Are Situational Influences Necessary and Sufficient for Helping Behavior? A Meta-Analysis

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Are Situational Influences Necessary and Sufficient Conditions

For Helping Behavior: A Meta-Analysis

Abstract

Research on helping behavior has been dominated by experimental studies on situational factors that increase or decrease helping. Experimental researchers have focused exclusively on group differences between experimental conditions and have demonstrated clear effects for a variety of situational factors. This dominance has led some philosophers and educators to conclude that neither traits nor species characteristic prosociality play an important role in helping behavior, which can strongly influence social and educational policy. Moreover, although person-situation interactionist models suggest that traits should also influence helping behavior, the dominance of situational research gives the appearance that situational factors alone can explain helping behavior. This meta-analytic study investigates the validity of this presumption with 286 effects from studies with experimental and non-manipulation control groups that was selected from a pool of 1,116 independent studies. Included studies were quantitative research on observed, unilateral behavioral helping with adult participants. The meta-analysis included a total of 46,705 participants. The primary comparisons were the frequency of helping behavior in experimental conditions designed to encourage help or impede help and no-manipulation control conditions. Although group differences were evidenced across the conditions, helping behavior was very common in help impeding and control conditions and far from universal in help encouraging conditions. Because helping was evident without any situational encouragement, situational factors are not necessary conditions for helping behavior. Because helping was far from universal in help encouraging conditions, situational factors do not appear to be sufficient conditions for inducing helping behavior.

Key words:

character, helping, meta-analysis, personality, person-situation debate, person-situation interaction, situationism, trait

Helping behavior has been an intriguing and enduring puzzle for psychologists because helping is often inconvenient and comes at a cost of time, energy, comfort, and/or resources. This puzzle has inspired a great deal of theory and research for over four decades. For the purposes of this study, we define helping behavior as an action that is performed with the intent to assist another person that involves some measure of participant self-sacrifice (e.g., posting lost letters, picking up spilled pencils, or donating money to help someone in need). Helping behavior is fascinating because it occurs with great frequency in ordinary human interactions, from simple requests for directions to individuals risking their lives to help strangers; yet it does not always ensue in needful circumstances. Therefore, both the occurrence and non-occurrence of helping require explanation.

Many have noted that explanations for helping behavior raise basic questions about human nature, such as whether humans are ultimately egoistic or are prosocial to some degree and whether situational factors or individual traits best explain behavior. The majority of research and theory has focused exclusively on the impact of situational factors within an egoistic view of human nature.

The case for situational influence is very strong, with hundreds of studies supporting it. Some have gone as far as to argue (e.g., Doris, 2002) that situational influences provide a fully adequate explanation of helping, but we suggest this claim outstrips the available evidence. Although it is true that a large number of studies demonstrate group differences in helping between experimental conditions designed to situationally encourage or discourage helping and control groups, it is not at all clear whether the magnitude of these differences supports claims of the exclusive causal power or even the primacy of situational factors.

The purpose of this meta-analysis to examine the entirety of the evidence on helping behavior in the experimental study of helping, which includes helping in both the experimental and control groups. This contrasts with the common practice in this literature of limiting attention to differences *between* experimental conditions. Our initial review of the helping literature indicated that helping in control groups, a key piece of evidence, has been almost entirely neglected in the single-minded focus on group differences. If helping occurs commonly in control groups, which do not contain specific situational influences on helping, then the situational factors under study are not necessary conditions for helping behavior. The presence of a significant degree of helping in control groups would therefore suggest that other explanatory concepts are necessary to account for non-situationally induced helping. Viable alternative explanations of helping behavior—such as viewing helping as a species characteristic activity of humans or as an expression of individual traits—are available. Yet researchers who study situational influences seldom discuss or investigate either of these alternative explanations, creating a de facto dominance of an empirically unsubstantiated theoretical explanation. Thus, we designed this meta-analysis to be heuristic with regard to alternative explanations of helping, rather than to be just a summary of between group differences. We begin this review with a summary of the breadth and depth of knowledge about situational influences on helping. After discussing extant research on situational factors, we discuss the alternative explanations of helping behavior as a species characteristic activity and as an expression of individual traits, finally proposing a set of hypotheses.

