the researchers can be found in Appendixes G & H. Based on the available program information, the sample of psychology researchers was drawn from an estimated population of 980 faculty/professional researchers and 2506 graduate student researchers

The Stage II sample included 253 psychology researchers, for which 240 (94.9%) provided consent to participate. After data cleaning (see Data Examination section in this chapter for details), retained was a usable sample of 189 faculty and graduate student psychological researchers (78.8% retained).

Researcher demographics. Demographic information for Stage II included responses from graduate students and professional researchers/faculty across multiple psychology subfields. Demographic items for Stage II can be found in Appendix I. A comparison of

participant (Stage I) and researcher (Stage II) demographic responses can be found in Appendix J.

The researcher sample included 131 graduate students (69.3% of Stage II sample) and 58 (30.7%) professionals. The researcher sample had a combined median age of 29 (graduate students median 27 years old; faculty median 44 years old). Graduate students ranged in age from 22 to 59 years old (mode = 25), whereas faculty and professional researchers ranged from 28 to 83 years old (mode = 32).

Many of the graduate researchers were advanced students ($n = 42$, 32.1% had five or more years of graduate training). Among professional researchers and faculty, most were full professors ($n = 18$, 31.0% of professional researchers). Respondents were from a variety of psychology program types. The most common program was social psychology ($n = 51$, 27.0%), followed closely by clinical psychology ($n = 49$, 25.9%). Relatively few respondents were associated with counseling psychology programs ($n = 6$, 3.2%). As a group, researchers were predominantly female ($n = 124$, 65.6%), Caucasian ($n = 161$, 85.2%), and middle class ($n = 77$, 40.7%).

A series of Pearson chi square tests of independence were performed comparing demographic responses between the two types of researchers (graduate students and faculty researchers). Expectedly, only socioeconomic status (SES) was significantly different $\chi^2 = 17.67$ ($p < .001$) with a higher proportion of faculty in the upper SES categories than graduate students. A similar difference in SES distribution was seen when assistant and full professors were compared.

Survey procedures

In this IRB approved study (IRB Number 12-089; Appendix E), respondents were treated in accordance with applicable ethical guidelines, and all data were collected anonymously. Survey procedures for Stage I (participant sample) and Stage II (researcher sample) were nearly identical. In both stages, respondents were provided a basic description of the study, an informed consent (Appendixes C & H, respectively), and a link to the online survey. Both groups were presented with items related to demographic characteristics (Appendixes F & I, respectively), surveyed about their agreement with Social Contract Statements (Appendix K, and items related to perceived ethicality and consent to a variety of deception vignettes (Appendix L & M). Stage I respondents were additionally asked to complete measures of ethical ideology (Appendix N - Ethical Positions Questionnaire, EPQ), social desirability (Appendix O - Marlow-Crowne Social Desirability Scale – Short Form, MCSDS-SF), and a series of exploratory items reflecting professional commentary opinions and ethical viewpoints about deception research (Appendix P). Table 3 presents the number of items in each section and the corresponding appendix. Participation terminated with a written debriefing (see Appendix Q).

Table 3.

Composition of Surveys (in order of administration)

| Appendix | Section / Measure | Item Count | |
|--------------------|---|----------------------|-----------------------|
| | | Stage I ^a | Stage II ^b |
| F / I | Demographics (Participant / Researcher) | 13 | 11 |
| K | Social Contract Statements (SCS) | 15 | 13 |
| P | Professional Commentary & Ethical Viewpoints | 20 | - |
| L / M | Ethical Judgments for Deception Vignettes (12 vignettes x 5 items ^a ; 2 items ^b) | 60 | 24 |
| N | Ethics Position Questionnaire (EPQ) | 20 | - |
| O | Marlow-Crowne Social Desirability Scale – Short Form C (MCSDS-SF) | 13 | - |
| Total Items | | 141 | 48 |

Note. ^aStage I sample = Undergraduate research participants.

^bStage II sample = Researchers.

Stage II includes select items from Stage I questionnaire.

Stimulus materials

Social contract statements (SCS) about deception research.

Stage I participants were presented with 15 statements related to social contracts for deception research. After a review of the item responses in Stage I, 13 items were retained for Stage II data collection. Ten items, those examined by the study's hypothesized statistical analyses, focused on the five Fundamental aspects and five Principle aspects of a social contract for deception research, consistent with Kimmel et al.'s (2011) description. The remaining three items secondarily attend to issues related to the use of social contracts (e.g., "*Researchers and participants should work together to determine what types of deception research studies are ethical and morally permissible*"), but were not primarily related to the hypotheses tested in this study (see Appendix K for the full list of Social Contract Statements about Deception Research).

Deception vignettes.

Twelve brief vignettes, describing a deception study and its methods in non-technical terms, were presented to participants (Appendix M). The ten primary vignettes were adapted, with permission, from Forsyth and Pope (1994) and represent a cross-section of published, yet historically questionable deception designs, many of which remain in common use in human-subjects research. Two additional vignettes, representing clearly unethical and ethical designs (i.e., *Freezer* and *Online/InPerson*, respectively), were developed for this study and were included to test for floor and ceiling effects in ratings of ethicality, as well as to examine response bias and as a check for reader attention/comprehension. In Stage I, participants rated each deception vignette in three areas (i.e., perceived ethicality, hypothetical consent, and hypothetical IRB approval) (see Appendix L). Based on an initial examination of the Stage I data, the Stage II questionnaire included only measures of perceived ethicality and hypothetical consent.

It has been common practice in ethics research to utilize summary vignettes of historically questionable research designs; however, few have taken steps to systematically codify the deceptive elements contained in deception studies/vignettes. In an effort to include a broad sampling of deceptions along the scale of ethical to unethical, this study utilized a theorized taxonomy of deception (Sieber, 1983) to codify deceptive elements (see Literature Review for details).

Consistent with the descriptive guidelines presented in the Sieber Taxonomy (Sieber, 1982, 1983) (see Appendix B), two trained undergraduate research assistants and the primary researcher independently coded the deception vignettes using the Sieber Rating System (see Appendix R for a comparison of the codifications of each deception vignettes). Simple majority

was used to code each vignette, and when consensus was not reached, the research team met with the raters to establish consensus through review of the Sieber criteria.

In Table 4 , the rater-based Sieber classification of vignettes suggested four vignettes in the mild/low category, three moderate/medium category, and three strong/high vignettes. Respondents were not informed of the categorizations and the vignettes were presented in a random order.

Table 4.

Sieber Deception Vignette Classifications

| Mild | Moderate | Strong |
|-------------------|------------------|-------------------|
| Conformity | Subway | Religious Beliefs |
| Boring Task | Foot-in-the-door | Group Membership |
| Success & Failure | Electrician | Obedience |
| Salesperson | | |

Professional commentary and ethical viewpoints.

In Stage I, participants were presented with thirteen items assessing agreement with published professional commentary concerning the use of deception research (e.g., *Deception should not be used because it reduces the public's trust in science*) and seven items assessing the degree to which participants self-identified with definitions of various ethical viewpoints (e.g., *Deception could be acceptable provided it yields the best possible balance of costs and benefits to those involved*). While the responses to these items provide interesting insights into participants' level of agreement with various published commentary about the ethicality of deception research, these items were not part of the hypothesis tests central to this study and were included solely for additional research purposes unrelated to the present study. The items

can be found in Appendix P and the descriptive statistics for these items are presented in Appendix S.

Variables of interest

Of primary interest in this study were two categorical variables, (1) Agreement with Social Contract Statements (*agree/disagree*), and (2) Perceived Ethicality of Deception Vignettes (*ethical/unethical*). For each categorical decision, ratings were initially made on an 11-point scale measuring the strength and direction of each rating. For use as primary variables, these scalar ratings were dichotomized, into the categories stated above (where ratings of six or above were categorized as agree/ethical and those five and below categorized as disagree/unethical), to more realistically capture decisions made about the use of deception. The scalar ratings were used, secondarily, to explore the finer aspects of ethical decision-making. This dual approach (scale/category ratings in one item) allowed examination of the variables of interest without the burden of additional items needed to measure both strength (11-point rating) and decision (agree/disagree or ethical/unethical). The following sections further describe the primary and secondary variables assessed in this study.

Primary variables.

Agreement (and strength of agreement) with social contract statements. For each SCS item, the respondents were asked to identify their perceived strength of agreement with each statement using an 11-point Likert-type scale (0 = Strongly Disagree; 10 = Strongly Agree). This quantitative measure is referred to in this study as *Strength of Agreement*.

To better represent the categorical decision made regarding the social contract, the quantitative scale was dichotomized into agree/disagree. Rather than using the midpoint of 5, which represents uncertainty in opinion, a conservative estimate of agreement identified scores

of 6 or greater as agreement with SCS items. Scores of 5 or less were determined to represent non-agreement (disagreement or ambiguity) concerning the SCS items. This categorical variable of agree/disagree is referred to simply as *Agreement*.

Perceived ethicality (and strength of perceived ethicality) of deception research. Twelve vignettes, each briefly describing the design of a deception study in non-technical terms, were presented to both participants and researchers. For each deception vignette, respondents were asked to rate the degree to which they believed the research proposal was ethical using an 11-point Likert type scale (0 = Likely Unethical; 10 = Likely Ethical). Appendix L shows the rating scale for the deception vignettes that are presented in Appendix M. Similar to agreement with SCS, ratings of the perceived ethicality of each deception vignette were dichotomized using a score of 6 as the cutoff to classify responses as being perceived “ethical” or “unethical”. The quantitative measure is referred to as *Strength of Perceived Ethicality*, whereas the categorization of ethical/unethical is referred to as *Perceived Ethicality*.

Secondary variables.

Sieber category of deception risk. Following the guidance of Sieber (1982, 1983), efforts were made to categorize the deception vignettes, a priori, into three theorized categories (mild, moderate, or strong deceptions) representing the degree to which deception methods were used and their potential for harm. As previously detailed in the stimulus materials section of this document, three trained raters examined and coded the deceptive elements of the Sieber classification scheme and classified vignettes into the mild, moderate, strong forms of deception. In Stage I and II, respondents’ average ratings of strength of perceived ethicality between the Sieber categorizations were examined to determine if measurable and meaningful differences existed between the three levels of deception research proposed by the Sieber Taxonomy.

Consent and approval for deception vignettes. Following each vignette, respondents were asked if they would consent (hypothetically) to participate in a study using the described methods (0 = No; 1 = Yes). These measures were included to examine the strength of the relationship between perceived ethicality and behavioral intentions in ethical decision-making about deception research. Additionally, Stage I participants were asked whether they approved of each deception vignette (0 = No; 1 = Yes) while imagining they were in the role of an institutional research review board member and charged with making a determination of whether or not to approve the deception vignette for use. Due to a high degree of association between consent and approval found in this study, only the item related to hypothetical consent was presented in both stages.

Measures

Two standardized measures were implemented in Stage I of this study. The Ethics Position Questionnaire (EPQ) and Marlow-Crowne Social Desirability Scale – Short Form (MCSDS-SF) were administered to assess for significant relationships between ethical ideology and social desirability and the variables of interest in this study. Based on initial results and preference for a brief survey, neither measure was administered in Stage II data collection.

Ethics Position Questionnaire (EPQ).

The *Ethics Position Questionnaire* (EPQ; Forsyth, 1980) is comprised of two 10-item scales which measure the degree of *Idealism* and *Relativism* in an individual's ethical ideology. The EPQ items can be found in Appendix N. Responses were measured using an 11-point Likert-type scale where 0 = Strongly Disagree and 10 = Strongly Agree. The raw scores for both scales can range from 0 – 100, with higher scores indicating elevated idealism or relativism on the respective scale. By convention, an individual's score for each scale may also be classified as

“*High*” or “*Low*” in relation to the sample mean of each scale for the purposes of broadly classifying individuals into one of four ethical ideologies.

The combination of high and low scores on both scales, *Idealism* and *Relativism*, correspond to one of four classes of ethical ideology: *Situationism*, *Absolutism*, *Subjectivism*, and *Exceptionism*. Table 5 demonstrates the relationship between high and low levels of idealism and relativism for each category.

Table 5.

EPQ Taxonomy of Ethical Ideologies

| | Low Relativism | High Relativism |
|----------------------|--|--|
| High Idealism | <p><i>Absolutism</i> Assumes that the best possible outcome can always be achieved by following universal ethical rules; absolutist</p> | <p><i>Situationism</i> Rejects ethical absolutes; advocates individualistic analysis of each act in each situation; relativistic</p> |
| Low Idealism | <p><i>Exceptionism</i> Ethical absolutes guide judgments but pragmatically open to exceptions to these standards; utilitarian</p> | <p><i>Subjectivism</i> Appraisals are based on personal values and perspective rather than universal ethical principles; relativistic</p> |

Note. From Forsyth (1980)

Individuals scoring higher in idealism are likely to endorse the belief that favorable consequences can be achieved in all circumstances without violating moral guidelines. In contrast, individuals with low idealism scores likely recognize that both positive and negative consequences are likely for any given decision. Relativistic individuals perceive moral principles as impractical, preferring decisions based on individual or community standards. Individual who are nonrelativistic are much more likely to endorse and rely upon universal moral principles.

Psychometrically, the EPQ was developed using factor analytic methods (Schlenker & Forsyth, 1977) and modified using traditional scaling methods (Forsyth, 1980). Several studies have provided evidence of the utility and validity of this classification system, within undergraduate student samples, in understanding ethical ideologies and their relationships with other factors in ethical decision-making, morality, and ethical behavior (Forsyth, 1980, 1981, 1985; Forsyth & Berger, 1982; Schlenker & Forsyth, 1977). Forsyth (1980) reported moderate test-retest reliabilities ($r_s = .67$ & $.66$, for idealism and relativism, respectively). Internal consistency reported in the literature was adequate for both scales ($\alpha_s = .80$ & $.73$, respectively), and the factors are appropriately orthogonal ($r = -.07$). Among participant respondents in the current study ($n = 212$), the idealism and relativism scales were not significantly correlated ($r = .10$, $p = .167$); Cronbach's alphas (current study) for idealism and relativism were $.89$ and $.86$, respectively.

Discriminant validity was evaluated by Forsyth (1980) using several other measures of moral reasoning. The EPQ has no significant relationship with Kohlberg's Stages of Moral Development (1958, 1969) or Rest's P-Score (i.e., the Principled Score), both as measured by the Defining Issues Test (1986). This is a plausible finding because the EPQ does not measure moral development, but rather moral orientation or ethical ideology. Individuals are likely to vary in degree of morality within any given ethical ideology, and no ethical ideology is exclusively associated with principled moral reasoning (Forsyth, 1980, 1981).

Marlow-Crowne Social Desirability Scale – Short Form (MCSDS-SF).

The Marlowe-Crowne Social Desirability Scale (MCSDS), an established measure of social desirability, has been validated for a variety of populations and is regularly used in survey research. A short-form, 13-item version of this measure (MCSDS-SF) was completed by student

participants in this study (see Appendix O). Responses to this measure were used to estimate the relationship between socially desirable responding and the other measures and variables of interest.

The 13-item short form of the MCSDS (MCSDS-SF) was developed by Reynolds (1982) and cross-validated by Li and Sipps (1985). Using a sample of 233 undergraduate volunteers, Li and Sipps evaluated reliability and validity of the 13-item MCSDS-SF as an independent measure (rather than comparing formats with a large pool of items, cf. Reynolds (1982)), and found the MCSDS-SF demonstrated adequate internal consistency ($r = .74$; $.79$ in the current study), with an overall item-to-whole correlation coefficient of $.49$ ($.43$ in the current study). The test-retest (6 weeks) correlation coefficient for the MCSDS-SF was $.74$ (not assessed in current study). Li and Sipps found MCSDS-SF scores were not influenced by common demographic variables.

Responses to the MCSDS-SF in this study were made using an 11-point Likert-type response format where 0 = Strongly Disagree and 10 = Strongly Agree. Eight items were reverse scored before summing the ratings for the total scale. The MCSDS-SF total score can range from 0 – 130, with higher scores suggesting more socially desirable responding or portraying oneself as having few normal human perceptions and behaviors (e.g., “*No matter who I’m talking to, I’m always a good listener*”). Low scores indicate frank and honest portrayals of normal, though undesirable, human perceptions and behaviors.

Initial analyses of Stage I data for the MCSDS-SF indicated that social desirability was not significantly associated with either EPQ scale scores for Idealism ($r = .12$, $p = .10$) or Relativism ($r = .03$, $p = .71$). MCSDS-SF scores were not significantly correlated with strength of perceived ethicality ratings in any Sieber category. Among the social contract statements, only

Principle 5 – *Participate Fully*, showed a statistically significant (albeit weak) relationship ($r = .17$, $p = .014$). Based on these initial findings, the MCSDS-SF was administered only to the Stage I sample.

Data examination and statistical analyses

This section includes a description of the methods of data examination and analyses for both Stage I and Stage II. All data were collected using Qualtrics online survey system and converted to SPSS format for analysis. The sample was examined for missing data requiring exclusion from analysis. Specifically, where greater than 10% of data was missing from the ratings of agreement to SCS, perceived ethicality or consent items for deception vignettes, or the EPQ and MCSDS-SF for Stage I, those cases were excluded from analyses. Cases were also excluded where random or biased responding was suspected. For example, cases were removed if the clearly unethical deception vignette, *Freezer*, was consented to, or all deception vignettes were rated with the same strength of perceived ethicality. In the retained cases, any items with missing data were replaced using the mean item response across respondents within each sample. After the dataset was examined and case deletions completed, descriptive statistics, including frequency counts and measures of central tendency were computed and inspected.

This study primarily examined within- and between-group consensus, equivalences, and differences in means and proportions concerning agreement with social contract statements about deception and perceived ethicality of deception vignettes. Predicted between-group equivalences were evaluated using a 90% equivalency confidence interval (of the between-group differences) approach (Kirkwood & Westlake, 1981; Rogers, Howard, & Vessey, 1993; Seaman & Serlin, 1998); whereas between-group differences were examined using both traditional hypothesis tests (t -tests and chi-square tests of independence) and examination of the 95% confidence intervals.

Paired t-tests were used to test the Sieber Taxonomy and examine how to best categorize the deception research vignettes. Point-biserial correlations were used to examine the relationship between strength of perceived ethicality and consent for each deception vignette. Pearson correlation coefficients were computed to examine relationships between measures of social desirability and ethical ideology and the variables of interest in Stage I.

Measures of consensus.

Hypotheses 1a, 1b, and 2 focused on within-group (1a & 1b) and between-group (2) consensus for agreement with Social Contract Statements (SCS). Using the within-group proportion of agreement, a 95% confidence interval for each statement was calculated. Where the lower limit indicated at least 80% of the sample agreed with each statement, strong consensus was indicated. A lower 2/3 majority standard (66%) was also examined. Hypotheses 2 investigated the possibility of between-group consensus for SCS by comparing the results of each within-group assessment of consensus.

Equivalence tests.

Following Westlake's (1976, 1988) equivalence test by confidence interval procedure, 90% equivalence confidence intervals of the between-group differences in proportions or means were computed (Hypothesis 2). An equivalence interval, or the upper and lower values signifying a minimally meaningful difference, was established a priori, and when the confidence intervals were both significantly smaller than the positive limit (10%, 1.1 points) and significantly larger than the negative limit (-10%, -1.1 points), the groups were identified as meaningfully equivalent. Where the confidence interval did not fall fully within or outside the equivalence interval, no conclusive determinations regarding equivalence were made.

The 90% equivalency confidence interval approach to assessing equivalence is an alternative to conducting two simultaneous one-sided tests (TOST) and uses a level of certainty ($1 - 2\alpha = .90$), rather than the traditional level ($1 - \alpha = .95$), which is consistent with the rejection regions for a TOST. Rogers et al. (1993) note that, “The [90%] confidence interval will fall within the equivalence interval when both one-sided tests are simultaneously rejected, thereby leading to the rejection of the null with [$\alpha = .05$] probability of Type I error” (p. 555). It is of relevance to note that, while confidence intervals that fall fully outside the equivalence interval fail to indicate equivalence, it would be inappropriate to declare that significant differences exist, as doing so would increase the risk of making a Type I error (Seaman & Serlin, 1998).

Difference tests.

Where equivalence tests suggested nontrivial differences, and for hypotheses predicting significant differences between groups (Hypothesis 3 & 4), t-tests comparing two group means were conducted with accompanying 95% confidence intervals. Differences in proportions of agreement or consent were examined with a series of chi-square tests of independence. All difference tests were conducted with $\alpha = .05$.

Stage I only.

Several analyses were unique to Stage I due to the limited use of additional instruments and items. Items and scales not directly related to the research questions were omitted from the Stage II survey to reduce the overall number of items presented to the researcher sample. In several instances item exclusion was also based on outcomes of Stage I data collection.

Concerning the analyses conducted only in Stage I, most notably, a series of phi-coefficients were computed to assess the strength of nominal association between hypothetical consent and hypothetical review board approval for each deception vignette in Stage I. Ratings of consent

and approval were highly correlated (see Reduction of deception vignette items section in Chapter 4: Results) and considered redundant for the purposes of this study. Therefore, ratings of approval were not included in the Stage II survey.

Also, EPQ and MCSDS-SF scores were used to examine the potential relationships between these scales and the primary variables of interest (i.e., strength of perceived ethicality ratings for deception vignettes and agreement with statements about deception research). Neither measure demonstrated sufficient relationships warranting inclusion in the Stage II survey (see Additional analyses section in Chapter 4: Results). The omission of the redundant and non-essential items reduced the overall number of items in the Stage II survey to 48 items (c.f., 141 items in Stage I).

CHAPTER 4. RESULTS

Preliminary analyses

Preliminary analyses were performed to detect missing data or inappropriately skewed distributions prior to conducting statistical analyses associated with the hypotheses. Prior to analyses, an a priori deletion criterion of 10% missing data was applied for the measures (i.e., EPQ, MCSDS-SF) and sets of items associated with the research hypotheses (i.e., SCS, Deception Vignettes). The retained cases with missing data were substituted with the average rating for that item across respondents within the respective sample. Data were also inspected for outliers and an effort was made to retain the maximal amount of data while removing subjects whose ratings indicated inappropriate, random, or static response patterns (e.g., relative ratings for clearly ethical (*Online/InPerson*) and unethical (*Freezer*) anchor vignettes were inconsistent; or, all items rated with the same strength of perceived ethicality).

Case retention.

The Stage I data collected from the 250 undergraduate participants was examined for missing and outlier data. A total of 33 (13.20% removed) cases were removed for excessive missing data. Another five (2.00% removed) cases were removed based on response to a manipulation check vignette that represented an unrealistic and implausible willingness to participate in a highly dangerous and potentially deadly research vignette (i.e., respondent consented to the *Freezer* vignette). In each of the five removed cases, other indicators of random and static responding were present. A final usable sample of 212 undergraduate participants (84.80% retained) was utilized for analysis.

Preliminary analyses were also conducted on the Stage II data from researchers in a manner similar to that previously described for Stage I. From an initial sample of 253

respondents, 74.70% were retained. Thus, the preliminary analyses yielded final usable sample size of 189 researchers. Thirteen individuals (5.14% of initial sample) declined to continue after reading the informed consent document. Based on the 10% missing data criterion, 46 cases (18.18%) were removed. An additional five cases (1.98%) were removed for consent to the Freezer vignette.

Outliers and normality.

The primary variables were screened for univariate outliers through examination of box plots. At least one outlier was found in each sample for all five Fundamental and three Principle Social Contract Statements (i.e., *Alternative Methods*, *Golden Rule*, and *Participant Fully*). However, examination of the five-percent trimmed means indicated the outliers had very little effect on the mean (trimmed mean was less than one-point from the observed mean). In an attempt to avoid removing legitimate minority opinions, no data points were removed from either sample.

Prior to an examination of the data, the skew and kurtosis statistics were inspected (see Appendix T) to determine whether the data were appropriately distributed for the planned analyses. Among social contract statements, all items were, as expected, negatively skewed. For the deception vignettes, as anticipated, both manipulation check deception vignettes (*Freezer* and *Online/InPerson*) were extremely skewed (in the expected directions of low and high perceived ethicality, respectively) and were leptokurtic. All remaining vignettes had skewness values within a range of ± 1.5 . Additional examinations of histograms and boxplots for each item suggested that the distributions, while skewed and in some cases kurtotic, were not too extreme as to violate the statistical assumption of normality required for the planned analyses.