Situational Influences on Helping

In the early days of the experimental study of helping, Batson (2012) noted that investigators attempted to include dispositional predictors of helping behavior in their studies,

measuring constructs such as “anomie, authoritarianism, autonomy, deference, intelligence, Machiavellianism, nurturance, religiosity, self-esteem, social desirability, social responsibility, submissiveness and succorance ” (pp. 249-250). None of these measures, however, turned out to be good predictors of helping (e.g., Darley & Batson 1973; Korte, 1971; Latané & Darley 1970).

Following these early failures, most helping behavior researchers abandoned dispositions as explanations and focused single-mindedly on situational explanations. In a historical analysis, Benjamin and Simpson (2009) noted that the striking results of Milgram’s (1974) obedience studies further fueled “a diminution of the importance of person or trait variables accompanied by an exceptionally strong emphasis on the power of situations as behavioral determinants” because “‘strong’ situations can and sometimes do overwhelm personality variables, even in well-intentioned and caring people” (pp. 14, 16).

Evidence from experimental social psychology. Through decades of study, strong evidence emerged for the effect of four key classes of situational factors on helping behavior: mood manipulations, the presence of bystanders, aspects of the perceptual environment, and the characteristics of the person in need of help. Artificially enhanced mood increases diverse forms of helping, including picking up spilled pencils or papers, donating money, mailing a lost letter, and providing help with additional experimental tasks (e.g., Isen & Levin, 1972; Levin & Isen, 1975; Shaffer, Rogle, & Hendrick, 1975). Carlson, Charlin, and Miller (1987) conducted a meta-analysis of the effects of positive mood on helping and found a strong positive correlation between positive mood and helping. The relationship was most pronounced for tasks that did not require sustained attention, that were more pleasant, and where the positive mood manipulation focused on the participants’ views of themselves. Carlson and Miller (1988) also conducted a meta-analysis on the effects of negative mood on helping behavior. They found mixed results for

the relationship with negative mood indicating that negative moods typically increase helpfulness, but occasionally do not. They noted that negative mood conditions such as more distasteful tasks, increased responsibility, and guilt tended to increase helping.

The presence of bystanders tends to reduce helping behaviors such as responding to an e-mail request, helping a person that is groaning on the ground, helping a lost bus passenger get to a destination, intervening in a potential rape, pointing out ink on someone's face before an interview, and donating to charity (e.g., Darley & Latané, 1968; Senneker & Hendrick, 1983; Wiesenthal, Austrom, & Silverman, 1983). Several variables have been found to significantly moderate the bystander effect on helping. These include the degree of emergency, whether future interaction with the victim is expected, the ambiguity of the emergency, and whether or not the victim gazes at the participant (e.g., Fischer, Greitemeyer, Pollozek, & Frey, 2006; Valentine, 1980). Fischer et al. (2011) conducted a meta-analysis of 105 studies and found a small to medium overall bystander effect. In addition, they tested several factors that might moderate the bystander effect and found that the bystander effect was attenuated in dangerous situations, where the perpetrator was present, and when physical intervention was required.

Other investigators manipulated the perceptual environment of the participant or characteristics of the recipient of help. Manipulating characteristics of the recipient of help such as having the recipient smile, hold flowers, or mimic the participant's facial expression tends to increase helping (e.g., Fischer-Lokou, 2011; Gueguen, 2003). Increasing the similarity between the participant and the person in need of help increases helping (e.g., Batson, Duncan, Ackerman, Buckley, & Birch, 1981; Dovidio & Morris, 1975). Manipulating the environment in aversive ways such as making it noisy, hot, cold, or unclean tends to decrease helping (e.g., Matthews & Canon, 1975; Schneider, Lesko, & Garrett, 1980). Increasing the ambiguity of the

need for help results in less helping (e.g., Clark & Word, 1974; Sterling, 1977). Increasing the deviance of the person in need of help also decreases helping. Changes to the verbiage of the helping request, modeling helpful behavior, giving subjects more information about how to best help, and creating a public rather than a private setting all increase helping likelihood (e.g., Begin, 1978; Enzle & Harvey, 1977). Many other situational factors have been found to affect the likelihood of helping behavior such as disinhibition, exercise, drinking alcohol, a prior commitment to help, physical elevation, urgency of the help request, priming participants with memories of childhood, and the potential for embarrassment as a result of helping (e.g., Foss & Crenshaw, 1978; Gino & Desai, 2012).

These studies have made it quite clear that many situational factors influence the likelihood of helping. These results are so firmly established and there has been such a large cadre of researchers single-mindedly focused on situational influences that an intelligent reader unfamiliar with other research on helping could reasonably conclude that situational factors are the only cogent explanations for helping behavior.

The argument in moral philosophy. This was exactly the conclusion that the philosophers Doris (2002) and Harman (2009) did reach about what social psychology had to teach moral philosophers and moral educators. Following a review of over 150 studies of helping behavior, Doris (2002) concluded that "systematic observation typically fails to reveal the behavioral patterns expected by globalism [his term for trait-based explanations of helping]" (p. 23). Particularly, Doris and Harman argued that neither personality nor character traits could explain helping behavior because situational factors are so numerous and influential. Moreover, the frequently trivial nature of the situational factors cast doubt on enduring traits as explanations of behavior because if trivial situational factors so commonly change the likelihood of helping

behavior, then the influence of traits must be very weak. Doris' critique of character is potent because he synthesized nearly fifty years of social psychology research. This general viewpoint continues to be voiced as moral philosophers have recently argued for significantly paring back the claims of virtue ethics—the general perspective that character traits can explain moral behavior such as helping—because situational explanations seemed so compelling (Alfano, 2013; Miller, 2013). No doubt many other professional and lay readers have come to similar conclusions after perusing the evidence for situational influences on helping.

This viewpoint is another expression of the decades-long debate about whether situations or traits better explain behavior (Bowers, 1973; Epstein & O'Brien, 1985; Mischel & Shoda, 1995). Few, if any psychologists would endorse Doris's (2002) categorical approach to the person-situation debate. Publication trends (Webster, 2009) and a survey of personality and social psychologists (Tracy, Robins, & Sherman, 2009) indicate increasing interest in person-situation interactionism and significant overlap in methods and topics across personality and social psychological research domains. Nevertheless, distinct differences in methods and topics remain evident between personality and social psychology, with personality psychologists focusing more on correlational and longitudinal research of trait and genetic factors and social psychologists focusing more on experimental studies of factors external to the person (Tracy et al., 2009).

Doris's (2002) extreme view that helping behavior is best explained primarily by situational influences stirred up lively debates in moral philosophy and moral education. His view has been criticized on conceptual grounds (Homiak, 2011; Kristjánsson, 2008; Kupperman, 2001), but his view has not been examined empirically. This question is important particularly in moral philosophy and moral education because if situational factors provide an adequate

explanation of helping, then efforts to increase prosocial behavior such as helping should focus on “features of the environment that influence behavioral outcomes” rather than “striving to develop character” (Doris, 2002, p. 146). If Doris is correct, the widespread efforts of moral educators to cultivate character (e.g., Laplsey & Power, 2005) are misguided and should be redirected toward designing environments that promote prosocial behavior, as he suggests. Moreover, if situational factors provide an adequate explanation of prosocial behavior, then the recent upsurge in interest in character in philosophy, psychology, and education may be of questionable value.

The central common element in virtually all of the experimental studies of helping is a focus on group differences between experimental and control conditions or between different manipulation conditions. This approach is ideally suited to detecting the effects of situational factors. Therefore, the first question we will examine in this meta-analysis is how strong is the overall effect of situational influences on encouraging or impeding helping behavior?