Item reduction for Stage II.

In order to refine the potential areas of agreement between participants and researchers, and to reduce the overall number of items presented to the researcher sample, the descriptive statistics for the Stage I participant survey were examined. For the Social Contract Statements, the focus of attention was on retaining items that demonstrated adequate within-group consensus while retaining enough items to adequately test between-group agreement with concepts underlying a social contract for deception research. Item reduction for Deception Vignettes focused on removing questions (i.e., consent vs. approval) that were potentially redundant (see section Reduction of deception vignette items below).

Reduction of social contract statements. Among the 15 Social Contract Statements (SCS) presented to the participant survey (Stage I), explicit forewarning of deception prior to participation (*SCS03 Forewarn*) was not clearly supported or disapproved of (45.75% agreed, 95% CI [38.99, 52.52]), and was removed due to poor consensus and the retention of another item that more precisely attended to the Kimmel et al. (2011) concept of informing as part of the ethical conduct of research (*SCS21 Consent Disclaimer*) was retained. Another item, concerning skepticism toward a social contract's ability to resolve ethical issues about deception (*SCS35 Skeptic of Social Contract*), was also removed due to redundancy with the content of another item (*SCS34 Proponent of Social Contract*) and its ambiguous level of within-group agreement (34.43%, 95% CI [28.00, 40.88]). Retained were 13 SCS items (see Appendix K).

Reduction of deception vignette items. In Stage I, participants were asked two yes/no questions for each deception vignette: (1) "Would you consent to or agree to participate in a study using this method?" (*Hypothetical Consent*) and (2) "Imagine you are a member of a research review committee charged with protecting research participants from harmful

research; would you vote to give permission for a researcher to use this method in a study?” (*Hypothetical Approval*). A series of phi-coefficients (ϕ) were calculated to measure the strength of the nominal association between consent and approval decisions across the deception vignettes. The results, shown in Table 6, indicate uniformly strong positive associations between consent and approval decisions, with coefficients for all deception vignettes above .60 ($ps < .001$), suggesting the items are likely redundant (Rea & Parker, 1992). Based on these findings, it was unlikely that the hypothetical approval item would add meaningful additional information regarding ethical decision-making, and therefore, only the hypothetical consent item was retained in the Stage II survey.

Table 6.

| <i>Phi Coefficients for Consent x Approval</i> | |
|--|--------|
| <i>Vignette</i> | ϕ |
| Salesperson | 0.67 |
| Foot-in-the-Door | 0.65 |
| Subway | 0.76 |
| Group Membership | 0.84 |
| Obedience | 0.71 |
| Electrician | 0.76 |
| Boring Task | 0.77 |
| Religious Beliefs | 0.79 |
| Conformity | 0.61 |
| Success & Failure | 0.73 |

Note. Freezer and Online/InPerson vignettes excluded because one or more variable was constant.
All p -values $< .001$

Social contract for deception research

Within-group consensus for agreement with social contract statements.

Participants.

Hypothesis 1a) In Stage I, a high proportion, at least 80% (95% CI), of potential participants will indicate agreement with the Fundamental and Principle Social Contract Statements (SCS), consistent with Kimmel et al.'s (2011) social contract for deception research.

Items reflective of Kimmel, Smith, and Klein's (2011) theorized social contract for deception research were presented to undergraduate research participants, representing one group of contractors. Of interest was the proportion of individuals that agreed with the hypothesized social contract statements. In the participant sample, among the ten Social Contract Statements, only half of the statements (three Fundamental and two Principle statements) received approval from at least 80% (minimum lower limit of 95% CI) of the participant sample (two additional Fundamental and one Principle statements had confidence interval estimates within a lower 2/3 majority [66%] cutoff).

Fundamental social contract statements. For three of the five Fundamental aspects of a social contract for deception research (i.e., *Voluntary Consent, Debriefing, & Physical Pain*), the participants demonstrated consensus with at least 80% of the group indicating agreement to each statement; all Fundamental aspects were supported at the 66% level. The Fundamental ideal that research should respect human dignity by ensuring voluntary participation and informed consent (*Fundamental A & B – Voluntary Consent*) was agreed to by 88.68% (95% CI [84.38, 92.98]) of the participant sample. The duty of researchers to debrief participants following research participation (*Fundamental C₁ – Debriefing*) was endorsed by 87.26% (95% CI [82.74, 91.79]) of participants. Interestingly, participants clearly supported the idea that researchers should not

deceive when there are potential risks of physical pain (95% CI [81.12, 90.58]), but they were slightly less certain about deception involving possible psychological risks (83.96%, 95% CI [78.98, 88.94]) (*Fundamental D₁ – Physical & D₂ Psychological Pain*, respectively). Although it did not reach the minimum 80% cutoff, a large proportion of the sample (84.38%; 95% CI [79.51, 89.35]) agreed that researchers should explain any deception that is an integral part of the study as early as possible (*Fundamental C₂ – Explain Deception*).

Principle social contract statements. Among the five social contract Principles articulated by Kimmel et al. (2011), only two were supported at the 80% level (i.e., *Golden Rule & Participate Fully*); one additional Principle (*Consent Disclaimer*) was endorsed at the lower 2/3 majority cutoff. Participants agreed to a ‘Golden Rule’ Principle that researchers should not expose participants to deceptions they themselves would not accept if similarly situated (*Principle 4 – Golden Rule*, 87.26% 95% CI [82.74, 91.79]). There was also broad agreement among participants that they should participate fully when acting as participants of research (*Principle 5 – Participate Fully*, 88.21%, 95% CI [83.83, 92.58]). Participants fell slightly below the expected 80% consensus level for Principle 2 (*Consent Disclaimer*), that was the belief that informed consent documents should include a general disclaimer about the potential for deception research regardless of its use in a specific study (80.19%, 95% CI [74.78, 85.60]).

Participants were less certain about the remaining SCS items. Principle 1 (*Alternative Methods*), which stipulates that the use of deception should only be allowed as a last resort, garnered support from only 50.47% (95% CI [43.69, 57.26]) of the sample. Similarly, avoidance of using deception on children, prisoners, elderly, and other potentially vulnerable populations (*Principle 3 – Vulnerable Populations*) was agreeable to by only 65.09% (95% CI [58.63, 71.56]) of the participant group.

Researchers.

Hypothesis 1b) In Stage II, a high proportion, at least 80% (95% CI), of psychology researchers will indicate agreement with the Fundamental and Principle Social Contract Statements (SCS), consistent with Kimmel et al.'s (2011) social contract for deception research.

In a similar manner to Stage I data collection for participants, Stage II examined researchers' reactions to the Kimmel et al. (2011) Social Contract Statements. Researchers overwhelmingly approved ($\geq 80\%$ of the sample) all of the Fundamental aspects, but only one of the five Principle statements of a social contract for deception research (i.e., *Golden Rule*).

Fundamental social contract statements. Ratings made by researchers supported Kimmel et al.'s (2011) hypothesis that there would be strong agreement for all Fundamental aspects of a social contract for deception. There was strong agreement among researchers that human dignity should be protected by ensuring voluntary participation and informed consent (*A&B Voluntary Consent*, 97.88%, 95% CI [95.81, 99.95]), that participants deserve to be debriefed following any study (*C₁ Debriefing*, 95.77%, 95% CI [92.87, 98.66]), that researchers should provide any important information about participation in a deception study as early as possible (*C₂ Explain Deception*, 97.35%, 95% CI [95.05, 99.66]), and that researchers should avoid harmful deceptions that could cause physical or psychological pains (*D₁ Physical Pain & D₂ Psychological Pain*, both 90.48%, 95% CI [86.25, 94.70]).

Principle social contract statements. While there was fairly uniform agreement with the Fundamental statements, there was far less consensus among researchers around the Principle statements of a social contract for deception. Mixed agreement was found among opinions about the use of a general disclaimer about the potential for deception in all informed consent forms (*Principle 2 – Consent Disclaimer*, 40.74%, 95% CI [33.67, 47.81]) and avoiding the use of

deception on vulnerable populations (*Principle 3 – Vulnerable Populations*, 55.03%, 95% CI [47.87, 62.18]).

Researchers agreed strongly ($\geq 80\%$, 95% CI) with only one of the Principle statement, that individuals designing and conducting research should not expose participants to any procedures or risks they themselves would not endure (*Principle 4 – Golden Rule*, 95.77%, 95% CI [92.87, 98.66]). While not reaching the 80% standard, a 2/3 majority ($> 66\%$) of researchers supported the idea that deception should be considered only as a last resort in research (*Principle 1 – Alternative Methods*, 79.89%, 95% CI [74.13, 85.66]). Researchers also generally supported the idea that participants have an obligation to fully participate in studies in which they agree to participate (*Principle 5 – Fully Participate*, 81.48%, 95% CI [75.89, 87.07]).

Between-group consensus for agreement with social contract statements.

Participants and researchers.

Hypothesis 2) Proportions of agreement for the Fundamental and Principle Social Contract Statements, consistent with Kimmel et al.'s (2011) social contract for deception research, will be equivalent between participants and researchers among statements with sufficient within-group consensus.

Kimmel, Smith, and Klein (2011) hypothesized that researchers and participants would likely agree to a set of Fundamental concepts and Principles guiding the ethical use of deception in research (examined above in Hypotheses 1a and 1b). These suppositions had not been formally tested prior to this examination, for which the evidence suggests that within each group, only a fraction of the statements garnered a significant amount of within-group support for the remaining items. In order to formulate an effective social contract for deception research, there must be adequate agreement not only within each group, but also between those groups involved.

This hypothesis was tested by (a) examining whether a sufficient proportion of respondents in each group, as well as across groups, agreed with the social contract statements, and (b) assessing whether the proportions of agreement were equivalent across groups. The outcomes of these tests are presented in two successive tables. First, Table 7 presents the within-group proportions (95% CI) of agreement for the SCS items in each group and provides an indication as to whether within- and between-group consensus was met at each cutoff point (i.e., 66% and 80%). Table 8 shows the results of a series of between-group equivalence tests (by examining the 90% CIs) and follow-up chi square tests of independence for items that failed to demonstrate equivalent proportions of agreement.

Table 7.

Percentage of Respondents Agreeing with Social Contract Statements by Group

| | Participants | | | Researchers | | | |
|-------------------------------------|--------------|-----------------------|----|-------------|-----------------------|----|---|
| | % Agreed | 95% CI | | % Agreed | 95% CI | | |
| <u>Fundamental</u> | | | | | | | |
| A & B - Voluntary Consent | 88.68 | [84.38, 92.98] | ** | 97.88 | [95.81, 99.95] | ** | ‡ |
| C ₁ - Debriefing | 87.26 | [82.74, 91.79] | ** | 95.77 | [92.87, 98.66] | ** | ‡ |
| C ₂ - Explain Deception | 84.43 | [79.51, 89.35] | * | 97.35 | [95.05, 99.66] | ** | † |
| D ₁ - Physical Pain | 85.85 | [81.12, 90.58] | ** | 90.48 | [86.25, 94.70] | ** | ‡ |
| D ₂ - Psychological Pain | 83.96 | [78.98, 88.94] | * | 90.48 | [86.25, 94.70] | ** | † |
| <u>Principle</u> | | | | | | | |
| 1 - Alternative Methods | 50.47 | [43.69, 57.26] | | 79.89 | [74.13, 85.66] | * | |
| 2 - Consent Disclaimer | 80.19 | [74.78, 85.60] | * | 40.74 | [33.67, 47.81] | | |
| 3 - Vulnerable Populations | 65.09 | [58.63, 71.56] | | 55.03 | [47.87, 62.18] | | |
| 4 - Golden Rule | 87.26 | [82.74, 91.79] | ** | 95.77 | [92.87, 98.66] | ** | ‡ |
| 5 - Participate Fully | 88.21 | [83.83, 92.58] | ** | 81.48 | [75.89, 87.07] | * | † |

Note. 95% CI lower limit \geq 80% agree in boldface.

Within-group consensus cutoffs * 66%, ** 80%

Between-group consensus cutoffs † 66%, ‡ 80%

At the hypothesized 80% cutoff, *Fundamental C₂ – Explain Deception* and *Fundamental D₂ – Psychological Pain* were not sufficiently supported by a sufficient margin in both groups; however, both statements had lower 95% CI limits within just over one percentage point of the cutoff. At the 2/3 majority (66%) cutoff, a sufficient proportion of both participants and researchers agreed to all of the Fundamental social contract statements for deception research.

Among the five Principle statements, participants and researchers each separately demonstrated sufficient within-group approval of three Principles (at 66% cutoff); however, there was only between-group agreement on two of those Principles. Both parties agreed that participants have an obligation to fully participate in studies (*Principle 5*, 88.21% and 81.48% agreement by participants and researchers respectively), and that a golden rule applies to research, that is, the belief that researchers should not expose participants to procedures or risks they themselves would not endure (*Principle 4*, 87.26% and 95.77%, respectively).

Following the recommendations of Seaman and Serlin (1998) and Tryon (2001), 90% equivalence confidence intervals were constructed to test whether the proportions of agreement between participants and researchers were equivalent. Table 8 presents the 90% equivalence confidence interval of the differences in proportions between groups, as well as follow-up chi square tests of independence for items that failed to demonstrate equivalence. The equivalency criteria of $< +10\%$ or $> -10\%$ was identified a priori as criteria for a trivial difference in proportions. When the 90% CIs of the differences fell fully within this equivalency interval, the groups were considered sufficiently equivalent.

The 90% equivalence confidence intervals of the between-group differences in proportions of agreement for the Fundamental and Principle social contract statements are graphically displayed in relation to the equivalence criteria in Figures 1 & 2, respectively.

Among the Fundamental aspects, only *D₁ - Physical Pain*, demonstrated equivalent between-group proportions of agreement under the equivalency confidence interval test (90% CI of the difference was fully within the $\pm 10\%$ equivalence interval). No Principle statements showed equivalent proportions across groups.

Follow-up chi-square tests of independence (see Table 8) for items not demonstrating equivalence showed group was significantly associated with proportions of agreement for several statements; however, examination of the 95% CI (using the 10% criteria for identifying nontrivial differences) suggested only *Principle 1* ($\chi^2 = 37.70, p < .001$) and *Principle 2* ($\chi^2 = 65.73, p < .001$) were both statistically and meaningfully different between participants and researchers. Researchers demonstrated within-group consensus ($> 66\%$ agree) on *Principle 1 – Alternative Methods*; however, only participants supported *Principle 2 – Consent Disclaimer*.

Based on these findings, there appeared to be only limited support for Hypothesis 2. As required by this hypothesis test, both participants and researchers showed minimally adequate consensus ($> 66\%$) in agreement concerning all of the Fundamental statements and two of the Principle statements (i.e., *Golden Rule* and *Participate Fully*). However, among these items with sufficient within-group consensus, only the between-group difference in proportions of agreement for *Fundamental D₁ – Physical Pain* was considered meaningfully equivalent (90% CI of difference less than 10%). Statistically significant differences in proportions were found for most of the remaining Fundamental statements (except *D₂ – Psychological Pain*) and Principle statements (except *Participate Fully*). While Social Contract Theory does not require equivalent levels of agreement as part of consensus, the fact that the group of participants was heterogeneous in their opinions about the ethical use of deception is a notable finding relevant to the plausibility of a social contract for deception research.

When examining strength of agreement ratings (see Table 9), rather than proportions of agree/disagree (c.f., Table 8), meaningful equivalence (within ± 1.1 points) was found for *Physical* and *Psychological Pain* among the Fundamental statements and *Golden Rule* and *Participate Fully* among the Principle statements.

Table 8.

Between-Group Equivalences and Differences in Percentages of Agreement to Social Contract Statements

| | % Agree | | Difference | SE | Equivalence | Difference | | | | |
|-------------------------------------|--------------|-------------|------------|------|----------------------|-------------------------|----------|----------|----|--|
| | Participants | Researchers | | | 90% CI | 95% CI | χ^2 | <i>p</i> | | |
| Fundamental | | | | | | | | | | |
| A & B - Voluntary Consent | 88.68 | 97.88 | -9.20 | 2.42 | [-13.18, -5.22] | [-14.15, -4.26] | 13.03 | < .001 | ** | |
| C ₁ - Debriefing | 87.26 | 95.77 | -8.51 | 2.72 | [-12.99, -4.03] | [-14.00, -3.00] | 9.07 | .003 | ** | |
| C ₂ – Explain Deception | 84.43 | 97.35 | -12.92 | 2.76 | [-17.45, -8.39] | [-18.55, -7.29] | 19.45 | < .001 | ** | |
| D ₁ – Physical Pain | 85.85 | 90.48 | -4.63 | 3.22 | [-9.92, 0.66] | [-11.01, 1.76] | - | - | | |
| D ₂ – Psychological Pain | 83.96 | 90.48 | -6.52 | 3.31 | [-11.97, -1.07] | [-13.11, 0.08] | 3.76 | .053 | | |
| Principle | | | | | | | | | | |
| 1 – Alternative Methods | 50.47 | 79.89 | -29.42 | 4.52 | [-36.85, -21.99] | [-38.41, -20.43] | 37.70 | < .001 | ** | |
| 2 – Consent Disclaimer | 80.19 | 40.74 | 39.45 | 4.51 | [32.03, 46.87] | [30.68, 48.22] | 65.73 | < .001 | ** | |
| 3 – Vulnerable Populations | 65.09 | 55.03 | 10.06 | 4.89 | [2.01, 18.11] | [0.47, 19.66] | 4.23 | .040 | * | |
| 4 – Golden Rule | 87.26 | 95.77 | -8.51 | 2.72 | [-12.99, -4.03] | [-14.00, -3.00] | 9.07 | .003 | ** | |
| 5 – Participate Fully | 88.21 | 81.48 | 6.73 | 3.60 | [0.81, 12.65] | [-0.28, 13.73] | 3.55 | .059 | | |

Note. Equivalency interval is $\pm 10\%$.

Difference 95% CI fully outside equivalence interval in boldface

Equivalence 90% CI fully within equivalence interval in boldface

* $p < .05$ (two-tailed), ** $p < .005$ (two-tailed, Bonferroni Correction)

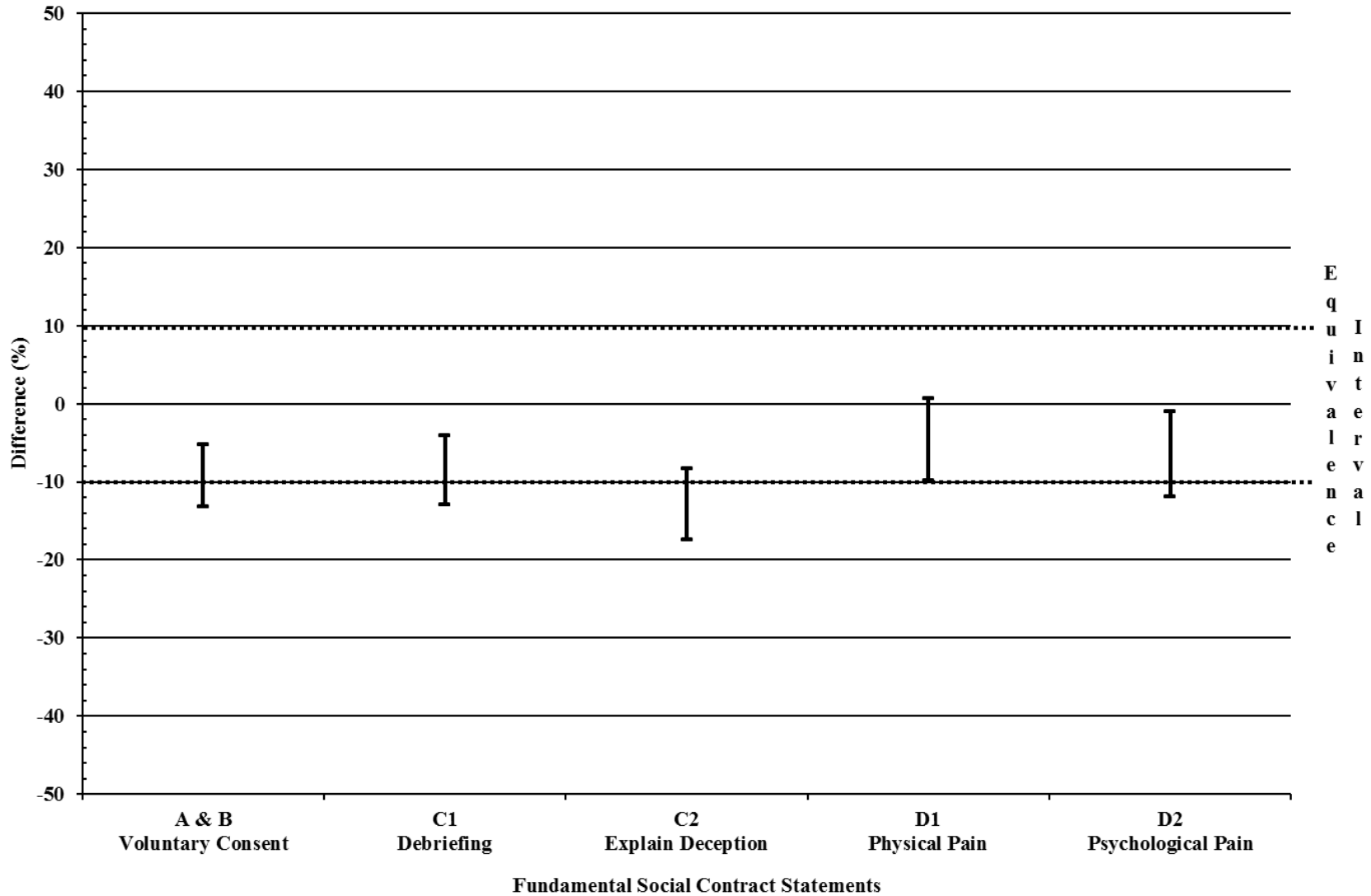


Figure 1. Equivalence Intervals (90% CI) for Between-Group Differences (Participants – Researchers) in Proportions of Agreement with Fundamental Social Contract Statements.

Note. CI bars that cross the zero line are statistically equivalent. Bars fully within the equivalence interval are meaningfully equivalent.