Although group comparisons have been the primary result of interest in this literature, comparisons between experimental conditions do not exhaust the useful information in these studies. A second common (but not universal) feature of studies in this literature is the use of a control group that is designed to eliminate any situational element that increases or decreases helping. As such, the likelihood of helping in control conditions offers a glimpse of the degree to which helping is spontaneous in interactions with strangers because control groups are designed to be inert with respect to situational influences. In our initial review of this literature, we noticed that this key piece of evidence has been almost entirely neglected in the single-minded focus on group differences. If helping is widespread in control groups, it would suggest that specific situational influences are not a necessary condition for inducing helping behavior. The higher the

incidence of spontaneous helping in control groups, the more important it would be to investigate other explanations for this helping, such as general human prosociality or individual traits.

Species Characteristic Prosociality as an Explanation of Helping

One alternative explanation of helping behavior is that helping is likely to occur because humans are naturally inclined to help others in need. Humans have been termed "ultrasocial animals" (Author, 2015a; Tomasello, 2014), which means, among other things, that we are group living creatures who cooperate extensively, are invested in our conspecifics' welfare, and conform to and enforce social norms. What is more, this cooperation, other-concern, and conformity are viewed as a set of evolved characteristics that are remarkably prevalent, ranging from one-shot encounters with unrelated individuals, even strangers, to coordination in very large groups across great distances. (See Author, 2015a for an extended discussion.) Some of the features of human ultrasociality have been captured by the term "prosociality," which refers to other-benefitting actions or a positive interest in other individuals' and one's group's welfare. Prosocial behaviors include helping, cooperation, sharing, expressing moral emotions, and engaging in ingroup bias (Batson, 2012; Chudek & Henrich, 2011). A rapidly growing perspective suggests that a significant prosocial inclination is species characteristic for humans (Dean, Kendal, Shapiro, Thierry, & Laland, 2012; Tomasello, 2014; Tracy, Shariff, & Cheng, 2010). If prosociality is an important proclivity for humans, then one would expect helping behavior to show up in conditions with few or no specific situational inducements to help beyond someone needing help and to occur even in the presence of mild disincentives to help.

Therefore, the second question we investigate in this meta-analysis is: how frequent is spontaneous helping in control groups and in experimental conditions designed to discourage helping? A meta-analytic investigation of the incidence of spontaneous (non-situationally

induced) is ideal because this approach allows us to investigate helping behavior across a breadth of helping-relevant conditions, which is one way to investigate a species characteristic pattern of behavior such as prosociality. Such evidence could complement the extensive comparative research that highlights significantly greater prosociality among humans than among chimpanzees (e.g., Tomasello, 2014). A straightforward interpretation of such spontaneous helping, especially helping strangers, would be that a prosocial human nature is a baseline condition that makes helping relatively likely.

If spontaneous helping is indeed common, it may require a dramatic shift in the conceptualization of helping in this literature. That is because if spontaneous helping exceeds a trivial likelihood, it suggests that the help encouraging conditions in the studies reviewed here may need to be reinterpreted as incremental enhancers of this baseline human likelihood of helping (i.e., as a moderator of a general inclination to help) rather than as the primary source of helping behavior. Yet even if we recognize helping behavior as an aspect of human ultrasociality, it is obvious that helping behavior does not and cannot occur in every possible opportunity. Therefore, the variability in helping behavior across individuals may also be a valuable topic in the study of when and why helping behavior occurs.

Dispositional Sources of Helping

Dispositions offer a third explanation of helping behavior. If spontaneous helping occurs with more than trivial likelihood, variations in the likelihood of helping could also be explained by traits of the potential helper. In the last 40 years, investigators of situational factors in helping have neglected dispositional factors, seldom including assessments of traits, meaning that these studies do not provide direct evidence for or against the influence of traits. Nevertheless, the widespread demonstration of situational effects has been cited as evidence that traits are

unimportant for helping behavior (Doris, 2002; Harman, 2009) or that traits are extremely limited as explanations of helping (Alfano, 2013; Miller, 2013). If there is a non-trivial likelihood of helping in control groups and in conditions that discourage helping, however, it means that these studies evidence some degree of unexplained helping behavior that may be accounted for by the helper's traits. That is, some individuals may be more strongly disposed to helping than others in the absence of situational inducements to helping.

Personality traits. Personality traits offer one type of dispositional explanation for helping behavior. The personality trait of agreeableness has been cited as a possible dispositional explanation for spontaneous helping because "the natural language trait words associated with Agreeableness include *sympathetic*, *generous*, *forgiving*, and *helpful*" (Graziano, Habashi, Tonin, & Sheese, 2007, p. 584). John and Srivastava (1999) state that agreeableness includes themes such as sensitive, kind, soft-hearted, generous, and helping. They also comment that agreeableness is too detached a label for a personality factor designed "to capture intensely affective characteristics such as love, compassion, and sympathy" (p. 138). Accordingly, investigators have reported that agreeableness correlates with self-reports of prosociality (Caprara, Alessandri, Giunta, Panera, & Eisenberg, 2010), empathy, helping likelihood (Graziano et al., 2007), and volunteering (Carlo, Okun, Knight, & de Guzman, 2005). Individuals high in agreeableness have been found to offer help with or without an empathy inducing prompt, in high and low cost situations, and to both ingroup and outgroup members because "they appear to be traited for helping" (Graziano et al., 2007, p. 596). Volk, Thöni and Ruigrok (2011) also reported that agreeableness predicted cooperation in a series of three public goods games conducted over a five-month period.

Honesty-humility is another potential personality explanation of helping behavior. The honesty-humility factor in the HEXACO model of personality has been found to exhibit some overlap with agreeableness (Ashton & Lee, 2007) and includes tendencies such as sincerity, honesty, and fair-mindedness. Honesty-humility has been linked to prosocial behavior in dictator, prisoner's dilemma, and public goods games (Hilibig, Zettler, Leist, & Heydasch, 2014).

Prosocial personality orientation is a third possible personality explanation of helping (Penner, 2002). The two dimensions of the prosocial personality are other-oriented empathy and helpfulness. These dimensions correlate with self-reported volunteering (Finkelstein & Bannick, 2007).

The relationship between all of these personality traits and helping has been largely correlational and based on self-reports of helping or helping likelihood. The studies that used game paradigms involved hypothetical others and the stakes were "points" without monetary value. None of these studies included actual observed behavior within experimental conditions. Research on personality is methodologically orthogonal to the experimental research on situational influences on helping and therefore sheds very little light on the role of personality traits on helping behavior or the interaction of traits and situations.

Character traits. Another category of potential dispositional explanations for spontaneous helping could be character strengths or virtues such as kindness, compassion, or generosity. A virtue such as kindness may be more directly related to helping than a personality trait because benefiting others is frequently seen as a form of moral behavior, with its presence often seen as praiseworthy and its absence frequently seen as blameworthy. The concept of a virtue captures this moral dimension of helping better than personality traits. Agreeableness, for

example, has facets such as generosity and altruism, and correlates highly with adjectives such as kindness, helpful, and cooperative, but it also includes facets such as warmth and modesty, making it less focused on a disposition to help (John, 2008). Therefore, a unidimensional measure of kindness might be a more direct way to predict helping behavior than a multifaceted personality trait.

Philosophers, psychologists, and educators have renewed their interest in character traits or virtues as part of an effort to better understand human well-being or flourishing (Brewer, 2009; Author, 2005; 2015b; Peterson & Seligman, 2004) and as an approach to moral education (Lapsley & Power, 2005). Theoretically, this interdisciplinary effort draws primarily on Aristotle's (1999) ethics, in which he saw virtues such as courage, generosity, and justice as characteristics essential for living a good human life. Many scholars and educators interested in virtue have also shown a consistent interest in investigating character strengths empirically in order to develop a psychologically realistic account. The premise of this research is that character strengths can be defined and observed and that there will be consistent individual differences in trait related behaviors (Author, 2014, 2015b; Jayawickreme, Meindl, Helzer, Furr, & Fleeson, 2014). There is emerging evidence for the meaningful assessment of character strengths such as courage, honesty, compassion, justice, and loyalty (Bleidorn & Denisson, 2015; Hawkins, Fowers, Carroll, & Yang, 2007; Meindl, Jayawickreme, Furr, & Fleeson, 2012; Woodward & Pury, 2007). Significant consistency over time has been reported for honest, courageous, compassionate, and fair behaviors (Bleidorn & Denisson, 2015; Meindl et al., 2012). All of the studies of character traits are correlational and self-report, making these results methodologically orthogonal to the experimental research on situations and helping behavior,

leaving the question open as to whether character traits influence helping behavior or interact with situational influences.