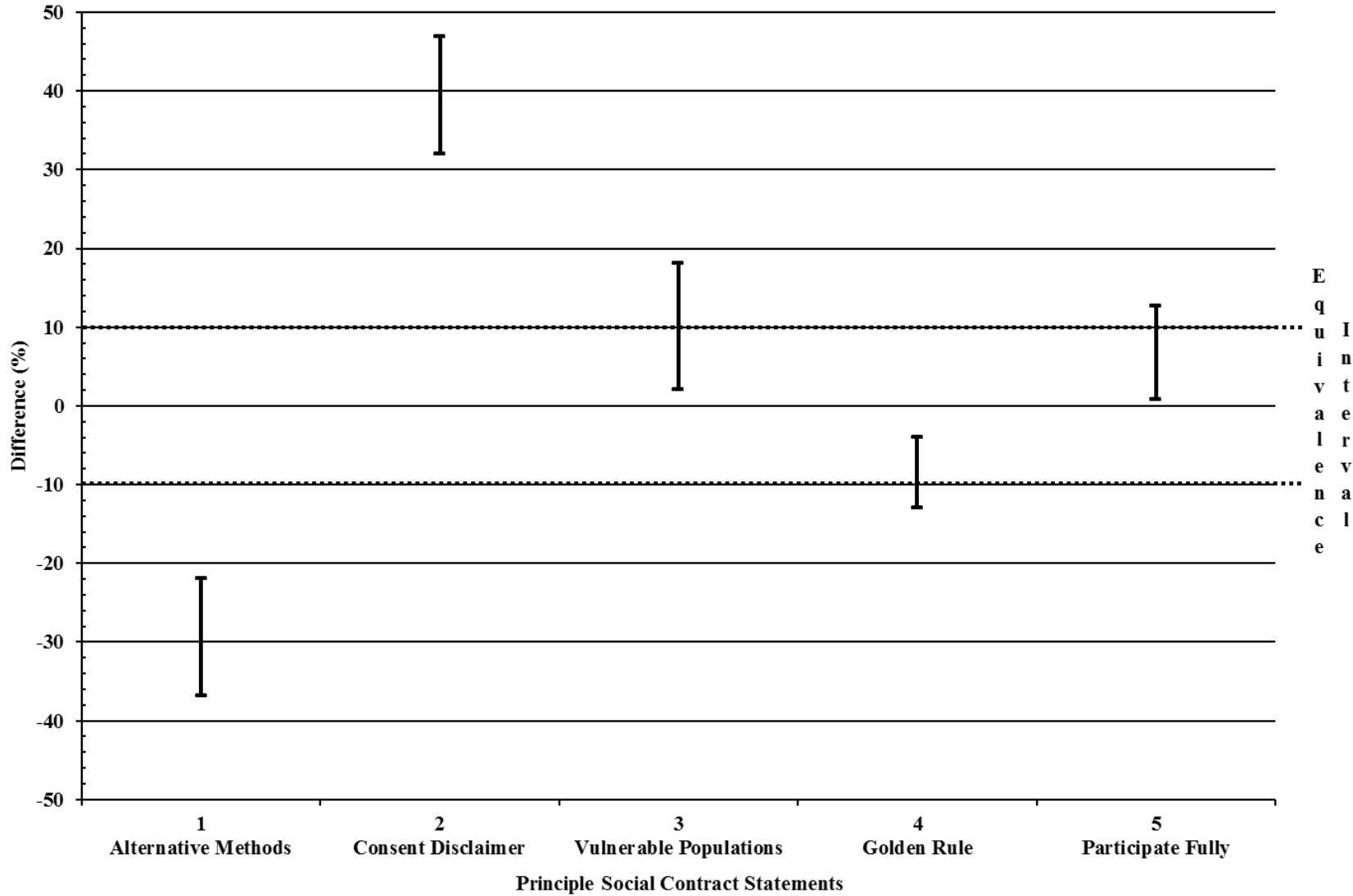


Figure 2. Equivalence Intervals (90% CI) for Between-Group Differences (Participants – Researchers) in Proportions of Agreement with Principle Social Contract Statements.

Note. CI bars that cross the zero line are statistically equivalent. Bars fully within the equivalence interval are meaningfully equivalent.

Table 9.

Between-Group Equivalences and Differences in Strength of Agreement to Social Contract Statements

| | Participants | | Researchers | | Between-Group Difference | | | Equivalence |
|-------------------------------------|--------------|-----------|-------------|-----------|--------------------------|-----------|-----------------------|-----------------------|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | Difference | <i>SE</i> | 95% CI | 90% CI |
| Fundamental | | | | | | | | |
| A & B - Voluntary Consent | 8.27 | 2.05 | 9.48 | 1.18 | -1.21 | 0.16 | [-1.53, -0.88] | [-1.47, -0.93] |
| C ₁ - Debriefing | 8.28 | 2.25 | 9.24 | 1.58 | -0.96 | 0.19 | [-1.34, -0.59] | [-1.28, -0.65] |
| C ₂ – Explain Deception | 7.70 | 2.19 | 9.06 | 1.60 | -1.36 | 0.19 | [-1.73, -0.99] | [-1.67, -1.05] |
| D ₁ – Physical Pain | 8.18 | 2.27 | 8.43 | 2.13 | -0.25 | 0.22 | [-0.68, 0.18] | [-0.61, 0.11] |
| D ₂ – Psychological Pain | 8.01 | 2.35 | 8.46 | 2.19 | -0.45 | 0.23 | [-0.90, 0.00] | [-0.83, -0.07] |
| Principle | | | | | | | | |
| 1 – Alternative Methods | 5.60 | 2.53 | 7.30 | 2.63 | -1.70 | 0.26 | [-2.21, -1.20] | [-2.13, -1.28] |
| 2 – Consent Disclaimer | 7.17 | 2.26 | 4.69 | 3.24 | 2.48 | 0.28 | [1.93, 3.04] | [2.02, 2.95] |
| 3 – Vulnerable Populations | 6.43 | 2.77 | 5.68 | 3.08 | 0.75 | 0.29 | [0.16, 1.32] | [0.26, 1.23] |
| 4 – Golden Rule | 8.44 | 2.07 | 9.22 | 1.63 | -0.78 | 0.19 | [-1.14, -0.41] | [-1.08, -0.47] |
| 5 – Participate Fully | 8.19 | 1.91 | 7.54 | 2.61 | 0.65 | 0.23 | [0.19, 1.10] | [0.27, 1.03] |

Note. Equivalency interval is ± 1.10 pt difference.

Difference 95% CI fully outside equivalence interval in boldface

Equivalence 90% CI fully within equivalence interval in boldface

Deception research

Sieber categorization.

Hypothesis 3) There will be significant differences in the strength of perceived ethicality ratings between categories of deception vignettes, Mild, Moderate, or Strong deception, as described by the Sieber Taxonomy for Deception Research.

The Sieber Taxonomy provides a theoretical framework for which to evaluate the potential ethical risks and consequences of deception methodologies in research with human subjects. Its intended use is to promote careful consideration among researchers developing new studies that may include various forms of deception; however, it has not yet been applied as a means of empirically categorizing deception risk for the purposes of institutional research review.

All participants and researchers provided ratings of perceived ethicality for the ten primary deception vignettes, plus two anchor vignettes (i.e., *Freezer* and *Online/InPerson*). Descriptive statistics for the individual deception vignettes can be found in Appendix U. The responses made by each group were a good fit to the Sieber model. Table 10 presents the average strength of perceived ethicality ratings of each of the Sieber categories for the participant, researcher, and combined sample data. Table 11 shows that statistically significant differences were present between the Sieber categories within each sample. Examination of the 95% confidence intervals in Table 10 showed no overlap between categories, suggesting the classifications appropriately represent three distinct categories of deception vignettes. Figure 3 visually demonstrates that the 95% confidence intervals overlap as expected within the Sieber categories across groups and do not overlap across Sieber categories within and between groups.

Table 10.

Strength of Perceived Ethicality Ratings by Sieber Category

| | <i>M</i> | <i>SD</i> | 95% CI | |
|------------------------|----------|-----------|--------|------|
| | | | LL | UL |
| <u>Stage I</u> | | | | |
| Mild | 7.34 | 1.70 | 7.11 | 7.57 |
| Moderate | 6.03 | 2.04 | 5.75 | 6.30 |
| Strong | 4.33 | 1.91 | 4.07 | 4.59 |
| <u>Stage II</u> | | | | |
| Mild | 7.84 | 7.34 | 7.59 | 8.09 |
| Moderate | 6.10 | 2.22 | 5.78 | 6.42 |
| Strong | 4.74 | 2.31 | 4.41 | 5.08 |
| <u>Combined</u> | | | | |
| Mild | 7.58 | 1.74 | 7.41 | 7.75 |
| Moderate | 6.06 | 2.12 | 5.85 | 6.27 |
| Strong | 4.53 | 2.12 | 4.32 | 4.73 |

Table 11.

Differences in Strength of Perceived Ethicality Ratings by Sieber Category

| | <i>M - Diff</i> | <i>SD</i> | 95% CI - Diff | | <i>t</i> | <i>df</i> | <i>p</i> |
|------------------------|-----------------|-----------|------------------|------|----------|-----------|----------|
| | | | LL | UL | | | |
| <u>Stage I</u> | | | | | | | |
| Mild - Moderate | 1.31 | 1.91 | 1.05 | 1.57 | 10.00 | 211 | < .001 |
| Moderate - Strong | 1.69 | 1.77 | 1.45 | 1.93 | 13.89 | 211 | < .001 |
| Mild - Strong | 3.00 | 1.91 | 2.75 | 3.26 | 22.88 | 211 | < .001 |
| <u>Stage II</u> | | | | | | | |
| Mild - Moderate | 1.74 | 1.74 | 1.49 | 1.99 | 13.78 | 188 | < .001 |
| Moderate - Strong | 1.35 | 2.12 | 1.05 | 1.66 | 8.76 | 188 | < .001 |
| Mild - Strong | 3.10 | 1.88 | 2.83 | 3.37 | 22.68 | 188 | < .001 |
| <u>Combined</u> | | | | | | | |
| Mild - Moderate | 1.52 | 1.84 | 1.33 | 1.70 | 16.47 | 400 | < .001 |
| Moderate - Strong | 1.53 | 1.95 | 1.34 | 1.72 | 15.73 | 400 | < .001 |
| Mild - Strong | 3.05 | 1.89 | 2.86 | 3.23 | 32.23 | 400 | < .001 |

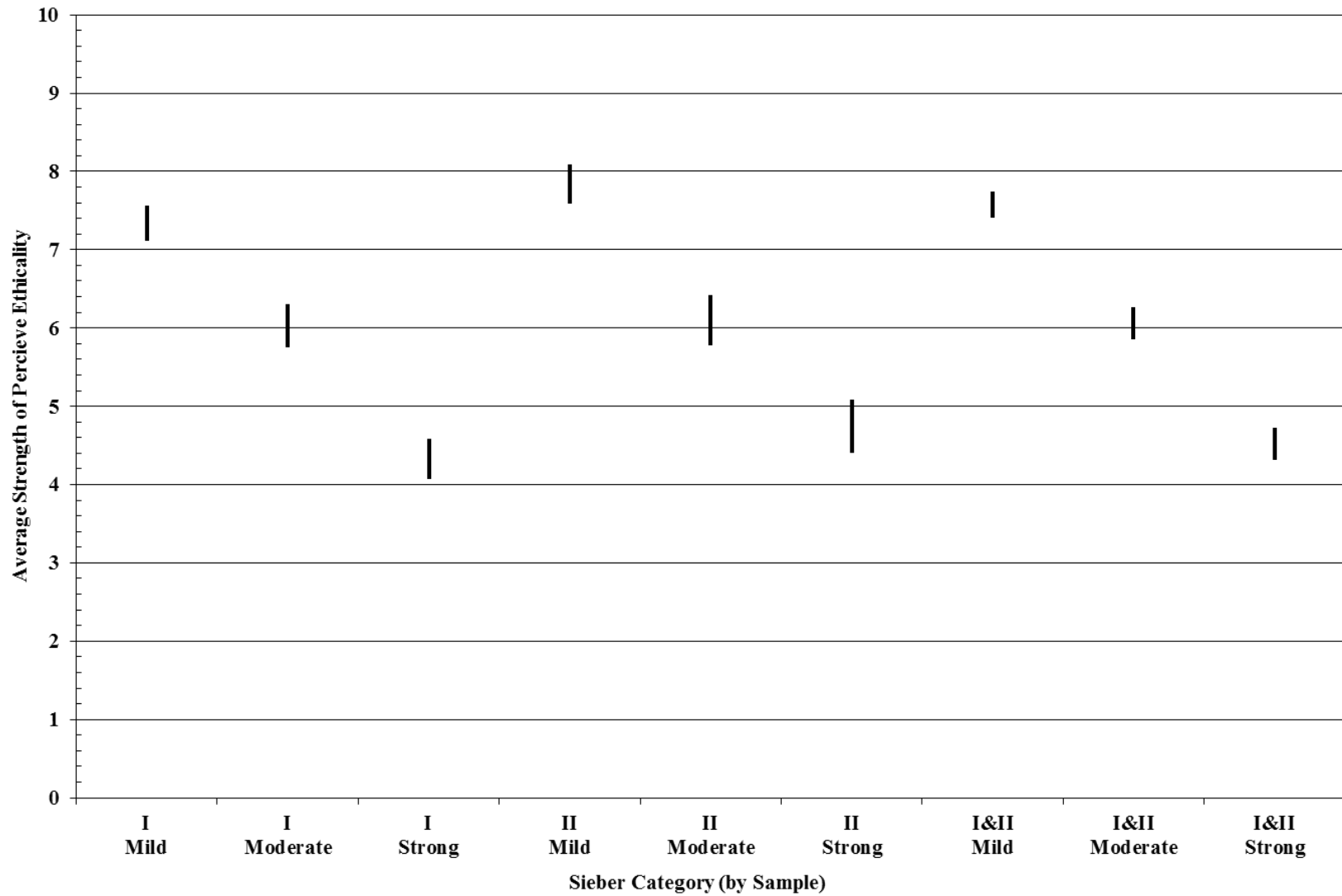


Figure 3. Confidence Intervals (95%) of Average Strength of Perceived Ethicality within Sieber Categories by Sample
 Note. Scale range 0 - 10. I = Stage I (n = 212); II = Stage II (n = 189); I&II = Combined Sample (n = 401)

Perceived ethicality.

Hypothesis 4) Researchers, when compared with participants, will be more conservative in their ethical judgments of deception research. Researchers' rated strength of perceived ethicality across vignettes will be significantly lower than ratings provided by participants.

Ratings of strength of perceived ethicality for each deception vignette were compared across groups to test the hypothesis that researchers would make more conservative (lower perceived ethicality) ratings of vignettes than would participants. Appendix U shows the between-group descriptive statistics of each vignette, individually, and the average for each of the Sieber deception categories (95% CIs). Figure 4 shows a comparison of the deception vignettes sorted by average strength of perceived ethicality in the combined sample. As an additional way of visualizing this data, Figure 5 offers a graphical representation of the relative positions of each vignette plotted along the rating scale of strength of perceived ethicality.

Table 12 shows the results of a series of between-group *t*-tests comparing strength of perceived ethicality ratings of the deception vignettes. While there were statistically significant group differences for several vignettes, none were consistent with the hypothesis that researchers would report lower perceived ethicality strength ratings. In fact, four vignettes (*Boring Task*, *Conformity*, *Group Membership*, and *Religious Beliefs*) had statistically different ratings between groups ($p < .05$; with small to medium effect sizes 0.26 – 0.55). For these vignettes, researchers were more permissive of deception, having made higher perceived ethicality strength ratings compared to participants (a finding in contrast to the prior literature). None of these differences were considered meaningfully different under the ± 1.10 point meaningful difference criteria.

Tests of between-group differences were followed by examination of the 90% equivalence confidence intervals. All vignette ratings that did not demonstrate statistical

differences in strength of perceived ethicality were found to be meaningfully equivalent between groups. Additionally, while the Mild and Strong Sieber categories demonstrated statistical between-group differences ($p < .05$), these differences were fully within the ± 1.10 point criteria for equivalence when both the 95% and 90% CIs were examined.

Interestingly, when proportions of perceived ethicality were compared across groups (see Appendix V), only *Foot-in-the-door*, *Success & Failure*, and *Freezer* were considered equivalent (90% CIs within $\pm 10\%$). Consensus on vignette ethicality across groups (see Appendix W) was found for *Conformity* (both groups $> 80\%$ rated vignette ethical), and to a lesser degree *Boring Task* and *Success & Failure* (both $> 66\%$ ethical). None of the vignettes categorized as Strong deceptions under the Sieber Taxonomy produced consensus for being unethical (no 95% CI upper limits below 33% ethical). The manipulation check vignettes *Freezer* and *Online/InPerson* showed very strong unethical consensus and absolute ethical consensus, respectively, in both groups.

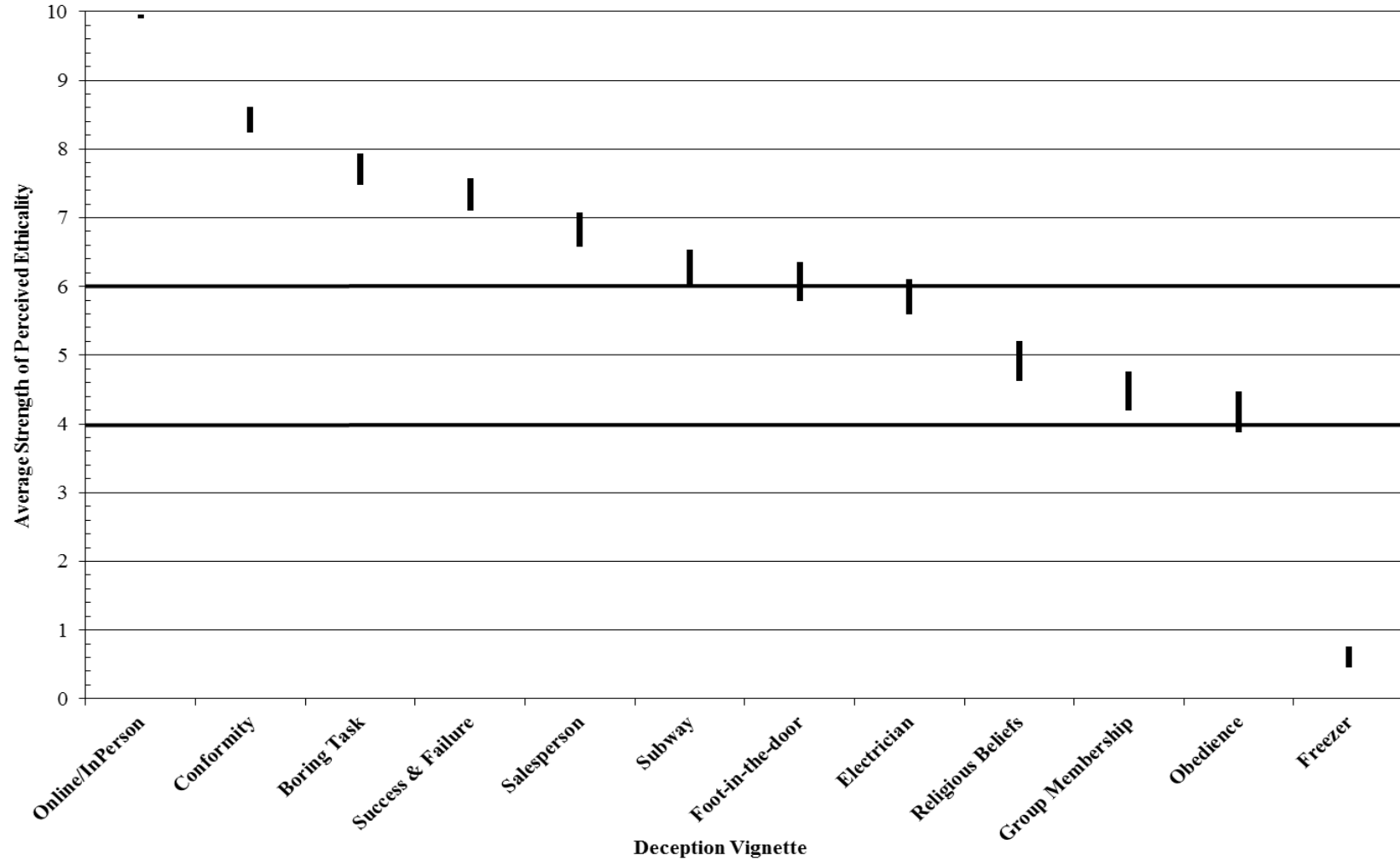


Figure 4. Comparison of Deception Vignettes Sorted by Average Strength of Perceived Ethicality (95% CIs).

Note. Combined Sample (n = 401). Vignette ratings between 4 and 6 represent ambiguity in average strength of perceived ethicality. Scale 0 - 10, with 10 = Strongly Ethical and 0 = Strongly Unethical.

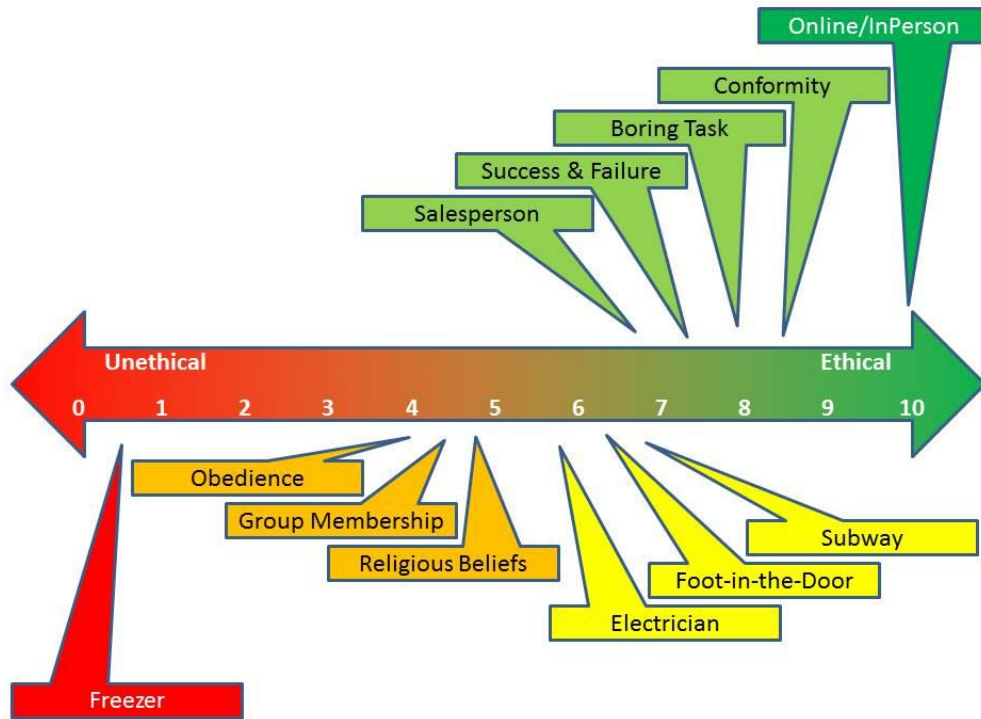


Figure 5. Deception Vignettes Plotted Along Rating Scale for Average Strength of Perceived Ethicality in Combined Sample

Table 12.

Between-Group Differences in Strength of Perceived Ethicality of Deception Vignettes

| Vignette | Participant | | Researcher | | Between-Group Difference | | | Equivalence | | <i>t</i> | <i>df</i> | <i>P</i> (one-tailed) | |
|--------------------|-------------|-----------|------------|-----------|--------------------------|-----------|----------------|----------------------|-------|----------|-----------|--------------------------|--|
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>Diff.</i> | <i>SE</i> | 95% CI | 90% CI | | | | | |
| Salesperson | 7.01 | 2.28 | 6.62 | 2.74 | 0.39 | 0.25 | [-0.11, 0.89] | [-0.02, 0.80] | 1.54 | 367.1 | .063 | | |
| Foot-in-the-door | 6.07 | 2.61 | 6.07 | 3.12 | 0.00 | 0.29 | [-0.57, 0.57] | [-0.48, 0.47] | -0.01 | 368.1 | .496 | | |
| Subway | 6.17 | 2.69 | 6.37 | 2.84 | -0.20 | 0.28 | [-0.74, 0.34] | [-0.66, 0.26] | -0.72 | 399 | .235 | | |
| Group Membership | 4.08 | 2.53 | 4.94 | 3.10 | -0.87 | 0.28 | [-1.43, -0.31] | [-1.33, -0.40] | -3.04 | 363.8 | .002 | †† | |
| Obedience | 4.36 | 2.90 | 3.97 | 3.11 | 0.38 | 0.30 | [-0.21, 0.98] | [-0.11, 0.88] | 1.28 | 399 | .101 | | |
| Electrician | 5.84 | 2.54 | 5.86 | 2.83 | -0.02 | 0.27 | [-0.54, 0.51] | [-0.46, 0.42] | -0.07 | 399 | .474 | | |
| Boring Task | 7.13 | 2.36 | 8.35 | 2.06 | -1.22 | 0.22 | [-1.66, -0.79] | [-1.59, -0.85] | -5.53 | 398.9 | <.001 | †† | |
| Religious Beliefs | 4.57 | 2.70 | 5.32 | 3.08 | -0.75 | 0.29 | [-1.32, -0.18] | [-1.23, -0.28] | -2.58 | 376.0 | .005 | † | |
| Conformity | 8.04 | 2.03 | 8.87 | 1.65 | -0.83 | 0.18 | [-1.19, -0.46] | [-1.13, -0.52] | -4.49 | 395.6 | <.001 | †† | |
| Success & Failure | 7.17 | 2.23 | 7.53 | 2.54 | -0.36 | 0.24 | [-0.83, 0.10] | [-0.76, 0.03] | -1.53 | 399 | .064 | | |
| Freezer | 0.71 | 1.68 | 0.48 | 1.43 | 0.24 | 0.16 | [-0.07, 0.54] | [-0.02, 0.49] | 1.51 | 399 | .067 | | |
| Online/InPerson | 9.94 | 0.26 | 9.91 | 0.35 | 0.03 | 0.03 | [-0.03, 0.09] | [-0.02, 0.08] | 0.93 | 399 | .176 | | |
| Mild Vignettes | 7.34 | 1.70 | 7.84 | 7.34 | 0.51 | 0.17 | [0.17, 0.84] | [0.22, 0.79] | 2.94 | 399 | .002 | †† | |
| Moderate Vignettes | 6.03 | 2.04 | 6.10 | 2.22 | 0.07 | 0.21 | [-0.34, 0.49] | [-0.28, 0.42] | 0.35 | 399 | .365 | | |
| Strong Vignettes | 4.33 | 1.91 | 4.74 | 2.31 | 0.41 | 0.21 | [-0.01, 0.83] | [0.06, 0.76] | 1.93 | 365.4 | .027 | † | |

Note. Equivalency interval is ± 1.10 pt difference.