Although the theoretical and empirical work on character strengths is promising, this potential avenue for explaining variations in helping behavior has been questioned directly because relatively trivial situational factors make a difference in helping (Doris, 2002; Miller, 2013). The viability of either personality or character traits as explanations of helping or other prosocial behavior depends on the presence of helping that cannot be explained by situational factors. If there is a non-trivial frequency of spontaneous helping in control conditions that do not include situational factors that encourage helping, then this helping behavior may be accounted for by individual differences in inclinations to being helpful.

Our focus on spontaneous helping in control conditions in this study can only indicate whether there is variation that cannot be readily explained by situational factors, but could be explained by differences in personality or character traits (or by a species characteristic likelihood of helping). This meta-analysis cannot provide positive evidence for the operation of traits (or a species characteristic likelihood of helping) because they have not been assessed in this literature. We believe that examining the presence of spontaneous helping is heuristically important, however, because if spontaneous helping is common, it means that situational influences are not necessary conditions for its occurrence, and we should investigate alternative explanations such as individual differences in dispositions to (or species characteristic) helpfulness. In addition, if dispositional (or species characteristic) explanations of helping are viable, situational factors may need to be reconceptualized as moderators of the influence of these dispositions (or species characteristics) rather than primary causes. With respect to individual differences, the stronger one's dispositional inclination to helpfulness, the more likely

it is that the individual will help spontaneously, with or without situational inducement or impediment. Individuals with a weaker disposition to help will be more likely to help with the aid of situational inducements than without them and less likely to help in the presence of situational impediments.

Scope of the Meta-analysis

We included a wide variety of situations in this meta-analysis so that we could study a broad spectrum of situational factors in helping behavior as an important class of explanatory factors. It is common to focus on segments of this literature, such as mood effects (Carlson et al., 1987; Carlson & Miller, 1988) or bystander effects (Fischer et al., 2011) separately. However, we suggest that these categories cohere under a larger umbrella of situational factors that activate helping behavior and are therefore interesting to study as an aggregate. Moreover, the results from many of the experiments presented here have been used as a collective body to argue against the plausibility of trait explanations of helping. Thus, it is only by including a broad array of situations that we can address the larger question of the adequacy of situational explanations of helping.

In addition to the overall effect of situations on helping behavior, we are interested in potential moderators of this relationship that come to light from a character trait perspective. As noted above, individuals with strong traits of kindness or compassion would be very likely to help regardless of situational influences. Individuals with weaker versions of these traits may be more easily swayed either toward or away from helping by apparently trivial situational factors because they are neither firmly committed nor firmly opposed to helping others. Consequently, in situations where help is explicitly requested, we anticipate that helping will be more frequent because individuals with weak helping-related traits will be more likely to help than in situations

in which the need for help is unspoken. Another factor that may moderate the likelihood of helping behavior is whether the participant is acquainted with the person needing help. We expect helping to be more frequent when the participant has interacted with the person needing help because individuals with weaker traits of kindness or compassion will be more likely to help in situations that include some acquaintance with the helpee. Even minimal contact between a participant and the person needing help prior to the request for help may be sufficient to establish a relationship, leading the participant to offer more help.

Hypotheses

Our overall research question is whether situational factors comprise necessary and sufficient conditions for explaining helping behavior. This led us to five hypotheses. Hypothesis 1 is a replication prediction that situational factors will consistently affect the likelihood of participant helping. Hypothesis 2 examines whether situational factors provide a necessary explanation for helping behavior. We test this prediction with two sub-hypotheses: 2a) There will be a non-trivial frequency of participants helping in the control conditions that were designed to eliminate situational influences on helping. 2b) There will be a non-trivial frequency of participants helping in experimental conditions designed to discourage helping. Hypothesis 3 assesses whether situational factors are a sufficient explanation by predicting that helping will occur significantly less than 100% of the time in experimental conditions designed to encourage helping. Hypothesis 4 predicts that explicit requests for help will result in more helping than implicit requests. Hypothesis 5 predicts that more helping behavior will occur more often when participants have interacted with the person in need of help prior to the helping incident than when they are exposed only when help is requested.