Difference 95% CI fully outside equivalence interval in boldface

Equivalence 90% CI fully within equivalence interval in boldface

† $p < .05$ (one-tailed), †† $p < .005$ (one-tailed, Bonferroni Correction)

Consent.

Hypothesis 5) Judgments that a deception design is ethically acceptable (decision based on perceived ethicality ratings) will be positively associated with stated behavioral intentions to hypothetically consent to the deception design. This relationship will be present in both samples (participants and researchers).

The relationships between respondent's strength of perceived ethicality ratings and consent decisions to individual vignettes were evaluated. Table 13 demonstrates that in all cases, the relationship between consent and strength of perceived ethicality was positive and strong to very strong.

Table 13.

Point-Biserial Correlation between Strength of Perceived Ethicality and Consent by Vignette

| Vignette | Participants | Researchers | Combined |
|-------------------|--------------|-------------|----------|
| | r_{pb} | r_{pb} | r_{pb} |
| Salesperson | 0.52 | 0.65 | 0.59 |
| Foot-in-the-Door | 0.61 | 0.74 | 0.68 |
| Subway | 0.68 | 0.64 | 0.66 |
| Group Membership | 0.70 | 0.70 | 0.70 |
| Obedience | 0.64 | 0.70 | 0.67 |
| Electrician | 0.60 | 0.68 | 0.64 |
| Boring Task | 0.58 | 0.64 | 0.60 |
| Religious Beliefs | 0.66 | 0.67 | 0.67 |
| Conformity | 0.52 | 0.50 | 0.52 |
| Success & Failure | 0.49 | 0.71 | 0.60 |

r_{pb} = point-biserial correlation coefficient

All correlations were significant at $p < .001$.

The proportion of individuals providing consent to each of the deception vignettes was computed for each group. Table 14 compares the percentage of consenters (95% CIs) from each group, as well as the 90% confidence intervals for equivalence testing (using the $< 10\%$ difference as the equivalence criteria). Additionally, where equivalence was not evidenced, Chi Square tests of independence were conducted to assess differences in proportions of consent to

the deception vignettes between participants and researchers. Between-group rates of consent were equivalent for (highest to lowest percentage) *Success & Failure*, *Subway*, *Foot-in-the-Door*, and *Obedience*. It is worth noting that between-group equivalence was found for vignettes in each of the Sieber taxonomy categories. Significant differences in proportions of consent ($\alpha = .05$) were found for *Conformity*, *Boring Task*, and *Group Membership*. For each vignette, researchers were more likely to consent; however, these differences were never reliably more than $\pm 10\%$ (based on 95% CIs).

Table 14.

Between-Group Equivalences and Differences in Percentage of Consent to Deception Vignettes

| Vignette | Participants | | Researchers | | Difference | | Equivalence | | Chi-Square | |
|-------------------|--------------|-----------------|-------------|-----------------|------------|-----------|----------------------|-----------------|------------|----------|
| | % Consent | 95% CI | % Consent | 95% CI | <i>M</i> | <i>SE</i> | 90% CI | 95% CI | χ^2 | <i>p</i> |
| Salesperson | 81.60 | [76.35, 86.86] | 74.60 | [68.34, 80.87] | 7.00 | 4.15 | [0.16, 13.84] | [-1.10, 15.10] | 2.88 | .090 |
| Foot-in-the-door | 55.66 | [48.92, 62.40] | 56.08 | [48.94, 63.22] | -0.42 | 4.98 | [-8.63, 7.79] | | | |
| Subway | 74.53 | [68.62, 80.44] | 73.54 | [67.20, 79.89] | 0.99 | 4.40 | [-6.26, 8.23] | | | |
| Group Membership | 32.08 | [25.74, 38.41] | 43.39 | [36.26, 50.52] | -11.31 | 4.84 | [-19.29, -3.34] | [-20.79, -1.84] | 5.46 | .019 * |
| Obedience | 39.62 | [32.98, 46.26] | 40.74 | [33.67, 47.81] | -1.12 | 4.92 | [-9.22, 6.99] | | | |
| Electrician | 73.11 | [67.10, 79.13] | 68.78 | [62.12, 75.45] | 4.33 | 4.54 | [-3.16, 11.82] | [-4.60, 13.26] | 0.91 | .340 |
| Boring Task | 84.91 | [80.05, 89.76] | 91.53 | [87.53, 95.54] | -6.62 | 3.19 | [-11.89, -1.36] | [-13.00, -0.26] | 4.17 | .041 * |
| Religious Beliefs | 56.13 | [49.40, 62.87] | 63.49 | [56.57, 70.42] | -7.36 | 4.90 | [-15.44, 0.72] | [-17.01, 2.29] | 2.25 | .134 |
| Conformity | 89.62 | [85.48, 93.76] | 96.83 | [94.30, 99.35] | -7.21 | 2.46 | [-11.26, -3.15] | [-12.18, -2.23] | 7.98 | .005 * |
| Success & Failure | 85.85 | [81.12, 90.58] | 85.19 | [80.07, 90.30] | 0.66 | 3.53 | [-5.15, 6.48] | | | |
| Freezer | 0.00 | - | 0.00 | - | 0.00 | - | - | | | |
| Online/Inperson | 99.06 | [97.74, 100.00] | 98.94 | [97.47, 100.00] | 0.12 | 1.00 | [-1.53, 1.76] | | | |

Note. Equivalency interval is $\pm 10\%$. Unequal variances were assumed where $df \neq 399$.

Equivalence 90% CI fully within equivalence interval in boldface

Difference 95% CI fully outside critical value in boldface

* $p < .05$, ** $p < .005$ (Bonferroni Correction)

Additional analyses

Individual differences and perceived ethicality.

As noted in the literature review, Sullivan and Deiker (1973) compared students' and psychologists' ethical judgments about four deception vignettes and found no significant differences in perceived ethicality across gender, previous experience with research as a participant or researcher, major/specialization, or years since degree (for psychologists). In the current study, individual difference variables were examined, in relation to average strength of perceived ethicality ratings for the three Sieber categories, by way of a series of one-way ANOVAs (with Tukey's HSD post hoc comparisons where appropriate) assessing potential main effects for group, gender, race, political and religious affiliations, and previous exposure to deception research on strength of perceived ethicality. Due to the number of tests, a Bonferroni correction (alpha level of .005) was used to reduce the chances of making a Type I error.

Statistically, but not meaningfully (all mean differences < 1.1 points), significant main effects were found only for group and previous experience with deception research; and, these effects were only present in some of the Sieber categories. Main effects for group (participant or researcher) were found only in the Mild Sieber category $F_{(1, 399)} = 8.63, p = .003$. As noted in the results section for Hypothesis 4, in contrast to the prior literature, researchers viewed Mild deceptions as more ethical ($M = 7.84, SD = 1.74$) than did participants ($M = 7.34, SD = 1.70$). This difference was not meaningfully significant (i.e., less than 1.1 point difference).

When type of researcher (graduate student or faculty researcher) was separated, the effect of role (graduate student-researcher, faculty-researcher, or student-participant) was found only in the Mild Sieber deceptions $F_{(2, 398)} = 9.27, p < .001$. Post hoc analyses (HSD) indicated that the average strength of perceived ethicality rating for Mild deceptions was significantly higher for

graduate student researchers ($M = 8.10$, $SD = 1.49$) than those of either student-participants ($M = 7.33$, $SD = 1.70$) or faculty researchers ($M = 7.26$, $SD = 2.11$). The differences between student-participants and faculty researchers was nonsignificant, and the statistical differences between these roles and graduate student researchers were considered trivial (less than 1.1 point difference in means).

A total of 180 (44.9% of combined sample) respondents across both groups reported previous experience with deception research (either as a participant or investigator). About half (50.3%, $n = 95$) of researchers had previous exposure to deception research, while 40.1% ($n = 85$) of participants had been exposed to deception. There were statistically significant differences in average perceived ethicality within the Mild $F_{(1, 400)} = 8.85$, $p = .003$ and Strong $F_{(1, 400)} = 9.86$, $p = .002$ Sieber deception categories between those who had prior exposure to deceptions and those who did not. For both Mild and Strong deceptions (means and standard deviations reported, respectively), those who had exposure to deception ($M = 7.86$, $SD = 1.58$; $M = 4.89$, $SD = 2.12$) reported higher average strength of perceived ethicality than those who had no exposure to deception ($M = 7.35$, $SD = 1.83$; $M = 4.23$, $SD = 2.07$). Note that neither mean difference was greater than 1.1 points, suggesting statistical, but not practical significance. Group and previous exposure to deception research were entered into a 2 x 2 factorial ANOVA for Mild and Strong deception categories to determine whether there was a significant interaction between these variables on average strength of perceived ethicality. The interactions were nonsignificant for both categories of deception.

Ethical ideology.

The Ethical Positions Questionnaire (EPQ) was presented to undergraduate participants (Stage I) for the purpose of exploring the potential role ethical ideology plays in the development

of ethical decision-making about deception research. The EPQ is composed of two ten-item scales (possible range of scale scores are 0 – 100), *Idealism* and *Relativism*, for which the scale averages can be used to categorize respondents as high or low on each scale (using the mean as a relative cutoff within a sample). Among this group of undergraduate students, the average *Idealism* scale score was 67.54 ($SD = 17.12$) and the average *Relativism* scale score was 60.59 ($SD = 16.14$).

Using the sample means as cutoffs, 114 (53.8%) participants were classified as high in idealism; and concurrently, 111 (52.4%) participants were classified as high in relativism. The combination of the determined high or low scores for Idealism and Relativism correspond with Forsyth's (1980) four ethical ideologies (described in detail in the literature review). Table 15 shows the number (and percentage of Stage I sample) of participants categorized into the four ethical ideologies. Figure 6 provides a scatter plot of the total scale scores for Idealism by Relativism (note that the quadrants mirror the relative positions of ethical ideologies presented in Table 15). Note that if the scale midpoints (50 for both scales) were used to assign ethical ideology, most respondents would be classified as Situationist, with almost no respondents classified as Exceptionist. Multiple methods of classifying respondents with ethical ideologies are discussed in the available literature (e.g., Forsyth & Berger, 1982; Forsyth & Pope, 1984; Nye & Forsyth, 1984); however, for this study, the use of the sample mean was preferred because it balanced the number of respondents in each ethical ideology by utilizing the relative levels of idealism and relativism within the sample rather than the absolute values of the scale.

Table 15.

Distribution of Participant Sample across Ethical Ideology Categories

| | Relativism | |
|----------|--------------------------------|--------------------------------|
| Idealism | Low | High |
| High | Absolutism n = 47 (22.2%) | Situationism n = 67 (31.6%) |
| Low | Exceptionism n = 54 (25.5%) | Subjectivism n = 44 (20.8%) |

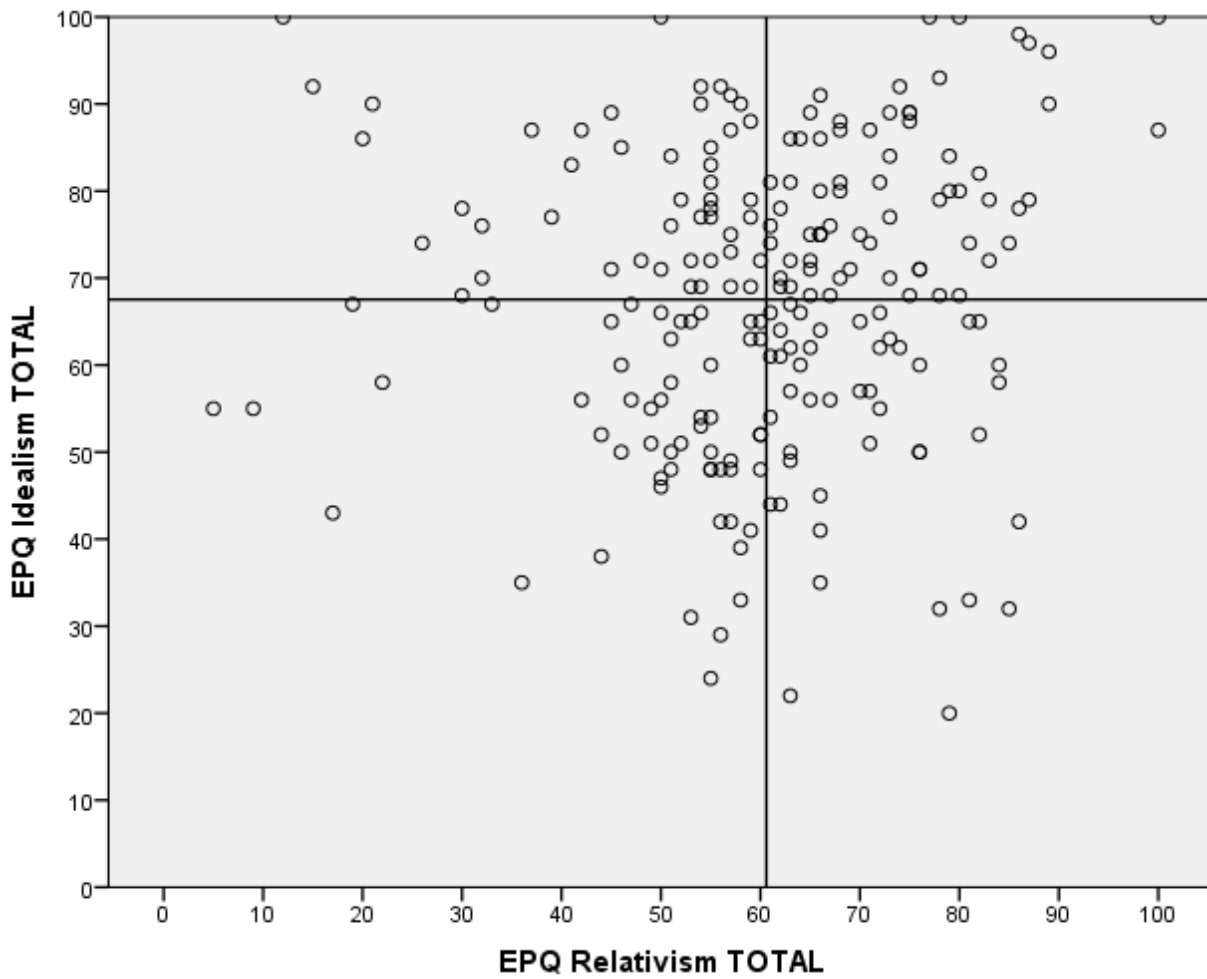


Figure 6. Total scale scores for Idealism by Relativism (respective means included as reference lines)

Additionally, based on the prior literature involving the EPQ, *Idealism* and *Relativism* were expected to demonstrate significant relationships with outcome measures such as strength of perceived ethicality of deception vignettes, but not with measures of social desirability (neither scale was significantly correlated with the MCSDS-SF score). Appendix X presents the Pearson correlation coefficients between the EPQ *Idealism* and *Relativism* scales and the strength of perceived ethicality ratings for the ten primary Deception Vignettes. Five vignettes showed significant, but weak negative associations with *Idealism* ($r_s < .30$), and two vignettes were significantly correlated with *Relativism* scores. Only the *Boring Task* vignette showed a significant positive relationship with either EPQ scale ($r = .17$ with *Relativism*). The strongest relationship was between *Idealism* and the vignette *Obedience* ($r = .27$), with *Idealism* accounting for a meager 7.3% of the variation in the perceived ethicality rating for the *Obedience* vignette. Based on these findings, idealism and relativism, as measured by the EPQ, were not considered to be a strong correlates of ethical decision-making for the deception vignettes.

A series of one-way ANOVAs (HSD post hoc multiple comparisons) were conducted to determine if there were differences between the four ethical ideologies in average strength of perceived ethicality for the three Sieber categories of deception. Within Moderate and Strong deception categories, ethical ideology was a significant factor affecting average strength of perceived ethicality ratings ($F_{(3, 208)} = 3.94, p = .009$ and $F_{(3, 208)} = 5.55, p = .001$, for Moderate and Strong categories, respectively). Table 16 and 17 provide the means and standard deviations for the ethical ideologies in each Sieber category with reference to the outcomes of the post hoc multiple comparisons (HSD). Note that in both deception categories, the differences between high and low idealism appear to most clearly differentiate average strength of perceived ethicality ratings. In contrast to the previous findings of Forsyth and Pope (1984), there were no

significant differences between Absolutists and Situationists (low and high relativism, respectively).

Critical statements regarding the use of social contracts for deception research.

Graduate students ($M = 6.70$, $SD = 2.64$) held statistically stronger beliefs compared to faculty researchers ($M = 5.48$, $SD = 2.85$) that all parties involved should work together to determine what types of deception research studies are ethical and morally permissible ($t(187) = 2.86$, $p = .005$, 95% CI [0.38, 2.06]). Similarly, faculty researchers ($M = 5.09$, $SD = 2.89$) were more skeptical than graduate student researchers ($M = 6.34$, $SD = 2.56$) about the possibility that agreement between researchers and participants concerning the acceptability of deception research practices could lessen ethical concerns, $t_{(187)} = 2.97$, $p = .003$, 95% CI [0.42, 2.08]).

Table 16.

Descriptive Statistics and Post Hoc (HSD) Comparisons of Average Strength of Perceived Ethicality within the Moderate Sieber Category by Ethical Ideology

| | Relativism | |
|----------|---|--|
| Idealism | Low | High |
| High | Absolutism 5.31 ^a (2.11) | Situationism 5.86 ^{ab} (1.95) |
| Low | Exceptionism 6.38 ^b (2.04) | Subjectivism 6.60 ^b (1.88) |

Note. Means (SDs) reported for n = 212; Means with different superscripts are significantly different (p = .05). Anchors were 0: Strongly Unethical and 10: Strongly Ethical.

Table 17.

Descriptive Statistics and Post Hoc (HSD) Comparisons of Average Strength of Perceived Ethicality within the Strong Sieber Category by Ethical Ideology

| | Relativism | |
|----------|---|--|
| Idealism | Low | High |
| High | Absolutism 3.68 ^a (1.60) | Situationism 4.00 ^{ac} (1.89) |
| Low | Exceptionism 4.96 ^b (1.95) | Subjectivism 4.77 ^{bc} (1.91) |

Note. Means (SDs) reported for n = 212; Means with different superscripts are significantly different (p = .05). Anchors were 0: Strongly Unethical and 10: Strongly Ethical.

CHAPTER 5. DISCUSSION

This study sought to address research questions to test the utility of a social contract for deception research and to explore potential differences in perceived ethicality of deception methods when research participants are compared with researchers. The investigation utilized both within- and between-group designs in an effort to identify areas of consensus on which broad values respondents believe should guide the ethical use of deception research, and more specifically, to what degree are deception methods considered ethically permissible by respectively participants and researchers.

Based on the data from this study, it appears that the prospects for a social contract for deception research between participants and researchers are not as strong as had been hypothesized by Kimmel, Smith, and Klein (2011). While there was adequate consensus in agreement to the five Fundamental aspects of the proposed social contract in both groups, all but two of the five Principle statements received mixed receptions. A revised social contract (between undergraduate participants and university researchers) for deception research is proposed based upon the findings of this study.

The results related to the social contract statements are discussed in detail in the following sections; however, among the Principle statements, two salient group differences emerged. First, participants as a group were mixed in their opinions as to whether deception should only be used in cases where non-deceptive methods are not available (*Alternative Methods*). Researchers demonstrated a base level of consensus in agreement around the use of alternative methods (i.e., > 66% agreed), but the consensus was notably weaker than for the Fundamental statements (all statements agreed to by > 80% of researchers), despite the fact that these statements are all reflective of APA ethical codes regulating the use of deception in

research. Second, participants and researchers held significantly different opinions about the use of a general non-specific disclaimer in consent documents about the field's use of deception methods (*Consent Disclaimer*). Despite participants' comparatively higher interest in the use of such disclaimers, they were not favored by researchers, which may be why they are not in common use in research practices.

Among its important contributions, this study expanded the currently limited knowledge about the ethical beliefs and decisions pertinent to deception research from the perspectives of both researchers and participants. Respondents were asked to rate strength of perceived ethicality (11-pt Likert type scale) and willingness to consent (yes/no) for ten deception vignettes (plus two anchor vignettes) describing a range of deceptions from published studies. The findings of this study contrasted with prior published findings, which suggested researchers would be more ethically stringent (lower perceived ethicality and consent) than participants. In the four vignettes where statistically significant between-group differences in strength of perceived ethicality were present (*Group Membership, Boring Task, Religious Beliefs, and Conformity*), researchers viewed the deceptions as more ethical when compared to participants, the opposite of what was predicted. However, these differences were notably small (the lower limits of the 95% CIs of differences in means were never more than 1 point). Interestingly, ratings of strength of perceived ethicality were statistically and meaningfully equivalent for the remaining six deception vignettes (*Salesperson, Foot-in-the-door, Subway, Obedience, Electrician, and Success & Failure*).

Measures of strength of perceived ethicality and consent were strongly and positively correlated for the researcher, participant, and combined samples. Between-group rates of consent were equivalent in four vignettes (*Foot-in-the-door, Subway, Obedience, and Success & Failure*)

and generally consistent with the findings for strength of perceived ethicality. Note that these vignettes represented a heterogeneous group of vignettes along the continuum of perceived ethicality. Only three vignettes (*Conformity*, *Boring Task*, and *Group Membership*) demonstrated statistically different proportions of consent across groups, each with more researchers than participants expressing willingness to consent to the deceptions. This information offers an update to the field's understanding of the similarities and differences between researchers and participants and provides an opportunity for the research community to revisit what forms of deception might be considered relatively ethical or unethical.

This study also examined the applicability and adequacy of the Sieber Taxonomy as a means of codifying deception designs and vignettes. The Sieber Taxonomy was used to group vignettes by the number and types of deceptive elements, as well as potential harm caused by their use. Prior to data collection, three trained raters coded the deception vignettes using the Sieber Taxonomy system and grouped vignettes into three theorized levels (Mild, Moderate, and Strong deceptions). Statistically significant differences in the strength of perceived ethicality ratings between these hypothesized Sieber levels were observed in both researcher and participant samples, suggesting the Sieber Taxonomy is sensitive to perceived ethicality and has potential utility in quantitative research as a means of codifying deception designs.

In the following sections, the results of five hypothesis tests are discussed in relation to associated theory and potential implications for research and ethics. Based on these findings, a revision of Kimmel, Smith, and Klein's (2011) social contract for deception research is proposed. The limitations and generalizability of these findings are discussed and mentions of possible future research conclude this discussion.

Social contract

This study sought to examine the potential for consensus within and between participants and researchers, concerning opinions about the ethical use of deception in research. Such agreement would provide support essential to Social Contract Theory and could allow ethicists and research reviewers to transition their focus onto areas where disagreement remains about how researchers might ethically conduct research deception studies.

Within-group consensus.

Hypotheses 1a and 1b predicted independent groups of participants and researchers, respectively, would agree in sufficient numbers indicating consensus in each group regarding agreement with the social contract statements. Two standards for consensus were examined, a stringent standard of 80% consensus, and a lower 2/3 majority (66%) standard (a discussion of issues related to defining 'sufficient' consensus is provided in a later section). The hypotheses were tested by examining the lower limit of the 95% confidence intervals for the proportions of agreement within each group.

Participant consensus. Hypothesis 1a was generally supported for the Fundamental statements and only partially supported for the Principle statements. Three of the five Fundamental statements (*Voluntary Consent, Debriefing, & Physical Pain*) were agreed to by 80% or more of participants. Consensus levels for the remaining Fundamental statements (*Explain Deception & Psychological Pain*) were just below the cutoff (lower limits were 79.51 and 78.98, respectively) and well above the 66% cutoff.

Among the five Principles statements, more than 80% of participants agreed to *Golden Rule* and *Participate Fully*, and slightly fewer to *Consent Disclaimer* [95% CI 74.78, 85.60];

however there was insufficient support (less than 66%, but more than 51%) for prohibitions on the use of deception with *Vulnerable Populations*.

Most surprisingly was the finding that participants appeared evenly split (50.47%) on whether deception should only be used when non-deceptive methods are deemed infeasible (*Alternative Methods*). Compared to researchers, who showed moderate within-group consensus (79.89%), participants appeared somewhat indifferent or unsure about the preference for non-deceptive methods. Examining the frequency distribution for participant's ratings of strength of agreement on this statement show a roughly normal distribution with a mean (SD) of 5.56 (2.53), which is in the middle of the scale and labeled "uncertain/indifferent."

If uncertain, this result may reflect the fact that undergraduate student research participants tend to have less exposure than researchers to the ethical rationales for avoiding deception. In explaining observed differences in perceived ethicality between students, psychologists, and Institutional Review Board members, Schreir and Stadler (1992) assumed that students were, "*of course,*" less attuned to ethical concerns than reviewers or researchers (p. 1072). If this is accurate, it calls into question whether consent provided by such individuals is truly *informed*. Perhaps participants deserve more education about research ethics prior to their involvement in psychological research.

While some participants may be uncertain about the ethicality of deception or rationale for its use, it is also possible that they are authentically indifferent on the topic. In fact, there is evidence that participants may actually prefer participating in studies involving deceptive compared to non-deceptive designs (S. S. Smith & Richardson, 1983). Prior exposure to deception research may slightly increase this preference for deceptive designs, and in the current participant sample, prior exposure to deception research was associated with lower agreement

with *Alternative Methods* ($r_{pb} = -.225, p = .001$). The field of psychological research has traditionally taken a paternalistic view of participants, assuming their lack of concern was related to naiveté; however, within Social Contract Theory, both contractors must be assumed to be competent to enter a contract. The field should continue to investigate whether the expressed beliefs of research participants are reflective of naiveté or of legitimate reasoning and preferences.

Researcher consensus. Researchers strongly agreed with each of the five Fundamental statements (all > 80%). This general consensus in agreement with the Fundamental statements by graduate and faculty researchers is not surprising given the strong association of these statements with professional ethical standards in psychology (e.g., APA Code). Interestingly, despite the similarity between Principle 1, *Alternative Methods*, and APA Code 8.07a (Deception in Research), which states “Psychologists do not conduct a study involving deception unless... effective nondeceptive alternative procedures are not feasible” (APA, 2002), only 79.89% of researchers agreed (compared to proportions for the other Fundamental statements ranging from 90.48% to 97.88%).

The level of consensus among researchers in favor of the five Principle statements was lower than predicted for all but *Golden Rule* (95.77%). *Participate Fully* was slightly below the 80% cutoff [95% CI 75.89%, 87.07]. Researchers appeared mixed on whether investigators should avoid using deceptions with *Vulnerable Populations*. On this point, it may be that the item wording reflected a stricter prohibition on deceiving vulnerable populations (e.g., children, prisoners) than is expressed in the APA General Principle E: *Respect for People’s Rights and Dignity* (APA, 2002).

One of the more interesting findings was the low level of consensus in agreement for *Consent Disclaimer* among researchers. Less than half of researchers (40.74%) believed consent documents should include a general disclaimer that deception may or may not be used in any psychological research study. Although most researchers' apparent preference is to not include such information, it runs in contrast to the preferences of those providing consent, namely the prospective participant (80.19% of participants agreed to *Consent Disclaimer*).

In light of the observed participant support of *Consent Disclaimer*, researchers and groups governing consent practices should reconsider the potential values of using a general disclaimer for deception. Several authors have called for such consent disclosures to potential participants (e.g., Miller & Wendler, 2004; Wendler, 1996) and defended the use of such a method against claims that it would lead participants to be more suspicious or compromise deceptions by attempting to guess at the hypotheses (e.g., Pittenger, 2002). From a philosophical perspective, Pittenger argued that such a change in informed consent procedures would "preserves the participant's right to autonomy while allowing the researcher to use deception in the research" (2002, p. 124). In this study, 75.94% of participants reported that they expect to be deceived about some element of a study during their participation. Less than half (48.11%) believed the pervasive use of deception would increase suspiciousness of researchers and some 61.32% of participants believed the practice of deception was generally ethical.

Between-group consensus and equivalence.

Social Contract Theory (SCT) states that the authority of ethical guidelines can come from the agreement of those affected. Based on the within-group consensus outcomes, all five Fundamental statements and two Principle statements (*Golden Rule* and *Participate Fully*) were considered viable social contract elements. In addition to determining whether consensus was

present, this study also sought to examine if the levels of consensus in proportions of agreement between groups were meaningfully equivalent (Hypothesis 2). An equivalence criterion was established that considered between-group differences in proportions less than $\pm 10\%$ to be trivial and, consequently, considered meaningfully equivalent (using a 90% confidence interval). In contrast to Hypothesis 2, only the confidence interval for *Physical Pain* was fully within the equivalence interval [90% CI -9.92, 0.66]. Sullivan and Deiker (1973) found similar evidence suggesting researchers and participants equally desired to avoid research requiring participants to administer or receive physical pains, despite significant differences in opinions of other research activities.

Through evaluating the between-group differences on the remaining social contract statements, there was insufficient evidence to suggest that the proportions of consensus in agreement between participants and researchers were so far apart as to declare the social contract void. More researchers agreed with *Voluntary Consent*, *Debriefing*, *Explain Deception*, and *Golden Rule* statements compared to participants; however none of these differences were reliably outside the $\pm 10\%$ criteria. Based on these findings, it seems that there may be slightly more uniformity in the opinions of researchers; however, this may simply be a byproduct of researchers' exposure to similar ethical statements governing research practices in psychology presented in the APA Code. Additionally, while researchers came from a variety of sub-disciplines within psychology, they were likely all taught essentially the same set of ethics; whereas, the participant sample was drawn from a wide array of majors with varying degrees of exposure to psychological and/or ethical concepts. Future research would benefit from examining or controlling for participant exposure to or knowledge of ethical/moral theory and ethical codes of conduct.

Among the other findings, two of the five Principle statements demonstrated clear statistical and meaningful differences in level of consensus for agreement between groups of contractors. In both *Alternative Methods* and *Consent Disclaimer*, only one group (researchers and participants for the respective statements) showed sufficient consensus in agreement. Additionally, neither group provided adequate consensus for *Vulnerable Populations*. Consequently, these three Principle statements would not be considered appropriate for inclusion in a social contract for deception research between participants and researchers at this time.

Among its findings, this study also found that both participants and researchers agreed that participants have an obligation to be candid and effortful in their participation (*Participate Fully*). This fact is important to the field's conceptual orientation of the relationship between the researcher and the researched party, as the two-directional nature of research participation has likely been partially overlooked by researchers and maybe even participants. The approach of most informed consent procedures is one-directional, with researchers carrying the bulk of the responsibility of ensuring participants are informed.

In contrast, a social contract approach states that both parties have obligations to one another. Researchers are obligated to ensure the protection of the participant's rights to autonomy, respect, and dignity by providing sufficient information to allow that individual to make a reasoned decision about his/her participation. Participants are then so obliged to make use of this information, weight their options, and act in good faith if they agree to participate.

However, there are many philosophical and ethical concerns about whether researchers can uphold their ethical obligations when using deception. There are complex considerations, and these issues are beyond the scope of this discussion; however, in considering the obligation

of participants in research, Social Contract Theory provides a valuable framework for which these issues can be explored in a cooperative rather than unidirectional paternalistic fashion.

Implications for Kimmel et al.'s social contract for deception research.

Are there areas of consensus between participants and researchers about what Fundamental concepts and specific Principles should guide the ethical use of deception in research?

In addressing the above research question, the outcomes of Hypotheses 1a, 1b, and 2 indicated there was general consensus for the Fundamental statements of Kimmel et al.'s (2011) proposed social contract, with a slightly higher proportion of researchers expressing agreement with the statements compared to participants. More interesting is that the results of this study suggest Kimmel and colleagues may have overestimated the amount of consensus, within either group of contractors, for several critical agreements (i.e., the Principle statements).

While both parties agreed that participants should cooperate fully and in good faith with researchers conducting a study (*Participate Fully*) and that a golden rule should apply, such that researchers do not create procedures they themselves would not endure (*Golden Rule*), there was significantly less within- or between-group consensus for the remaining Principles. Specifically, only researchers agreed as a group that deception should be treated as a method of last resort (*Alternative Methods*); whereas, only participants concurred that researchers should utilize a non-specific deception disclosure in the informed consent process, one that would clearly state that deception could be used in any psychological study (*Consent Disclaimer*).

In addition to the above findings, this study also surveyed respondents about their belief that a social contract for deception research would be beneficial in addressing the ethical concerns about deception. Interestingly, only 69.81% of participants and 61.90% of researchers were proponents of the social contract approach. Based on this evidence, there appears to be

some level of uncertainty about whether a social contract could benefit the field. It is unknown to what degree this opinion is malleable with education about the possible usefulness of Social Contract Theory. Despite this ambiguous finding about the broad utility of a social contract, there were many areas of agreement in the proposed social contract that are of relevance to informing researchers about the opinions of participants and might, with modification, represent a more theoretically-grounded and empirically-supported social contract for deception research worthy of further attention.

A revised social contract for deception research.

A social contract is defined as a set of values that groups of contractors consider equitable or appropriate for those individuals involved in the specific relationship (Edwards & Karau, 2007). The core element underlying the theoretical concept of a social contract is consensus. This consensus must first be established within each group of contractors, and can then be recognized between those groups. While there is not an expectation that a social contract requires absolute agreement between contractors, strong majorities (i.e., 80%) are likely to represent areas of “strong” consensus. At a lower standard of agreement (i.e., 66%), it may be more appropriate to apply a label such as “moderate” consensus. Those elements with less than 66% agreement (but more than 33%, which would indicate moderate disagreement), and particularly those statements with confidence intervals crossing 50%, should be considered statements with weak or no consensus. Using a highly conservative measure of these consensus standards (using the lower limit of 95% confidence interval as the standard for consensus rather than the mean), a revised social contract for deception research (see Table 18), based upon the findings of this investigation, is proposed as a modification to Kimmel et al.’s (2011) social contract for deception research. Note that all the Fundamental aspects were retained, and that

Principles 1, 2 & 3 were removed from the revised contract because there was insufficient consensus in agreement for each statement.

Table 18.

A Revised Social Contract for Deception Research

Strong Consensus

- Participants are reminded that their participation is voluntary and that they can and should withdraw, if they deem necessary, from a study at any time, without penalty. (Fundamental A & B)
- All research participants deserve to be debriefed and provided information about the details of the study after their participation. (Fundamental C1)
- Researchers should not deceive participants about research that is expected to cause physical pain. (Fundamental D1)
- Researchers should never expose participants to procedures or risks that they themselves would not be willing to accept if similarly situated. (Principle 4)

Moderate Consensus

- Researchers should explain any deception that is an integral part of the experiment as early as is feasible, preferably at the conclusion of their participation. (Fundamental C2)
- Researchers should not deceive participants about research that is expected to cause severe emotional distress. (Fundamental D2)
- Participants cooperate fully and in good faith in research studies they have accepted to participate in. (Principle 5)

Weak/No Consensus (Removed from the Social Contract)

- Researchers should not conduct a study involving deception unless non-deceptive alternative procedures are not feasible. (Principle 1)
- Informed consent documents should include a disclaimer that deception may be used in any psychological research study. (Principle 2)
- Researchers should avoid using deception methods with any vulnerable populations (e.g., children, prisoners, elderly). (Principle 3)

Note. Adapted from Kimmel, Smith, & Klein (2011).

Relevance of findings to APA ethical principles of psychologists and code of conduct. If the use of a social contract for deception research were to be further examined (between undergraduate participants and university graduate and faculty researchers), we would expect contractors to express strong consensus in agreement with, at a minimum, the APA Ethical Principles (i.e., Beneficence and Nonmaleficence; Fidelity and Responsibility; Integrity; Justice; and Respect for People's Rights and Dignity). Additionally, contractors would likely show clear consensus for many of the APA Ethical Standards expressed in the Code of Conduct (APA, 2002) related to the ethical treatment of participants in psychological research (e.g., 8.05 Dispensing with informed consent for research; 8.08 Debriefing). Note that Code 8.08 was addressed in this study as Fundamental statements $C_1 - Debriefing$, which demonstrated strong consensus in both groups.

APA Code 8.07 addresses deception in research and has three clauses. Based on the information collected in this study, there was inadequate support for the first clause, assessed in this study using two statements. The first half of clause 8.07(a) "Psychologists do not conduct a study involving deception unless they have determined that the use of deceptive techniques is justified by this study's significant prospective scientific, educational, or applied value..." was supported by 91.01% of researchers, but only 73.58% of participants. The reasons for this discrepancy are unclear and could reflect participants' beliefs that deception is allowable regardless of these criteria, or that deception is never allowable, regardless of the scientific or other value; both beliefs may be represented in this sample.

The second half of 8.07(a), "...and that effective nondeceptive alternative procedures are not feasible," was reflected in Kimmel et al.'s first Principle statement (*I - Alternative Methods*), which was only supported by approximately half (50.47%) of participants despite moderate

consensus among researchers (79.89%). This finding suggests a need for more information about what participants believe are justifiable reasons for using deception (e.g., methodological rationales, cost/benefit) and their preferences related to the use of deceptive and non-deceptive research methods. The outcomes of such inquiries could be instrumental in the revision of this part of the APA Code and its interpretation and implementation by Institutional Review Boards.

Part 8.07(b) states that psychologists do not deceive participants in situations that may cause physical or psychological pains. Fundamental statements D_1 - *Physical Pain* and D_2 - *Psychological Pain* directly addressed these aspects and in each group these items demonstrated strong and moderate consensus, for D_1 and D_2 respectively (note that only the lower limit of the 95% CI for D_2 was below the 80% consensus cutoff and strength of agreement ratings were not significantly different between D_1 and D_2 ; $t_{(400)} = 0.93, p = .355$).

The final clause, 8.07(c) is consistent with Fundamental statement C_2 - *Explain Deception*, which demonstrated strong consensus among researchers and moderate consensus among participants (note that the lower limit of the 95% CI for *Explain Deception* in the participant sample was only one-half of a percentage point below the 80% consensus cutoff).

What is not included in the APA Ethics Code is the *Golden Rule* concept. Based on the responses by both groups of contractors, we would anticipate continued strong consensus for this item in any future social contract. Finally, because the APA Ethics Code applies only to psychologists, it does not comment on the ethical obligations of clients, patients, or participants who interact with psychologists. If such a code of ethics existed for participants of research, we would imagine that an obligation to *Participate Fully* would be among its standards. Participants in this study indicated strong consensus on this Principle, with moderate consensus among the researcher sample (not statistically different).

Deception methods

In addition to investigating the participants' and researchers' agreement with the broad aspects of a social contract for deception research, this study sought to examine whether there were similarities and differences between contractors in their perceived ethicality of a variety of deception research designs. This study aimed to explore the expanded the use of social contracting in identifying which specific deception designs participants and researchers could agree may be ethically used in psychological research. For the interested reader, the Pearson correlations between strength of perceived ethicality ratings of the deception vignettes and strength of agreement ratings of the Social Contract Statements can be found in Appendix Y.

Additionally, it was an important part of this study to examine a theorized classification scheme (the Sieber Taxonomy) for categorizing multifaceted deception designs. If researchers and reviewers were better able to identify characteristics of deception studies viewed as relatively ethical or unethical by participants, researchers would surely be in a better position to select the most preferable and acceptable deception methods and potentially educate IRB reviewers about the perceived ethicality of deception in psychological research as seen from the perspective of research volunteers.

In the current study, the procedures included the presentation of ten vignettes describing an array of actual deception studies (plus two anchor vignettes). These vignettes were coded by three trained raters using the Sieber Taxonomy. As part of their participation in this study, respondents were asked to make judgments about the ethicality of each vignette and state his/her willingness to consent to such a study. The following sections provide a discussion of the findings related to the Sieber Taxonomy and ratings of perceived ethicality and consent for the

deception vignettes. Trends in group consensus are discussed within the context of a possible social contract for deception research.

Sieber taxonomy.

Hypothesis 3) There will be significant differences in the strength of perceived ethicality ratings across categories of deception vignettes, Mild, Moderate, or Strong deception, as described by the Sieber Taxonomy for Deception Research.

In the field of research ethics, many authors have attempted to develop a theoretical and conceptual framework for classifying types of deceptions. However, even defining deception continues to be a philosophically complex process, and consequently, very few of theoretical models have seen empirical investigation. This study included an exploratory empirical analysis of one of these theoretical models, described in this document as the Sieber Taxonomy. Consistent with these objectives, Hypothesis 3 predicted that there would be significant differences in strength of perceived ethicality ratings across three Sieber categories (Mild, Moderate, and Strong). While not originally intended for quantitative comparison of deception designs, the Sieber Taxonomy and associated rating system provided a vehicle by which it was possible to code elements of deception research and to group deception designs into the hypothesized levels of deception intensity and ethicality consistent with Sieber Taxonomy (Sieber, 1982, 1983). While these ratings clearly fell along a continuum, the ability to view deceptions within a categorical system (i.e., Mild, Moderate, and Strong Deceptions) could be of use to Institutional Review Board members seeking to triage research proposals (e.g., those identified with strong deception would warrant maximal, full board review).

Quantitative assessment of the Sieber Taxonomy showed congruence between the raters who coded the elements using the Sieber rating system and the respondents who provided ratings of perceived ethicality for each deception vignette. When the strength of perceived ethicality

ratings for each vignette were averaged within the respective coder-determined Sieber category (i.e., Mild, Moderate, and Strong deceptions), there were statistically significant differences between each category in the predicted direction (i.e., Strong deceptions viewed as less ethical than Mild deceptions). The anchor vignettes provided a good estimate of the floor and ceiling of the rating scale (mean strength of perceived ethicality ratings of 0.60 and 9.93 for *Freezer* and *Online/InPerson*, respectively). The between-category differences in strength of perceived ethicality were present in each sample (Stage I and II) and the combined sample.

In examining the differences in features of mild and strong deceptions (see Appendix R), it was observed that mild deceptions tended to be characterized by the following:

- None of the mild deceptions included all three devices of deception (i.e., implicit, technical, and role deceptions), and rarely included technical deceptions (i.e., misrepresentation of methods, measures, or objects used during research).
- The combination of the nature of the research (e.g., Social perception, Privacy) and potential upsets (e.g., due to research, due to outcomes of study) appeared to best differentiate mild and strong vignettes.
- There were less negative social perceptions of behaviors committed during weak deceptions than in strong deceptions.
- Mild deceptions often involved observation and assessment of public rather than private behaviors and opinions.
- Risks of discomfort or duress (e.g., upsets due to research, outcomes, or deception itself) were lower in mild deceptions.

Although the Sieber Taxonomy proved to be a useful tool for categorizing deceptions in this study, there are ways in which it could be further refined and strengthened. It was interesting that the Sieber Taxonomy does not directly attend to the types of harms that could be caused by deception, but instead focused on how likely any harms might be. This model may be improved by inclusion of factors related to the types of discomfort, pain, or duress (physical and/or psychological) and whether those consequences would be acute or chronic and if they might be ameliorated by appropriate and complete debriefing.

Despite possible areas of improvement, in its current form the taxonomy was able to capture subtle differences in vignettes. As an example, note that *Obedience* and *Electrician* both included consent with false informing, implicit, technical, and role deceptions, and both implicit and explicit lies. Also, both vignettes involved witnessing what participants believed was another person who was being physically harmed by electrical shock; however, there was a major difference in potential social perceptions of the participant's actions. In *Obedience*, participants were agents involved in administering pain (very negative social perceptions); whereas, in *Electrician*, the participant observed another be accidentally shocked and his/her response to the supposed injured party was observed (less negative social perceptions even if they choose not to provide assistance). *Obedience* was therefore appropriately classified by the taxonomy as a Strong deception; whereas, *Electrician* was aptly classified as a Moderate deception.

Although there appeared to be adequate support for use of the Sieber Taxonomy as a means of categorizing the multifaceted deception designs presented in this study, additional efforts are also needed to refine the scoring system and assess its psychometric qualities if it were to be used as a standard tool for quantitative research. Most importantly, the appropriate weighting of scores for each deception aspect would be essential, as some aspects have more

types of classifications and can result in higher maximum scores regardless of the importance relative to other aspects (e.g., Privacy has five levels, whereas Induction has only 3 levels).

One notable gap in this study with regards to the Sieber Taxonomy was the absence of vignettes reflective of self-deceptions or deceptions by third parties, which were described in the literature (Sieber, 1982). This study also included only actual deception designs that had been published in the professional literature. Future studies would benefit from developing new vignettes that would be unfamiliar to persons with exposure to psychological literature and that might include additional combinations of deception elements. Additionally, the highest possible score for the Sieber rating systems is 38 and the highest scoring vignette in this study was *Obedience*, with a score of 33. Given that the combined-group average strength of perceived ethicality for *Obedience* was 4.18 (between “weakly unethical” and “neither ethical nor unethical” on the rating scale), it would be of interest to examine what deceptions might fall within the moderately unethical range without being strongly unethical.

Perceived ethicality.

Previous literature had suggested researchers hold more ethically conservative opinions about deception research compared to participants (Schreier & Stadler, 1992; Sullivan & Deiker, 1973). Hypothesis 4 predicted that similar differences would be present in this sample of participants and researchers; however, in contrast to previous findings, this study found no evidence that researchers rated deceptions with more stringency than participants. An examination of the strength of perceived ethicality ratings showed statistically significant differences in only four vignettes (i.g., *Group Membership*, *Boring Task*, *Religious Beliefs*, and *Conformity*), and in each of these cases, researchers were actually more permissive (i.e., vignettes perceived as more ethical) than participants. The ratings for the remaining vignettes

were not statistically different and examination of the confidence intervals suggested the ratings were meaningfully equivalent. Additional research is needed to confirm whether this data accurately signals a shift in relative perceptions of ethicality of deception research between groups since last measured in the mid-1990's or if these differences are simply a product of self-selection bias and the overrepresentation of graduate student researchers in the researcher sample.

Consent.

While strength of perceived ethicality ratings provided valuable information relevant to ethical decision-making among participants and researchers, in practice, opinions are of less importance than the subsequent behaviors or at least behavioral intentions, as measured in this study through assessing willingness to consent. After reading each deception vignette and assessing its ethicality, respondents were asked to identify whether they would be willing to consent to such a study if they were to be a potential participant. This consent was hypothetical, but represented a behavioral intention, similar to intentions modeled in the Theory of Planned Behavior (TpB; Ajzen, 1991). In this study, point-biserial correlations indicated strong to very strong positive relationships between strength of perceived ethicality (11-point scale) and willingness to consent (yes/no). Given the strength of this relationship, future researchers may find advantages in foregoing the use of items about perceived ethicality and simply assess consent decisions.

Rates of consent were similar to perceived ethicality in each group. At least two-thirds of respondents in both groups consented to all Mild deception vignettes and a similar proportion viewed them as ethical. Significant between-group differences in proportions of consent were found for three vignettes (*Conformity*, *Boring Task*, and *Group Membership*), and in each case

researchers were only slightly more likely to consent than participants (less than 10% difference).

Of interest, compared to other vignettes, *Obedience* was seen as one of the least ethical vignettes, but ratings indicated *Obedience* was perceived as only slightly unethical. Given the fact that Milgram's obedience study is a well-known prototype used to describe potentially unethical research, it was somewhat surprising that as many as 40% of respondents in each group would consent to participate in the study.

Finally, although consent appeared to be strongly related to perceived ethicality, there were a number of instances in which consent was not given even though the vignette was deemed ethical. One possible explanation for this finding is that respondents may have declined consent for reasons other than ethicality (e.g., believed study would be boring or of no scientific value). However, in light of the strong consensus for the social contract *Principle 4 – Golden Rule*, “golden rule violations” were assessed by counting instances where a respondent identified a vignette as ethical, but then refused to consent to that study.

Across respondents, 69.1% ($n = 277$) of all respondents did not produce any instances where a vignette that was perceived ethical was not consented to. Of the remaining 30.9% of respondents, 79 respondents had one violation (19.7%), 8.5% ($n = 41$) had two or three violations, and less than one percent had more than four violations. The highest percentages of respondents making a golden rule violation were for *Group Membership* among researchers (8.0%) and *Foot-in-the-Door* for participants (15.3%). There were no significant differences in the proportions of golden rule violations between groups on any vignettes. Frequency counts and chi square tests of independence for the golden rule violations by deception vignette can be found in Appendix Z.

Social contract applied to specific deception designs.

What methods of deception do participants and researchers agree may be ethically used in psychological research?

If a social contract model were to be applied not only to general principles guiding the ethical use of deception, but also specific deception designs, only a handful of deceptions would demonstrate enough consensus to warrant inclusion in such a contract between participants and researchers. There was strong within- and between-group consensus (> 80%) that the *Conformity* vignette was ethical. Moderate consensus (> 66%) for vignette ethicality was found for *Boring Task* and *Success & Failure*, with researchers in strong consensus about the ethicality of *Boring Task*. Finally, *Salesperson* showed moderate within-group consensus among participants; however, researchers were less convinced that this design was ethical [95% CI 58.22%, 71.94%].

In their overview of topics relevant to Social Contract Theory, Kimmel et al. (2011) discussed the categorization of deception vignettes in a manner akin to Sieber (1982), but made no clear predictions about their acceptance in a social contract analysis. In this study, consensus was only found among the deception vignettes within the Mild deception category. None of the vignettes in the Moderate or Strong deception categories showed adequate consensus. Both anchors (Freezer and Online/InPerson) showed clear consensus (in the expected directions) within and between the groups of respondents.

General discussion

Strengths.

Three of the strengths of this study were: the documentation of ethicality judgments from a heterogeneous sample of researchers, the uniqueness of the format of the survey, and of the diverse and detailed information collected about perceptions of deception in psychological

research. First, this study provided an additional context to the existing studies where opinions about the use of deception research were sought. As previously mentioned, few studies have attempted to gather perspectives of the breadth of this study on topics related to deception research. The study provided the first known quantitative measure of agreement for a theoretical social contract pertinent to use of deception in psychological research. Additionally, it utilized the presentation of a wide-range of deception vignettes and asked respondents to assess both perceived ethicality and willingness to consent.

One of the unique approaches of this study was the use of an 11-point scale that afforded the investigator the ability to both dichotomize the responses (i.e., agree/disagree and ethical/unethical), as well as monitor the strength of these ratings as if they were made on one of two 5-point Likert-type scales. (*0 Strongly Disagree – 4 Weakly Disagree; 5 Uncertain/Indifferent; 6 Weakly Agree – 10 Strongly Agree*). This unique format allowed the investigator to not only measure decisions (e.g., Agree, Ethical, Consent), but also the certainty of those judgments, which are believed to support decision-making. Although this study looked at multiple aspects of ethical decision-making, the study of ethics needs additional research regarding the processes involved in ethical decision-making.

Implications for psychological research involving deception.

The quantitative measurement of ethical decision-making concerning social contracts and deception research could have some important applications. While clearly more research is needed to better understand the nuances and potential implications of applying this type of social contract to the practice of conducting research and administrative review of research protocols, this study demonstrated that there are many conditions in which researchers and participants

share common beliefs. Acknowledgements of these fundamental conditions for the ethical use of deception could help researchers better attend to the values of those they solicit as participants.

This study also illuminates several areas where the parties involved in the research relationship do not have clear beliefs around the use of deception. For researchers designing new studies and institutional review board members reviewing these proposals, it is these areas of ambiguity that require greater attention and scrutiny. In some instances, lack of consensus may indicate a need for caution, because the participants' potential reactions to the use of deception are unclear. In other instances, this lack of consensus may reflect real ambiguity in beliefs, which might indicate educational opportunities to revisit or refine ethical codes or policies related to deception.

Additionally, the lion's share of professional literature on ethics to date has been non-empirical, and has arguably perpetuated potential myths about how both researchers and participants view the ethical issues involved in deception research. More frequent use of quantitative methods in the study of ethical decision-making has the potential to inform all parties involved in research of the actual preferences, beliefs, and values of those who conduct and participate in research.

Limitations and directions for future research.

One potential limitation of the present study was that the sample of self-selected undergraduate student volunteer participants came from a single Midwestern public university. This limits the generalizability of results outside the undergraduate university setting and may be less applicable in other geographical/cultural areas. Similarly, the student sample was largely composed of Caucasian, Christian, and young adult college students. Perceptions of ethicality and application of moral rules may differ among other participant populations. Additional

research is needed to examine how ethical decisions are influenced by differences in these personal and demographic characteristics. That said, the undergraduate volunteers in this study are representative of the participant pool of this department and are reflective of the demographics of student who enroll psychology courses at the sampled university. In that sense the participant sample is locally representative.

Self-selection can be an issue in any study involving voluntary participation and fully informed consent, it is unknown to what degree this affected researcher participation. This study used a random sampling of U.S. universities housing psychology research programs; however, due to the anonymity of data collection, after the initial letter to department chairs requesting forwarding to researchers in their respective departments, it was not possible to track whether the research solicitation reached the intended recipients or was appropriately sent to additional researchers by those completing the study. Therefore, the sampling procedures for Stage II represent some degree of non-probability snowball sampling, for which self-selection bias is always a potential issue (Atkinson & Flint, 2004). Whereas the demographic characteristics of the participant sample were comparable to institutional data to confirm the sample was representative, no such figures were available to determine whether researchers who participated in this study are representative of the members in their institution or of the larger body of psychological researchers. Despite these limitations, the researcher sample was appropriately heterogeneous in many respects (e.g., gender, program type, and ethnicity) suggesting responses were not made solely by a unique sub-population of psychological researchers. It is worth note that this sample of researchers was more evenly gender-balanced compared to previous studies of this type (e.g., Schreier & Stadler, 1992, 72% male researchers) and probably accurately

mirrors shifts over time in the presence of women in research roles (which may partially account for the contrasts from the previous literature in Hypothesis 4).

From a theoretical standpoint, the concept of a social contract is not without critics and there are some potential theoretical limitations of its application to psychological science. This study only examined a set of social contract statements defined by Kimmel et al. (2011). There are undoubtedly other conditions applicable to the use of deception research where participants and researchers could agree or where knowledge of disagreement would benefit those conducting or reviewing research, as well as those who study research practices and ethics. Similarly, this study examined reactions to a variety of deception vignettes; however, all of the vignettes represented historical deception methods, many of which are likely known to psychological researchers and some likely known to participants and the public at large. Future research would benefit from including additional social contract statements and utilizing additional lesser known or hypothetical studies.

For brevity and consistency between cases, the deception vignettes were presented in a summary format. In each vignette, the essential element of the deception was described, but secondary features of the study were often only implied. While vignettes are ideally analogous to real world situations, it is unlikely that written vignettes could accurately convey to the respondent the actual experience of being a prospective participant in a study. There are likely many variables that influence persons as they design, review, or consider their participation in research. Some of these potential variables, for example situational pressure to consent from having a researcher wait for you to read and sign an informed consent form, cannot be replicated or manipulated in an online data collection of multiple hypothetical research projects. These are

important aspects affecting ethical decision-making that are beyond the purpose and design capabilities of this study.

In addition to the areas for further investigation discussed throughout this discussion section, there are several additional areas in need of empirical research that would help further this line of research. As noted in the literature review, the empirical study of ethics and beliefs about deception research is not necessarily in its early stages, but has been sorely neglected since the field's interest in the effects of landmark deception research conducted in the 1960's and 1970's (e.g., Milgram Shock Study) waned. Many more experimental and empirical studies of ethics research are needed to quantify and empirically validate what are currently only philosophical and theoretical assumptions.

As a second point, although IRB reviewers are not directly involved in the research contract between researcher and participant, they play a vital role in examining the ethical issues involved in research proposals. Additional research examining reviewers is needed to better understand how and why the views of reviewers may be different than those of researchers, whose proposals they review, and of participants, who volunteer for studies approved by this regulatory body. In a review of the extant literature, only one article (i.e., Schreier & Stadler, 1992) investigated group differences between IRB members, researchers, and participants. In their conclusions, they clearly described the potential value of additional research in this area.

Finally, this study provided an exploratory analysis of the Sieber Taxonomy for classifying deception research by coding the deceptive elements and using the sum score as a means of categorizing the vignettes into three theorized categories. While the classifications proved to be a good fit to the Sieber model, the manner of using codes as quantitative measures is a preliminary method that could be refined by developing a means of weighting certain

elements of the rating system to reflect what is of most importance to the decision maker.

Although Sieber (1983) did not intend for her taxonomy to be used for these purposes, there is a dire need for additional measures of ethical ideology or approaches to ethical decision making, which could help tease apart the ways in which persons of integrity approach ethical decision-making.

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APPENDIX A: Kimmel, Smith, and Klein's (2011) Social Contract for Deception ResearchKimmel, Smith, & Klein's (2011) Social Contract for Deception Research

Fundamentals

- A Fundamental to any research study is respect for human dignity and a commitment to voluntary participation and informed consent.
- B Participants are reminded that their participation is voluntary and that they can and should withdraw, if they deem necessary, from a study at any time, without penalty.
- C Deception is used only where remedial measures are employed, including forewarning and debriefing, as appropriate.
- D Harmful deceptions, identified as fully as possible through the rigorous application of procedures, are never permissible.

Principles

- 1 The use of deception as a last resort, once all alternative procedures are ruled out as unfeasible.
 - 2 Researchers using deception increase the scope of informed consent and explicitly forewarn that deception may be used in behavioral science research.
 - 3 Researchers anticipate and make allowances for possible vulnerabilities of participants in developing studies that use deception and in seeking informed consent.
 - 4 Researchers never expose participants to procedures or risks that they themselves would be unwilling to accept if similarly situated.
 - 5 Participants cooperate fully and in good faith in research studies they have accepted to participate in.
-

APPENDIX B: Sieber Taxonomy Guidelines

(Taxonomy of Deception Research: Sieber, 1982, 1983)

I. Means of Deceiving

A. Devices

1. **Implicit Deception**
2. **Technical Deception**
3. **Role Deception**

B. Kinds of Deception

1. **Deception by the Researcher**
 - a) **Informed consent to participate in one of several conditions**
 - b) **Consent to deception**
 - c) **Waiver of right to be informed**
 - d) **Consent and false informing**
 - e) **No informing, no consent**
2. **Deception Not by the Researcher**
 - a) **Self-deception**
 - b) **Deception by a third person**

C. Mental Reservations or Explicit Lies

1. **Mental Reservations (Intentional Omissions)**
2. **Explicit Lies (Intentional Misleading)**

II. Nature of Research

A. Social perception of the behavior

1. **Neutral**
Unlikely to evoke concern or distress (e.g., Altruism)
2. **Mildly Negative**
Acts perceived as mildly harmful, offensive, unpleasant, or undesirable (e.g., Litter a public area, fail to help someone in distress, false feedback (doing poorly) on a test)
3. **Negative**
Quite offensive, reprehensible, illegal, or damaging. (e.g., The behavior need not be harmful or wrong by a universal standard, but only by some local standard.) Degree of harmfulness does depend partly on whether the act was real (e.g., Milgram)
4. **Very Negative**
Could result in serious negative consequences for the subject or for others due to social perceptions of it)

B. Privacy of the behavior

1. **Public behavior**
Displayed for an audience to observe (not merely for members of one's primary group). May not be invasion of privacy but involve concealment so subjects do not know they are subjects or that data are being collected systematically. (e.g., Teachers' behavior before class in classroom with students)
2. **Private behavior in public places**
Behavior that is observable to others but not done for others to observe. (e.g., Conversation in public)
3. **Private behavior in restricted settings**
Not intended for outsiders to observe. (e.g., Activities within a family, club, organization; Scientists posing as patients in hospital)
4. **Private, nonsecret behavior**
Not generally intended for the eyes of others, but others know it exists (e.g., Bathroom use (because individual); sexual intercourse in a couple's bedroom).

5. **Secret, private behavior**
Not meant for others to know about. (e.g., Usually something that evokes shame, guilt, self-consciousness, etc.; Claiming to be in a happy marriage when not)

C. **Induction of the behavior studied**

1. **Naturally occurring behavior**
Something the subject does normally and volitionally
2. **Weakly induced behavior**
Mild inducement to do a behavior with similar levels of stress as normally experienced (e.g., Asking students to solve math problems)
3. **Powerfully induced behavior**
Inductions powerful enough to cause subjects to do things they would not normally do. (e.g., Milgram study)

D. **Confidentiality**

- a) Research data will be used only for bona fide purposes
- b) Usually not important for public behavior when neutral
1. **Anonymity**
Not identifiable
2. **High confidentiality**
Names or other unique identifiers are gathered, but data are stored by number and a key linking names and numbers is stored in a secure place elsewhere.
Destroyed when no longer needed.
3. **Low confidentiality**
Names accompany data. Data stored in a file out of sight. Publications do not include identities.
4. **No confidentiality**
Names accompany data and are available to a broader group.

III. **Upset caused by deception**

1. **Treatment (Primary)**
2. **Debriefing**
3. **Knowledge of the research (Secondary)**
4. **Participation in the deception**

(Proposed Three-point ordinal scale suggested for rating upsets that may result from the research treatment, the debriefing, knowledge of the study, or serving as a the experimenter or confederate)

- a) No upset seems likely
- b) Mild upset seems likely
- c) Substantial upset can probably be expected

IV. **Potential Wrongs Caused by Use of Deception**

- A. **Invasion of Privacy**
The Researcher arranges to extract kinds of information that the subjects probably would not agree to reveal if they understood the true purpose of the study.
- B. **No Informed Consent**
The researcher does not honestly state what to expect regarding procedures and risks.
- C. **Denial of self-determination**
The researcher does not give the subject a reasonable opportunity to decide whether to participate in the study
- D. **No Debriefing**
The researcher does not (and it may be imprudent to) explain the deception after the study is completed
- E. **Researcher actively lies or misrepresents**
The researcher actively falsifies or misrepresents pertinent information
- F. **Researcher conceals**
The researcher conceals pertinent information

APPENDIX C: Informed Consent – Stage I (Participants)**INFORMED CONSENT DOCUMENT**

Title of Study: Attitudes and Judgments of Research Practices

Investigators: Paul L. Ascheman, M.S.
Norman Scott, Ph.D.

This is an online research study. Please take your time in deciding if you would like to participate. Please feel free to ask questions at any time. You must be 18 years old to participate in this study. IRB Approval # 12-089.

INTRODUCTION

The purpose of this study is to explore attitudes about questionable research practices and examine how personal characteristics might affect such perceptions. This online study consists of questions about your demographic information, personal characteristics, and attitudinal orientations. You are being invited to participate in this study because you are a student (age 18+) enrolled in a qualifying course.

DESCRIPTION OF PROCEDURES

If you agree to participate in this study, your participation will last approximately 60-70 minutes. During the study, you may expect the following study procedures to be followed: You will be asked to complete demographic items and several surveys about your attitudes and personal beliefs. You will also be asked to judge the quality of several hypothetical research proposals. While we would strongly encourage you to complete all the items, during your participation, you have the right omit any question that you do not wish to answer or that makes you feel uncomfortable.

RISKS

There are no foreseeable physical, psychological, or economic risks associated with this study. However, while participating in any survey study, you may experience the following risks: some mild personal discomfort when you respond to personal questions about yourself or your behavior. Most often, however, individuals do not find these questions to be particularly personal or difficult.

BENEFITS

If you decide to participate in this study there will be no direct benefit to you. It is hoped that the information gained in this study will benefit science and society by providing valuable information about self-perceptions, personality, and behavior among related to research procedures.

COSTS AND COMPENSATION

You will not have any costs from participating in this study. If you are a student in an approved course, you will be compensated for participating in this study with two (2) research credit points

toward your grade in Psych 101, Psych 230, Psych 280, or Comm 101 classes consistent with the Psychology Department guidelines.

PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled.

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies, auditing departments of Iowa State University, and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken: Data will be collected anonymously. Electronic data will be stored on the investigators' password protected computers accessible only by the investigators or IRB approved research-assistants. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study. For further information about the study contact Paul Ascheman: ascheman@iastate.edu or Norman Scott: nascott@iastate.edu. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, (515) 294-3115, Office of Research Assurances, Iowa State University, Ames, Iowa 50011.

PARTICIPANT SIGNATURE

Your digital signature indicates that you voluntarily agree to participate in this study, that the study has been described to you, that you have been given the time to read the document and that your questions have been satisfactorily answered. For your records, you may print a copy of the informed consent document from this page or contact the investigators for a copy.

Do you wish to participate in this study, having read this form and understood what is being asked of you?

- (0) No
- (1) Yes

APPENDIX D: SONA Form

| | |
|-------------------------------------|---|
| Study Name | Attitudes and Judgments of Deception Research Practices |
| Description | This is an online study designed to better understand how individuals' demographic background and personal characteristics might affect perceptions of research practices. This online study consists of questions about your demographic information, personal characteristics and attitudes. The study will take less than 90 minutes to complete and you will receive 2 credits in your approved class for your participation. |
| Web Study | This is an online study. Participants are not given the study URL until they sign up. |
| Website | [View Study Website] |
| Eligibility Requirements | To be eligible, participants must be at least 18 years of age and enrolled in Psychology 101, 230, 280, or Communication Studies 101. |
| Duration | 60 minutes |
| Credits | 2 Credits |
| Researcher | Paul Ascheman Email: ascheman@iastate.edu |
| Principal Investigators | Paul Ascheman, M.S. Norman Scott, Ph.D. |
| Participant Sign-Up Deadline | 0 hours before the study is to occur |
| Study Status | Online (web) study administered outside the system |
| IRB Approval Code | 12-089 |

APPENDIX E: IRB Approval Form

IRB ID: 12-089

INSTITUTIONAL REVIEW BOARD (IRB) Application for Approval of Research Involving Humans

RECEIVED

Title of Project: Ethical Judgments of Deception in Psychological Research FEB 07 2012

| | | | |
|--|---------------------|-------------------------------------|---------------|
| Principal Investigator (PI): Paul Ascheman | | Degrees: M.S. | By IRB |
| University ID: 522696174 | Phone: 515-401-8177 | Email Address: ascheman@iastate.edu | |
| Correspondence Address: W112 Lagomarcino Hall | | | |
| Department: Psychology | | College/Center/Institute: LAS | |
| PI Level: <input type="checkbox"/> Tenured, Tenure-Eligible, & NTER Faculty <input type="checkbox"/> Adjunct/Affiliate Faculty <input type="checkbox"/> Collaborator Faculty <input type="checkbox"/> Emeritus Faculty <input type="checkbox"/> Visiting Faculty/Scientist <input type="checkbox"/> Senior Lecturer/Clinician <input type="checkbox"/> Lecturer/Clinician, Ph.D. or DVM <input type="checkbox"/> P&S Employee, P37 & above <input type="checkbox"/> Extension to Families/Youth Specialist <input type="checkbox"/> Field Specialist III <input type="checkbox"/> Postdoctoral Associate <input checked="" type="checkbox"/> Graduate/Undergrad Student <input type="checkbox"/> Other (specify:) | | | |

| | | | |
|---|---------------------|------------------------------------|--|
| FOR STUDENT PROJECTS (Required when the principal investigator is a student) | | | |
| Name of Major Professor/Supervising Faculty: Norman Scott | | | |
| University ID: | Phone: 515-294-1509 | Email Address: nascott@iastate.edu | |
| Campus Address: W112 Lagomarcino Hall | | Department: Psychology | |
| Type of Project (check all that apply): <input checked="" type="checkbox"/> Thesis/Dissertation <input type="checkbox"/> Class Project <input type="checkbox"/> Other (specify:) | | | |

| | |
|---------------------------|----------------|
| Alternate Contact Person: | Email Address: |
| Correspondence Address: | Phone: |

ASSURANCE

- I certify that the information provided in this application is complete and accurate and consistent with any proposal(s) submitted to external funding agencies. Misrepresentation of the research described in this or any other IRB application may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.
- I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subjects are protected. I will report any problems to the IRB.
- I agree that modifications to the originally approved project will not take place without prior review and approval by the IRB.
- I agree that the research will not take place without the receipt of permission from any cooperating institutions, when applicable.
- I agree to obtain approval from other appropriate committees as needed for this project, such as the IACUC (if the research includes animals), the IBC (for research involving biohazards), the Radiation Safety Committee (for research involving x-rays or other radiation producing devices or procedures), etc.
- I agree that all activities will be performed in accordance with all applicable federal, state, local, and Iowa State University policies.

Signature Removed

Signature of Principal Investigator Date

Signature Removed

Signature of Major Professor/Supervising Faculty Date
(Required when the principal investigator is a student)

- I have reviewed this application and determined that departmental requirements are met, the investigator(s) has/have adequate resources to conduct the research, and the research design is scientifically sound and has scientific merit.

Signature Removed

Signature of Department Chair Date

| | | |
|---|--|--|
| For IRB Use Only | Full Committee Review: <input type="checkbox"/> | Review Date: 2/27/2012 |
| | EXPEDITED per 45 CFR 46.110(b): Category Letter | Approval/Determination Date: 2/23/2012 |
| | Not Research: <input type="checkbox"/> | Approval Expiration Date: N/A - exempt |
| | EXEMPT per 45 CFR 46.101(b): 2 | |
| No Human Subjects: <input type="checkbox"/> | Not Approved: <input type="checkbox"/> | Risk: Minimal <input checked="" type="checkbox"/> More than Minimal <input type="checkbox"/> |
| IRB Reviewer's Signature | Signature Removed | 2/27/2012 |

APPENDIX F: Demographic Items – Stage I (Participants)

1. Age:
 - i. (###)
2. Gender:
 - i. *Male*
 - ii. *Female*
 - iii. *Transgender*
3. What is your primary Race/Ethnicity:
 - i. *African Origin*
 - ii. *American Indian*
 - iii. *East Asian*
 - iv. *Caucasian*
 - v. *Latino*
 - vi. *Middle Eastern*
 - vii. *Other _____*
4. Were you raised in the United States?
 - i. *Yes*
 - ii. *No*
5. Class Standing:
 - i. *Freshman*
 - ii. *Sophomore*
 - iii. *Junior*
 - iv. *Senior*
 - v. *Graduate Student*
 - vi. *Other _____*
6. College/Department:
 - i. *Agriculture & Life Science*
 - ii. *Business*
 - iii. *Design*
 - iv. *Engineering*
 - v. *Human Sciences*
 - vi. *Liberal Arts & Sciences*
7. Which of the following best describes your current political views?
 - i. *Liberal*
 - ii. *Moderate/Mixed*
 - iii. *Conservative*
 - iv. *Libertarian*
 - v. *Not Political*
8. How important are your political views in your daily life?
 - i. *(0 = Very Unimportant - 5 = Very important)*
9. What is your current religious affiliation/denomination?
 - i. *Atheist/Agnostic/Not Religious*
 - ii. *Jewish*

- iii. *Catholic*
 - iv. *Methodist, Lutheran, Presbyterian*
 - v. *Other Christian (specify)*
 - vi. *Other Non-Christian (specify)*
10. How important are your current religious beliefs in your daily life?
- i. *(0 = Very Unimportant - 5 = Very important)*
11. What is your family's socioeconomic status?
- i. *Working class*
 - ii. *Lower-Middle class*
 - iii. *Middle class*
 - iv. *Upper-Middle class*
 - v. *Upper class*
12. Have you ever participated in a research study prior to this one?
- i. *No*
 - ii. *Yes*
13. (IF YES) Did any study involve deception by the researcher?
- i. *No*
 - ii. *Yes*

APPENDIX G: Recruitment Email – Stage II (Researchers)

Subject: Deception in Research – Share your opinions

Dear Colleague,

The use of deception research methods continues to be a contentious ethical issue in psychological research. Representative data of psychological researchers is needed to better understand contemporary ethical positions on deception research methods. The following online survey of U.S. psychology researchers aims to gather data on attitudes and ethical judgments of deception research methods.

Please take a moment to complete this survey and forward it to your peers.

Data obtained from these responses will be a valuable contribution to the study of research ethics and will provide currently unknown information about what researcher perceive to be ethical uses of deception research methods. Participation is voluntary and responses will be collected anonymously. (IRB Approval # 12-089)

If you have any questions about this research you are encouraged to e-mail Paul Ascheman at Ascheman@iastate.edu. This research is supervised by faculty advisor, Norman Scott, Ph.D. (nascott@iastate.edu). If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, (515) 294-3115, Office of Research Assurances, Iowa State University, Ames, Iowa 50011.

CLICK LINK TO SURVEY

[LINK]

Paul Ascheman, M.S.
Doctoral Candidate
Iowa State University

Norman Scott, Ph.D.
Faculty Advisor

APPENDIX H: Informed Consent – Stage II (Researchers)**INFORMED CONSENT DOCUMENT**

Title of Study: Attitudes and Judgments of Research Practices

Investigators: Paul L. Ascheman, M.S.
Norman Scott, Ph.D.

This is an online research study. Please take your time in deciding if you would like to participate. Please feel free to ask questions at any time. You must be 18 years old to participate in this study. IRB Approval # 12-089.

INTRODUCTION

The purpose of this study is to explore attitudes about questionable research practices and examine how personal characteristics might affect such perceptions. This online study consists of questions about your demographic information, personal characteristics, and attitudinal orientations. You are being invited to participate in this study because you are a (1) psychological researcher, or (2) graduate student researcher in psychology.

DESCRIPTION OF PROCEDURES

If you agree to participate in this study, your participation will last approximately 10-15 minutes. During the study, you may expect the following study procedures to be followed: You will be asked to complete demographic items and judge the quality of several hypothetical research proposals. While we would strongly encourage you to complete all the items, during your participation, you have the right omit any question that you do not wish to answer or that makes you feel uncomfortable.

RISKS

There are no foreseeable physical, psychological, or economic risks associated with this study. However, while participating in any survey study, you may experience the following risks: some mild personal discomfort when you respond to personal questions about yourself or your behavior. Most often, however, individuals do not find these questions to be particularly personal or difficult.

BENEFITS

If you decide to participate in this study there will be no direct benefit to you. It is hoped that the information gained in this study will benefit science and society by providing valuable information about the perceptions of researchers.

COSTS AND COMPENSATION

You will not have any costs from participating in this study. You will not be compensated in any way for your participation.

PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled.

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies, auditing departments of Iowa State University, and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken: Data will be collected anonymously. Electronic data will be stored on the investigators' password protected computers accessible only by the investigators or IRB approved research-assistants. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study. For further information about the study contact Paul Ascheman: ascheman@iastate.edu or Norman Scott: nascott@iastate.edu. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, (515) 294-3115, Office of Research Assurances, Iowa State University, Ames, Iowa 50011.

PARTICIPANT SIGNATURE

Your digital signature indicates that you voluntarily agree to participate in this study, that the study has been described to you, that you have been given the time to read the document and that your questions have been satisfactorily answered. For your records, you may print a copy of the informed consent document from this page or contact the investigators for a copy.

Do you wish to participate in this study, having read this form and understood what is being asked of you?

- (0) No
- (1) Yes

APPENDIX I: Demographic Items – Stage II (Researchers)

1. Age:
 - i. (###)
2. Gender:
 - i. *Male*
 - ii. *Female*
 - iii. *Transgender*
3. What is your primary Race/Ethnicity:
 - i. *African Origin*
 - ii. *American Indian*
 - iii. *East Asian*
 - iv. *Caucasian*
 - v. *Latino*
 - vi. *Middle Eastern*
 - vii. *Other* _____
4. Professional Role:
 - i. *Graduate Student*
 1. *1st year*
 2. *2nd year*
 3. *3rd year*
 4. *4th year*
 5. *> 4th year*
 - ii. *Professor/Researcher*
 1. *Full professor*
 2. *Associate professor*
 3. *Assistant professor*
 4. *Lecturer or Other rank*
5. Type of program
 - i. *Clinical*
 - ii. *Counseling*
 - iii. *Social*
 - iv. *Other (OPEN)*
6. Which of the following best describes your current political views?
 - i. *Liberal*
 - ii. *Moderate/Mixed*
 - iii. *Conservative*
 - iv. *Libertarian*
 - v. *Not Political*
7. How important are your political views in your daily life?
 - i. *(0 = Very Unimportant - 5 = Very important)*
8. What is your current religious affiliation/denomination?
 - i. *Atheist/Agnostic/Not Religious*
 - ii. *Jewish*
 - iii. *Catholic*

- iv. *Methodist, Lutheran, Presbyterian*
 - v. *Other Christian (specify)*
 - vi. *Other Non-Christian (specify)*
9. How important are your current religious beliefs in your daily life?
- i. *(0 = Very Unimportant - 5 = Very important)*
10. What is your family's socioeconomic status?
- i. *Working class*
 - ii. *Lower-Middle class*
 - iii. *Middle class*
 - iv. *Upper-Middle class*
 - v. *Upper class*
11. Have you ever conducted a study that involved deception methods?
- i. *No*
 - ii. *Yes*
12. If Yes, how many deception studies would you estimate you have conducted?
- i. *(###)*

APPENDIX J : Descriptive Statistics for Demographic Items (Stages I & II)

| | Participant (n = 212) | | Researcher (n = 189) | |
|--------------------------------------|-----------------------|--------------|----------------------|---------------|
| | N (%) | M (SD) | N (%) | M (SD) |
| Age | | | | |
| Mean | | 19.75 (2.14) | | 33.74 (12.17) |
| Median | | 19 | | 29 |
| Mode | | 19 | | 25 |
| Gender | | | | |
| Male | 108 (50.9%) | | 65 (34.4%) | |
| Female | 103 (48.6%) | | 124 (65.5%) | |
| Transgender | 1 (0.5%) | | 0 (0.0%) | |
| Race/Ethnicity | | | | |
| African Origin | 14 (6.6%) | | 3 (1.6%) | |
| American Indian | 0 (0.0%) | | 1 (0.5%) | |
| East Asian | 6 (2.8%) | | 7 (3.7%) | |
| Caucasian | 182 (85.8%) | | 161 (85.2%) | |
| Latino | 5 (2.4%) | | 6 (3.2%) | |
| Multiracial | 5 (2.4%) | | 11 (%) | |
| Political Affiliation | | | | |
| Liberal | 50 (23.6%) | | 120 (63.5%) | |
| Moderate | 61 (28.8%) | | 49 (25.9%) | |
| Conservative | 54 (25.5%) | | 3 (1.6%) | |
| Libertarian | 4 (1.9%) | | 13 (6.9%) | |
| Not Political | 43 (20.3%) | | 4 (2.1%) | |
| Importance of Political Views | | | | |
| Mean | | 1.67 (0.96) | | 2.52 (0.78) |
| Religious Affiliation | | | | |
| Atheist/Agnostic/Areligious | 50 (23.6%) | | 97 (51.3%) | |
| Jewish | 3 (1.4%) | | 6 (3.2%) | |
| Catholic | 56 (26.4%) | | 18 (9.5%) | |
| Protestant | 43 (20.3%) | | 16 (8.5%) | |
| Baptist | 10 (4.7%) | | 1 (0.5%) | |
| Other Christian | 30 (14.2%) | | 13 (6.9%) | |
| Non-Christian | 7 (3.3%) | | 18 (9.5%) | |
| Nondenominational | 13 (6.1%) | | 20 (10.6%) | |
| Christian/Non-Christian | | | | |
| Christian | 139 (65.6%) | | 48 (25.4%) | |
| Non-Christian | 73 (34.4%) | | 141 (74.6%) | |

Descriptive Statistics for Demographic Variables Across Roles (cont.)

| | | Participant (n = 212) | | Researcher (n = 189) | |
|--------------------------------------|--------------|--------------------------|-------------|-------------------------|-------------|
| | | N (%) | M (SD) | N (%) | M (SD) |
| Importance of Religious Views | | | | | |
| | Mean | | 2.13 (1.34) | | 1.98 (1.23) |
| SES | | | | | |
| | Working | 12 (5.7%) | | 13 (6.9%) | |
| | Lower-Middle | 27 (12.7%) | | 26 (13.8%) | |
| | Middle | 102 (48.1%) | | 77 (40.7%) | |
| | Upper-Middle | 66 (31.1%) | | 65 (34.4%) | |
| | Upper | 5 (2.4%) | | 8 (4.2%) | |
| Experience Deception Research | | | | | |
| | Yes | 85 (40.1%) | | 95 (50.3%) | |

APPENDIX K: Social Contract Statements (SCS) about Deception Research

(Note: Items were randomly presented within section of questionnaire. Social Contract Statement items below are ordered consistent with Kimmel et al (2011) social contract. Items with asterisk were retained in Stage II questionnaire. Terms within parenthesis included as reference for reader.)

Please rate your level of agreement with each statement using the following scale:

| | |
|-----------|--------------------------------|
| 0 | = Strongly Disagree |
| 1 | |
| 2 | = Moderately Disagree |
| 3 | |
| 4 | = Weakly Disagree |
| 5 | = Uncertain/Indifferent |
| 6 | = Weakly Agree |
| 7 | |
| 8 | = Moderately Agree |
| 9 | |
| 10 | = Strongly Agree |

SOCIAL CONTRACT STATEMENTS (SCS)

Fundamental Statements

- * SCS09 - Researchers should act to preserve human dignity at all times by ensuring voluntary participation and informed consent of participants. (*A&B Voluntary Consent*)
- SCS03 - All researchers should forewarn participants that deception may occur in psychology research. (*Forewarn*)
- * SCS04 - All research participants deserve to be debriefed and provided information about the details of the study after their participation. (*C₁ Debriefed*)
- * SCS08 - Researchers should explain any deception that is an integral part of the experiment as early as is feasible, preferably at the conclusion of their participation. (*C₂ Explain Deception*)
- * SCS06 - Researchers should not deceive participants about research that is expected to cause physical pain. (*D₁ Physical Pain*)
- * SCS07 - Researchers should not deceive participants about research that is expected to cause severe emotional distress. (*D₂ Psychological Pain*)

Principle Statements

- * SCS02 - Researchers should not conduct a study involving deception unless non-deceptive alternative procedures are not feasible. (*1-Alternative Methods*)
- * SCS21 - Informed consent documents should include a disclaimer that deception may be used in any psychological research study. (*2-Consent Disclaimer*)
- * SCS05 - Researchers should avoid using deception methods with any vulnerable populations (children, prisoners, elderly). (*3-Vulnerable Populations*)
- * SCS10 - Researchers should never expose participants to procedures or risks that they themselves would not be willing to accept if similarly situated. (*4-Golden Rule*)
- * SCS11 - Research participants should cooperate fully and in good faith in research studies they have agreed to participate in. (*5-Participate Fully*)

SECONDARY ITEMS

- * SCS01 - Researchers should not conduct a study involving deception unless they have determined that the use of deceptive techniques is justified by the study's significant possible scientific or educational value. (*Scientific Value*)
- * SCS12 - Researchers and participants should work together to determine what types of deception research studies are ethical and morally permissible. (*Cooperative Ethics*)
- * SCS34 - If researchers and participants could agree on what types of deception were acceptable, the concerns about deception being ethical would be lessened. (*Proponent of Social Contract*)
- SCS35 - The ethical issues concerning the use of deception cannot be lessened by finding agreement between researchers and participants. (*Skeptic of Social Contract*)

APPENDIX L: Ethical Judgments of Deception Vignettes

(Note: Terms within parenthesis included as reference for reader. Items with asterisk were retained in Stage II questionnaire)

Instructions:

As a potential participant in psychological or behavioral research, you may encounter many different research tasks or methods. Below are many common research methods. Please think carefully about each item and answer the following questions for each method described below to help us understand what types of research activities you would agree to undergo.

1. * Please rate how ethical or unethical you believe this study to be. (*Perceived Ethicality*)
(0) *Definitely Unethical* ----- (10) *Definitely Ethical*
2. * Would you consent or agree to participate in a study using this method? (*Hypothetical Consent*)
(0) *No*
(1) *Yes*
3. Imagine you are a member of a research review committee charged with protecting research participants from harmful research; would you vote to give permission for a researcher to use this method in a study? (*Hypothetical Approval*)
(0) *Do Not Approve*
(1) *Approve*
4. What information did you use in determining if this study was unethical? (*Comment*)
(Open)

APPENDIX M: Deception Vignettes

(Note. Vignettes randomly presented in section of questionnaire. Citations within parenthesis included as reference for reader.)

1. **The Salesperson** (Schlaps, 1972). A male and a female confederate visit shoe stores at times when there are more customers than salespeople. One of them (the female) is wearing a shoe with a broken heel. She rejects whatever the salesperson shows her while the other confederate (posing a friend of the customer) unobtrusively takes notes on the salesperson's behavior.

2. **Foot-in-the-Door** (Freedman & Fraser, 1966). The researcher phones women at home and he claims to represent a consumer group. He asks each woman about the soap products she uses, supposedly for a report in a "public service publication." Several days later he calls back and asks if 5 or 6 men can enter her home to make a record of all her household products for another report in the same publication. If she says ok, he says he is just collecting names at present, and that she will be contacted if they need her. Subjects in the control condition receive only the second phone call.

3. **The Subway** (Piliavin & Piliavin, 1972). An elderly man walking with a cane pretends to collapse in a subway car. In some cases, blood trickles from his mouth, but in others no blood is visible. If someone approaches him, he allows the helper to assist him. If no one approaches before the train reaches the next stop, a confederate helps the man. Hidden observers record who helps and how long it takes.

4. **Group Membership** (Gerard & Mathewson, 1966). Individuals in the experimental group are given moderately painful shocks before they are given permission to join a discussion group. Control subjects receive no shocks. All subjects then use an intercom system to listen to the group they have just joined. In actuality, the group discussion they hear has been prerecorded by the experimenters, and was purposely contrived to sound very dull and boring. After subjects listen to the tape they fill out a questionnaire that indicates how much they think they will like the group.

5. **Obedience** (Milgram, 1963). Subjects are recruited via newspaper advertisements to participate in a learning experiment. By using a rigged drawing, subjects are assigned to the role of the teacher, whose duties involve delivering shocks to a learner who purposely misses certain questions. The experimenter, through the use of verbal directions, orders the subjects to give high voltage shocks to the learner who is a confederate and is not actually receiving any shocks. The obedience of subjects is recorded, after which the true purpose of the experiment and the deceptions used in the experiment are explained to the subject.

6. **The Electrician** (R. D. Clark & Word, 1974). Subjects, either alone or in groups, complete questionnaires. Believing that the study is over they pass by an open lab room on the way from the building. As they pass the door, a technician working on some electrical equipment stiffens and groans, a light flashes, and a loud buzz sounds. The technician falls to the floor, clutching apparently "live" wires or rolling away from them. Subjects' reactions are noted before the technician reveals he is unharmed.

7. **The Boring Task** (Festinger & Carlsmith, 1959). Subjects worked at a meaningless, boring task while an experimenter watched. Just before subjects were apparently dismissed from the experiment, the experimenter asked them if they would tell a waiting subject that the task was interesting. For this statement some subjects were told they would be paid \$1, while others were told \$20. After telling the lie, subjects were thanked for their help and then sent to an interviewer who supposedly had nothing to do with the experiment. The interviewer measured attitudes toward the task, and then described the true purposes behind the experiment.

8. **Religious Beliefs** (Batson, 1975). Teenagers in a church youth group who verbally stated that they believed Christ was the son of God were given information contrary to this belief. The experimenter stated that the information was part of a news article that would have appeared in the New York Times, but had not been printed at the request of the Vatican; the Pope argued that it would cause wide-spread panic. The fictitious information, presented as true, stated that a new set of dead sea scrolls had been located that proved the contents of the New Testament were false. After the subjects read this information, their attitudes were remeasured. Afterwards, subjects were told the true nature of the experiment.

9. **Conformity** (Asch, 1955). Subjects reported, apparently with a number of other subjects like themselves, for an experiment described as a discrimination test. Subjects, as a group, were to view a series of 3 lines and then simply report which was longest. All other subjects, however, were actually confederates and deliberately made incorrect judgments on certain trials. The extent to which the actual subjects conformed to these incorrect judgments was recorded, after which subjects were told the true nature of the experiment.

10. **Success and Failure** (Feather, 1969). Subjects were given a test of intelligence, and were then given false reports of their scores. The tests, in actuality, were never graded, but half of the subjects were told that they performed very well, while the other half were told that they did very poorly. After receiving this information, subjects were given a questionnaire on which to record their explanations of the causes for this outcome. Afterwards, they were told the true nature of the experiment.

MANIPULATION CHECK VIGNETTES

A. **Freezer** (Nuremberg Military Tribunals, 1949). Prisoners are commanded to participate in a study of hypothermia. The subject is stripped naked, strapped to a stretcher, and placed in a walk-in cooler for a period of twelve hours. The subject is covered with a sheet and every hour a bucket of cold water is poured over the individual. Subjects are randomly assigned to one of three temperatures ranging from 36 to 55 degrees Fahrenheit. Body temperatures are taken and measures include heart rate and respiration.

B. **Online/Paper** (Fouladi, Maccarthy, & Mober, 2002). Participants provide consent to a study examining differences in personality measures completed online or using paper-and-pencil surveys. Each individual is randomly assigned to one of two conditions, an online or paper-and-pencil survey of personality and happiness. The researchers seek to compare differences in type of survey format. The responses are collected anonymously.

APPENDIX N: Ethics Position Questionnaire (EPQ)

(Note. Stage I only. Items randomly presented within section of questionnaire. First ten items are on idealism scale, remaining ten items on relativism scale.)

Instructions:

- Indicate the extent to which you agree or disagree with each statement using:

0 = Strongly Disagree ----- 10= Strongly Agree

1. A person should make certain that their actions never intentionally harm another even to a small degree.
2. Risks to another should never be tolerated, irrespective of how small the risks might be.
3. The existence of potential harm to others is always wrong, irrespective of the benefits to be gained.
4. One should never psychologically or physically harm another person.
5. We should not perform an action which might in any way threaten the dignity and welfare of another individual.
6. If an action could harm an innocent other, than it should not be done.
7. Deciding whether or not to perform an act by balancing the positive consequences of the act against the negative consequences of the act is immoral.
8. The dignity and welfare of people should be the most important concern in any society.
9. It is never necessary to sacrifice the welfare of others.
10. Moral actions are those which closely match ideals of the most "perfect" action.
11. There are no ethical principles that are so important that they should be part of any code of ethics.
12. What is ethical varies from one situation and society to another.
13. Moral standards should be seen as being individualistic: what one person considers to be moral may be judged to be immoral by another person.
14. Different types of moralities cannot be compared as to "rightness."
15. Questions of what is ethical for everyone can never be resolved since what is moral or immoral is up to the individual.
16. Moral standards are simply personal rules which indicate how a person should behave, and are not to be applied in making judgments of others.
17. Ethical considerations in interpersonal relations are so complex that individuals should be allowed to formulate their own individual codes.
18. Rigidly codifying an ethical position that prevents certain types of actions could stand in the way of better human relations and adjustment.
19. No rule concerning lying can be formulated; whether a lie is permissible or not permissible totally depends upon the situation.
20. Whether a lie is judged to be moral or immoral depends upon the circumstances surrounding the action.

APPENDIX O: Marlowe–Crowne Social Desirability Scale – Short Form C (MCSDS-SF)

(Note. Stage I only. Items randomly presented within section of questionnaire. Items with asterisk reverse scored.)

Instructions:

Please read each statement carefully and indicate your level of agreement using the following scale:

0 = Strongly Disagree ----- 10= Strongly Agree

1. *It is sometimes hard for me to go on with my work if I am not encouraged.
2. *I sometimes feel resentful when I don't get my way.
3. *On a few occasions, I have given up doing something because I thought too little of my ability.
4. *There have been times when I felt like rebelling against people in authority even though I knew they were right.
5. No matter who I'm talking to, I'm always a good listener.
6. *There have been occasions when I took advantage of someone.
7. I'm always willing to admit it when I make a mistake.
8. *I sometimes try to get even rather than forgive and forget.
9. I am always courteous, even to people who are disagreeable.
10. I have never been annoyed when people expressed ideas very different from my own.
11. *There have been times when I was quite jealous of the good fortunes of others.
12. *I am sometimes irritated by people who ask favors of me.
13. I have never deliberately said something that hurt someone's feelings.

APPENDIX P: Professional Commentary & Ethical Viewpoints

(Note: Items were randomly presented within section of questionnaire. All items presented in Stage I only. Terms within parenthesis included as reference for reader.)

Please rate your level of agreement with each statement using the following scale:

| | |
|-----------|------------------------------|
| 0 | = Strongly Disagree |
| 1 | |
| 2 | = Moderately Disagree |
| 3 | |
| 4 | = Weakly Disagree |
| 5 | = Uncertain |
| 6 | = Weakly Agree |
| 7 | |
| 8 | = Moderately Agree |
| 9 | |
| 10 | = Strongly Agree |

PROFESSIONAL COMMENTARY

PC01 - The general practice of deception in research is broadly ethical. (*Deception is Ethical*)

PC02 - Deception should not be used because it violates the individual's basic right to informed consent. (*Vio-Informed Consent; Autonomy*)

PC03 - Deception should not be used because it undermines the relationship between researcher and participant. (*Vio-Relationship; Fidelity*)

PC04 - Deception should not be used because it is inconsistent with the researcher's moral duty to be truthful. (*Vio-Truthful Moral; Veracity*)

PC05 - Deception should not be used because it increases the suspiciousness of future research participants about investigators. (*Vio-Suspiciousness*)

PC06 - Deception should not be used because it reduces the public's trust in science. (*Vio-Trust of Science; Spillover*)

PC07 - Deception should not be used because it is an invasion of privacy. (*Vio-Invasion of Privacy*)

PC08 - The use of deceptive practices in research should be abandoned in favor of other designs (e.g., role-playing, computer simulations). (*Abandon for Non-Deceptives*)

PC09 - In general, deceptive research designs have more risks than benefits. (*More Risks*)

PC10 - In general, deceptive research designs have more benefits than risks. (*More Benefits*)

PC11 - The acceptability of deceptive research methods should be judged by the same standards as the common practices of deception in society at large (e.g., laws against deceptive advertising). (*Ubiquity*)

PC12 - I generally expect that deception methods may be used when I am participating in a psychological research study. (*Expect Deception; Expectation*)

PC13 - Deception should be avoided since it violates Fundamental moral principles. (*Vio-Moral Principles*)

ETHICAL VIEWPOINTS

EV01 - Deception could be acceptable provided it yields the best possible balance of costs and benefits to those involved. (*Utilitarian View*)

EV02 - The acceptability of the deception depends on its fit with universal moral principles. (*Absolutist View*)

EV03 - The use of deception should depend primarily on its adherence to legal and institutional rules and regulations. (*Legalist View*)

EV04 - Judgments about deception are a personal matter to be decided by the individuals involved. (*Subjectivist View*)

EV05 - Decisions about the use of deception are complex and sometimes require exceptions to established moral rules. (*Exceptionist View-General*)

EV06 - If the deception cannot be avoided, then the deception is allowable if safeguards are used. (*Exceptionist View-Safeguards*)

EV07 - Deception can be used provided it yields the best possible outcome in a given situation. (*Situationist View*)

APPENDIX Q: Debriefing

Thank you for participating in this study. We would like to tell you a little more about this study. The general purpose of this study was to document the agreement between participants and researchers concerning judgments of deception studies and statements concerning the ethical use of deception methodologies. We are additionally interested in the relationships between personal factors, such as ethical ideologies and demographics, and judgments about the ethicality of deception research designs.

We ask that you not share the specific details of this study with others who might complete it at a later date. We do encourage you to use the general comments section below to make any remarks about your participation; as with all of your data, these remarks are anonymous. If you are interested in the results of this study, you may anticipate the publication of elements of this study in a dissertation by the primary investigator, Paul Ascheman, through the Department of Psychology at Iowa State University.

If you believed you have been harmed in any way through your participation in this study, please contact the investigators Paul Ascheman: ascheman@iastate.edu or Norman Scott: nascott@iastate.edu. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator, (515) 294-4566, IRB@iastate.edu, or Director, (515) 294-3115, Office of Research Assurances, Iowa State University, Ames, Iowa 50011.

Again, we would like to thank you for your participation.

1. General Comments
(Optional)

APPENDIX R: Comparison of Deception Vignettes using Sieber Rating System

(Modified from Sieber, 1983)

| Sieber Taxonomy | Vignette _A | | | | | | | | | |
|--|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Severity | L | M | M | H | H | M | L | H | L | L |
| Devices of deception _B | | | | | | | | | | |
| Implicit | 1 | 1 | - | 1 | 1 | 1 | 1 | 1 | 1 | - |
| Technical | - | 1 | 1 | 1 | 1 | 1 | - | 1 | - | 1 |
| Role | 1 | 1 | 1 | 1 | 1 | 1 | 1 | - | 1 | - |
| Kinds of deception | | | | | | | | | | |
| Informed consent _C | 5 | 4 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| Self-deception _B | - | - | - | - | - | - | - | - | - | - |
| Decept. by 3rd party _B | - | - | - | - | - | - | - | - | - | - |
| Kinds of lies _B | | | | | | | | | | |
| Implicit | 1 | 1 | 1 | 1 | 1 | 1 | - | - | 1 | - |
| Explicit | - | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Nature of research | | | | | | | | | | |
| Social perception _D | 2 | 1 | 2 | 2 | 4 | 2 | 1 | 2 | 1 | 3 |
| Privacy _E | 1 | 4 | 1 | 3 | 3 | 1 | 1 | 3 | 1 | 2 |
| Induction _F | 2 | 3 | 2 | 3 | 3 | 2 | 2 | 3 | 3 | 3 |
| Confidentiality _G | 3 | 4 | 3 | 2 | 2 | 3 | 2 | 2 | 2 | 2 |
| Upsets _H | | | | | | | | | | |
| Due to research | 2 | 1 | 2 | 3 | 3 | 3 | 1 | 3 | 2 | 2 |
| Due to debriefing | 2 | 1 | 2 | 2 | 3 | 2 | 1 | 2 | 2 | 1 |
| Outcomes of research | 1 | 1 | 2 | 2 | 3 | 1 | 1 | 3 | 1 | 2 |
| Caused by deception | 1 | 1 | 2 | 3 | 3 | 2 | 1 | 3 | 2 | 2 |
| Count (9 - 38) | 22 | 25 | 25 | 29 | 33 | 25 | 17 | 28 | 22 | 23 |

Notes. Severity: L = Low/Mild; M = Moderate; H = High/Strong

_A 1) The Salesperson, 2) Foot-in-the-Door, 3) The Subway, 4) Group Membership, 5) Obedience, 6) Electrician, 7) Boring Task, 8) Religious Beliefs, 9) Conformity, 10) Success & Failure

_B Rate devices of deception; self-deception; deception by 3rd party; and kinds of lies as: 0=No, 1=Yes

_C Rate informed consent as: 1 = Informed Consent, 2 = Consent to deception, 3 = Consent to waive informing, 4 = Consent and false informing, 5 = No informing, no consent

_D Rate social perception as: 1 = neutral, 2 = mildly negative, 3 = negative, 4 = very negative

_E Rate privacy as: 1=public, 2=private in public, 3=private in restricted setting, 4=private non-secret, 5=private secret.

_F Rate induction as: 1=naturally occurring behavior, 2=weak induction, 3=powerful induction

_G Rate confidentiality as: 1=anonymity, 2=high, 3= low, 4=none

_H Rate upsets as: 1=no upsets likely, 2=mild upset may occur, 3=substantial upset

APPENDIX S: Descriptive Statistics for Professional Commentary & Ethical Viewpoints*Percentage of Agreement for Statements about Deception Research (Stage I)*

| Item | Topic | % Agreed | 95% CI | |
|------|-------------------------------|----------|--------|-------|
| | | | LL | UL |
| PC01 | Deception is Ethical | 61.32 | 54.71 | 67.93 |
| PC02 | Vio-Informed Consent | 35.85 | 29.34 | 42.36 |
| PC03 | Vio-Relationship | 32.55 | 26.19 | 38.91 |
| PC04 | Vio-Truthful Moral | 33.96 | 27.54 | 40.39 |
| PC05 | Vio-Suspiciousness | 48.11 | 41.33 | 54.89 |
| PC06 | Vio-Trust of Science | 34.43 | 27.99 | 40.88 |
| PC07 | Vio-Invasion of Privacy | 27.83 | 21.75 | 33.91 |
| PC08 | Abandon for Non-Deceptives | 36.32 | 29.79 | 42.85 |
| PC09 | More Risks | 25.00 | 19.12 | 30.88 |
| PC10 | More Benefits | 50.47 | 43.69 | 57.26 |
| PC11 | Common Law | 50.00 | 43.21 | 56.79 |
| PC12 | Expect Deception | 75.94 | 70.14 | 81.74 |
| PC13 | Vio-Moral Principles | 32.55 | 26.19 | 38.91 |
| EV01 | Utilitarian View | 80.66 | 75.30 | 86.02 |
| EV02 | Absolutist View | 72.17 | 66.09 | 78.25 |
| EV03 | Legalist View | 75.00 | 69.12 | 80.88 |
| EV04 | Subjectivist View | 72.17 | 66.09 | 78.25 |
| EV05 | Exceptionist View - General | 77.36 | 71.68 | 83.04 |
| EV06 | Exceptionist View -Safeguards | 77.36 | 71.68 | 83.04 |
| EV07 | Situationist View | 75.94 | 70.14 | 81.74 |

Descriptive Statistics for Professional Commentary & Ethical Viewpoints (cont.)*Descriptive Statistics for Strength of Agreement for SDR (Stage I)*

| Item | Topic | M | SD | 95% CI | |
|------|-------------------------------|------|------|--------|------|
| | | | | LL | UL |
| PC01 | Deception is Ethical | 6.13 | 2.26 | 5.82 | 6.43 |
| PC02 | Vio-Informed Consent | 4.51 | 2.58 | 4.16 | 4.86 |
| PC03 | Vio-Relationship | 4.53 | 2.77 | 4.15 | 4.90 |
| PC04 | Vio-Truthful Moral | 5.11 | 2.71 | 4.75 | 5.48 |
| PC05 | Vio-Suspiciousness | 4.25 | 2.93 | 3.85 | 4.65 |
| PC06 | Vio-Trust of Science | 3.93 | 2.77 | 3.55 | 4.30 |
| PC07 | Vio-Invasion of Privacy | 4.66 | 2.55 | 4.31 | 5.00 |
| PC08 | Abandon for Non-Deceptives | 7.17 | 2.26 | 6.86 | 7.48 |
| PC09 | More Risks | 4.23 | 2.46 | 3.90 | 4.56 |
| PC10 | More Benefits | 5.81 | 2.04 | 5.54 | 6.09 |
| PC11 | Common Law | 5.35 | 2.26 | 5.05 | 5.66 |
| PC12 | Expect Deception | 7.00 | 2.10 | 6.72 | 7.28 |
| PC13 | Vio-Moral Principles | 4.15 | 2.72 | 3.78 | 4.52 |
| EV01 | Utilitarian View | 7.00 | 2.24 | 6.70 | 7.30 |
| EV02 | Absolutist View | 6.58 | 2.14 | 6.29 | 6.87 |
| EV03 | Legalist View | 6.75 | 1.96 | 6.48 | 7.01 |
| EV04 | Subjectivist View | 6.56 | 2.21 | 6.26 | 6.86 |
| EV05 | Exceptionist View - General | 6.73 | 1.83 | 6.48 | 6.97 |
| EV06 | Exceptionist View -Safeguards | 7.15 | 2.05 | 6.87 | 7.42 |
| EV07 | Situationist View | 7.05 | 2.18 | 6.75 | 7.34 |

APPENDIX T: Skew & Kurtosis for SCS and Deception Vignettes*Skewness and Kurtosis of Strength of Agreement**Ratings for Social Contract Statements*

| Social Contract | Skewness | Kurtosis |
|-------------------------------------|----------|----------|
| Fundamental | | |
| A & B - Voluntary | | |
| Consent | -1.92 | 3.91 |
| C ₁ - Debriefing | -2.13 | 4.67 |
| C ₂ - Explain Deception | -1.61 | 2.70 |
| D ₁ - Physical Pain | -1.51 | 1.89 |
| D ₂ - Psychological Pain | -1.49 | 1.87 |
| Principle | | |
| 1 - Alternative Methods | -0.52 | -0.56 |
| 2 - Consent Disclaimer | -0.51 | -0.76 |
| 3 - Vulnerable Populations | -0.33 | -0.98 |
| 4 - Golden Rule | -2.07 | 4.29 |
| 5 - Participate Fully | -1.31 | 1.49 |

Note. N = 401

*Skewness and Kurtosis of Strength of Perceived**Ethicality Ratings for Deception Vignettes*

| Vignette | Skewness | Kurtosis |
|-------------------|----------|----------|
| Salesperson | -0.57 | -0.47 |
| Foot-in-the-door | -0.29 | -0.89 |
| Subway | -0.36 | -0.94 |
| Group Membership | 0.27 | -0.82 |
| Obedience | 0.38 | -0.98 |
| Electrician | -0.21 | -0.87 |
| Boring Task | -0.97 | 0.26 |
| Religious Beliefs | 0.10 | -1.02 |
| Conformity | -1.43 | 1.94 |
| Success & Failure | -1.00 | 0.62 |
| Freezer | 4.01 | 18.39 |
| Online/InPerson | -4.97 | 30.46 |

Note. N = 401

**APPENDIX U: Descriptive Statistics for Strength of Perceived Ethicality of Deception
Vignettes**

Descriptive Statistics for Strength of Perceived Ethicality of Deception Vignettes (Sorted by Sieber Category)

| Sieber Category | Participant | | | Researcher | | | Combined | | |
|----------------------------|-------------|-------------|---------------------|-------------|-------------|---------------------|-------------|-------------|---------------------|
| Vignette | <i>M</i> | <i>SD</i> | <i>95% CI</i> | <i>M</i> | <i>SD</i> | <i>95% CI</i> | <i>M</i> | <i>SD</i> | <i>95% CI</i> |
| Mild | 7.34 | 1.70 | [7.11, 7.57] | 7.84 | 2.34 | [7.59, 8.09] | 7.58 | 1.74 | [7.41, 7.75] |
| Conformity | 8.04 | 2.03 | [7.77, 8.32] | 8.87 | 1.65 | [8.63, 9.10] | 8.43 | 1.90 | [8.24, 8.62] |
| Boring Task | 7.13 | 2.36 | [6.81, 7.45] | 8.35 | 2.06 | [8.05, 8.65] | 7.70 | 2.31 | [7.48, 7.93] |
| Success & Failure | 7.17 | 2.23 | [6.86, 7.47] | 7.53 | 2.54 | [7.16, 7.89] | 7.34 | 2.39 | [7.10, 7.57] |
| Salesperson | 7.01 | 2.28 | [6.71, 7.32] | 6.62 | 2.74 | [6.23, 7.02] | 6.83 | 2.51 | [6.58, 7.08] |
| Moderate | 6.03 | 2.04 | [5.75, 6.30] | 6.10 | 2.22 | [5.78, 6.42] | 6.06 | 2.12 | [5.58, 6.27] |
| Subway | 6.17 | 2.69 | [5.80, 6.53] | 6.37 | 2.84 | [5.96, 6.77] | 6.26 | 2.76 | [5.99, 6.53] |
| Foot-in-the-door | 6.07 | 2.61 | [5.72, 6.42] | 6.07 | 3.12 | [5.63, 6.52] | 6.07 | 2.86 | [5.79, 6.35] |
| Electrician | 5.84 | 2.54 | [5.50, 6.18] | 5.86 | 2.83 | [5.45, 6.26] | 5.85 | 2.67 | [5.59, 6.11] |
| Strong | 4.33 | 1.91 | [4.07, 4.59] | 4.74 | 2.31 | [4.41, 5.08] | 4.53 | 2.12 | [4.32, 4.73] |
| Religious Beliefs Group | 4.57 | 2.70 | [4.20, 4.93] | 5.32 | 3.08 | [4.88, 5.76] | 4.92 | 2.91 | [4.63, 5.21] |
| Membership | 4.08 | 2.53 | [3.73, 4.42] | 4.94 | 3.10 | [4.50, 5.39] | 4.48 | 2.84 | [4.20, 4.76] |
| Obedience | 4.36 | 2.90 | [3.97, 4.75] | 3.97 | 3.11 | [3.53, 4.42] | 4.18 | 3.01 | [3.88, 4.47] |
| Anchors | | | | | | | | | |
| Freezer | 0.71 | 1.68 | [0.48, 0.94] | 0.48 | 1.43 | [0.27, 0.68] | 0.60 | 1.57 | [0.45, 0.76] |
| Online/InPerson | 9.94 | 0.26 | [9.90, 9.97] | 9.91 | 0.35 | [9.86, 9.96] | 9.93 | 0.31 | [9.90, 9.96] |

Note. Participants n = 212; Researchers n = 189; Combined n = 401. Sieber category averages in boldface.

APPENDIX V: Between-Group Comparisons of Perceived Ethicality of Deception

Vignettes

Between-Group Differences in Percentages of Perceived Ethicality of Deception Vignettes

| Sieber Category Vignette | % Ethical | | Between-Group Difference | | | | χ^2 | <i>p</i> | Equivalence 90% CI |
|-----------------------------|-----------|--------|--------------------------|------|-----------------|-------|----------|----------|-----------------------|
| | P | R | P-R | SE | 95% CI | | | | |
| Mild | | | | | | | | | |
| Conformity | 88.20 | 94.70 | -6.50 | 2.81 | [-12.03, -0.97] | 5.30 | .020 | * | [-11.05, -1.96] |
| Boring Task | 77.40 | 91.00 | -13.65 | 3.63 | [-20.79, -6.51] | 13.70 | < .001 | ** | [-19.51, -7.78] |
| Success & Failure | 80.20 | 81.50 | -1.29 | 3.95 | [-9.06, 6.47] | 0.11 | .740 | | [-7.80, 5.22] |
| Salesperson | 76.90 | 65.10 | 11.81 | 4.50 | [2.97, 20.65] | 6.81 | .010 | * | [4.34, 19.28] |
| Moderate | | | | | | | | | |
| Subway | 62.30 | 64.60 | -2.29 | 4.83 | [-11.78, 7.21] | 0.23 | .640 | | [-10.25, 5.68] |
| Foot-in-the-door | 59.90 | 58.20 | 1.70 | 4.93 | [-7.99, 11.40] | 0.12 | .730 | | [-6.42, 9.83] |
| Electrician | 56.60 | 58.70 | -2.13 | 4.96 | [-11.87, 7.61] | 0.19 | .670 | | [-10.30, 6.04] |
| Strong | | | | | | | | | |
| Religious Beliefs | 37.30 | 49.20 | -11.94 | 4.93 | [-21.63, -2.26] | 5.82 | .020 | * | [-20.08, -3.80] |
| Group Membership | 30.20 | 43.90 | -13.73 | 4.78 | [-23.13, -4.32] | 8.11 | < .001 | ** | [-21.65, -5.80] |
| Obedience | 36.30 | 31.70 | 4.57 | 4.75 | [-4.77, 13.91] | 0.93 | .340 | | [-3.26, 12.41] |
| Anchors | | | | | | | | | |
| Freezer | 2.40 | 1.10 | 1.30 | 1.31 | [-1.28, 3.88] | 0.99 | .320 | | [-0.82, 3.42] |
| Online/Inperson | 100.00 | 100.00 | 0.00 | - | - | - | - | | - |

Note. P = Participants; R = Researchers; Meaningful difference interval is $\pm 10\%$.

95% CI fully outside meaningful difference interval in boldface

* $p < .05$ (two-tailed), ** $p < .005$ (two-tailed, Bonferroni Correction)

APPENDIX W: Percentages of Respondents Identifying Deception Vignettes as Ethical by Group

Between-Group Comparison of Percentage of Respondents Identifying Deception Vignettes as Ethical

| Sieber Category | Participants | | | Researchers | | |
|-------------------|--------------|-----------------------|--------|-------------|-----------------------|--------|
| | Vignette | % Ethical | 95% CI | | % Ethical | 95% CI |
| Mild | | | | | | |
| Conformity | 88.20 | [83.83, 92.58] | ** | 94.70 | [91.49, 97.93] | ** |
| Boring Task | 77.40 | [71.68, 83.04] | * | 91.00 | [86.89, 95.12] | ** |
| Success & Failure | 80.20 | [74.78, 85.60] | * | 81.50 | [75.89, 87.07] | * |
| Salesperson | 76.90 | [71.17, 82.61] | * | 65.10 | [58.22, 71.94] | |
| Moderate | | | | | | |
| Subway | 62.30 | [55.69, 68.84] | | 64.60 | [57.67, 71.43] | |
| Foot-in-the-door | 59.90 | [53.25, 66.56] | | 58.20 | [51.10, 65.30] | |
| Electrician | 56.60 | [49.88, 63.33] | | 58.70 | [51.65, 65.81] | |
| Strong | | | | | | |
| Religious Beliefs | 37.30 | [30.70, 43.83] | | 49.20 | [42.01, 56.40] | |
| Group Membership | 30.20 | [23.96, 36.42] | | 43.90 | [36.78, 51.06] | |
| Obedience | 36.30 | [29.79, 42.85] | | 31.70 | [25.05, 38.44] | |
| Anchors | | | | | | |
| Freezer | 2.40 | [0.30, 4.42] | ** | 1.10 | [-0.41, 2.53] | ** |
| Online/Inperson | 100.00 | - | ** | 100.00 | - | ** |

Note. 95% CI lower limit \geq 80% ethical (or \leq 20% ethical) in boldface.

* > 66% consensus; ** > 80% consensus.

**APPENDIX X: Pearson Correlation Matrix between Idealism, Relativism, and Strength of
Perceived Ethicality Ratings of Deception Vignettes**

Pearson Correlations between Idealism, Relativism (EPQ Scale Scores), and Strength of Perceived Ethicality Ratings for Deception Vignettes

| | I | R | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|----------------------|----------------|---------------|--------|-------------|-------------|-------------|-------------|-------------|-------------|--------|--------|----|
| Idealism | | | - | .025 | .020 | .056 | .073 | .043 | - | - | - | - |
| Relativism | .095 | | - | - | - | - | .027 | - | .029 | - | - | - |
| 1-Salesperson | -.024 | .035 | | | | | | | | | | |
| 2-Foot-in-the-door | -.158* | .032 | .368** | | | | | | | | | |
| 3-Subway | -.142* | -.021 | .303** | .303** | | | | | | | | |
| 4-Group Membership | -.237** | .039 | .133 | .250** | .217** | | | | | | | |
| 5-Obedience | -.271** | -.165* | .241** | .350** | .431** | .237** | | | | | | |
| 6-Electrician | -.207** | -.093 | .285** | .314** | .617** | .255** | .436** | | | | | |
| 7-Boring Task | -.013 | .171* | .421** | .272** | .300** | .101 | .224** | .215** | | | | |
| 8-Religious Beliefs | -.133 | .045 | .304** | .283** | .355** | .268** | .225** | .339** | .268** | | | |
| 9-Conformity | -.007 | -.002 | .406** | .235** | .281** | .174* | .297** | .208** | .545** | .328** | | |
| 10-Success & Failure | -.027 | .022 | .405** | .297** | .338** | .201** | .258** | .375** | .491** | .323** | .391** | |

Note. N = 212; Vignettes with significant correlations on idealism or relativism in boldface. Values in upper right corner are corresponding r^2 values.

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

**APPENDIX Y: Pearson Correlation Matrix between Strength of Perceived Ethicality for
Deception Vignettes and Strength of Agreement for Social Contract Statements**

Pearson Correlation Matrix between Strength of Perceived Ethicality for Deception Vignettes and Strength of Agreement for Social Contract Statements

| Vignette / SCS | A & B - Voluntary Consent | C ₁ - Debriefing | C ₂ - Explain Deception | D ₁ - Physical Pain | D ₂ - Psychological Pain | 1 - Alternative Methods | 2 - Consent Disclaimer | 3 - Vulnerable Populations | 4 - Golden Rule | 5 - Participate Fully |
|----------------------|---------------------------|-----------------------------|------------------------------------|--------------------------------|-------------------------------------|-------------------------|------------------------|----------------------------|-----------------|-----------------------|
| 1-Salesperson | -.026 | -.011 | -.042 | -.073 | -.173** | -.132* | .003 | -.219** | .038 | .126* |
| 2-Foot-in-the-door | -.066 | -.079 | -.019 | -.129** | -.183** | -.077 | -.172** | -.171** | .027 | .041 |
| 3-Subway | -.054 | .020 | .026 | -.160** | -.182** | -.194** | -.086 | -.207** | .039 | .064 |
| 4-Group Membership | -.063 | -.059 | -.062 | -.236** | -.199** | -.147** | -.187** | -.208** | -.071 | .002 |
| 5-Obedience | -.155** | -.106* | -.147** | -.181** | -.288** | -.191** | -.111* | -.273** | -.081 | -.019 |
| 6-Electrician | -.097 | -.022 | -.056 | -.173** | -.219** | -.209** | -.081 | -.252** | -.044 | .113* |
| 7-Boring Task | .083 | .121* | .037 | -.067 | -.094 | -.005 | -.222** | -.262** | .128* | .057 |
| 8-Religious Beliefs | -.033 | -.071 | -.079 | -.175** | -.226** | -.161** | -.201** | -.263** | -.009 | -.025 |
| 9-Conformity | .126* | .140* | .073 | -.025 | -.062 | -.032 | -.165** | -.171** | .279** | .052 |
| 10-Success & Failure | .031 | .036 | -.011 | -.168** | -.180** | -.155** | -.110* | -.298** | .077 | .085 |

Note. $N = 401$. Significant correlations greater than $r = .20$ in boldface.

APPENDIX Z: Golden Rule Violations*Golden Rule Violation Frequency Counts and Percentages by Group*

| | Frequency Count | | Percentage (%) | | χ^2 | <i>p</i> |
|-------------------|-----------------|--------------|----------------|--------------|----------|----------|
| | Researchers | Participants | Researchers | Participants | | |
| Salesperson | 7 | 14 | 3.30 | 7.41 | 1.69 | .193 |
| Foot-in-the-door | 15 | 29 | 7.08 | 15.34 | 3.37 | .070 |
| Subway | 9 | 5 | 4.25 | 2.65 | 1.71 | .191 |
| Group Membership | 17 | 9 | 8.02 | 4.76 | 3.72 | .054 |
| Obedience | 8 | 16 | 3.77 | 8.47 | 1.95 | .163 |
| Electrician | 6 | 7 | 2.83 | 3.70 | 0.01 | .943 |
| Boring Task | 5 | 7 | 2.36 | 3.70 | 0.15 | .700 |
| Religious Beliefs | 7 | 7 | 3.30 | 3.70 | 0.05 | .827 |
| Conformity | 2 | 7 | 0.94 | 3.70 | 2.29 | .130 |
| Success & Failure | 3 | 8 | 1.42 | 4.23 | 1.79 | .181 |
| Freezer | 2 | 5 | 0.94 | 2.65 | 0.99 | .321 |
| Online/InPerson | 2 | 2 | 0.94 | 1.06 | 0.01 | .908 |

Note. Researchers n = 189; Participants n = 212.