Methods

Search Strategies

We conducted an initial computerized literature search in March 2012 in PsychINFO and Proquest via EBSCO using the keywords "help*," "assist*," "prosocial*," "aid," "altruis*," and "bystander" joined together by the Boolean operator "or". Results were limited to empirical studies in journal articles, theses, or dissertations written in English using adult (ages 18 – 65) human subjects. A total of 24,998 citations were exported to EndNote, which was reduced to 24,512 after removing duplicates. Three trained raters independently screened the titles and abstracts of articles for inclusion based on relevance to helping behavior in April and May 2012. More than one rater screened 17% of articles to assess interrater reliability, which yielded a 98.22% agreement in screening among three raters. Disagreements were resolved by team discussion between raters. After reviewing the titles of all articles and abstracts for relevance and excluding articles that did not report on helping behavior as a dependent variable, we obtained 616 articles including 113 theses or dissertations and 503 journal articles.

To increase the breadth and reduce the selection bias of our initial search, we employed the following additional search procedures in October and November, 2012. First, we searched the reference lists of six previously published meta-analyses of helping behavior. We also conducted a "backwards" search of the reference list of a random sampling of 100 of the 616 included journal articles, dissertations, and theses. We contacted any author with three or more articles included in the previous meta-analyses, requesting unpublished studies they may have conducted. Finally, we posted advertisements in relevant listservs, soliciting further published or unpublished studies of helping behavior. These efforts led to the identification of an additional 217 journal articles, dissertations, and theses, 134 of which met inclusion criteria after inspecting their abstracts, leading to a total of 750 journal articles, dissertations, and theses with 1,166

independent studies. Because many authors reported findings on multiple independent studies, we will henceforth discuss the number of independent studies (*k*) instead of the number of journal articles, dissertations, and theses.

Inclusion/Exclusion Criteria

In order to be included in the current meta-analysis, a study needed to meet the following inclusion/exclusion criteria (number of excluded studies given in parentheses): 1) be quantitative (*k* = 3), 2) employ at least one experimental manipulation of an independent variable believed to influence helping (*k* = 132), 3) include only subjects 18 years old and older (*k* = 20), 4) have a behavioral measure of helping (*k* = 322)[1], 5) employ a unilateral helping paradigm (i.e. excluding prisoner's dilemma, public goods and ultimatum games) in response to a need (excluding dictator games) where the participant incurred at least minimal sacrifice of time, money, or effort in order to help (*k* = 75), 6) employ a control group that did not include any manipulation (*k* = 248), 7) present original data (*k* = 23), and 8) provide enough information to calculate effect sizes for relevant helping variables (*k* = 62). After applying exclusion criteria, 281 out of 1,116 independent studies were included in the meta-analysis.[2]

Coding of Studies

Because meta-analysis allows for testing variables that moderate the relationship between the focal variables (i.e., situational manipulations and helping behavior), we coded several study characteristics that might moderate this relationship. A database of the included studies was constructed in Microsoft Excel to organize information on moderating variables related to

[1] People tend to over-report prosocial actions (see Batson, 1991; Galen, 2012; Wilson, 2002). As such, only behavioral measures of helping were used to ensure an observational assessment of helping behavior.
[2] The total number of excluded and included studies exceeds 1,116 because some studies were excluded for more than one reason.

sample, design, study, and outcome characteristics. Study quality was assessed through design characteristics such as research setting and participant assignment.

Sample characteristics. (a) Age of participants (college students only vs. adults). (b) Sample size.

Design characteristics. (a) Research setting (laboratory vs. field studies vs. phone studies). (b) Participant assignment to experimental condition (random vs. non-random vs. not informed). (c) Whether participation in the study was voluntary (voluntary vs. non-voluntary). (d) Participant remuneration (course credit vs. money vs. course credit and money vs. none/not informed).

Study characteristics. (a) Publication type (journal article vs. master's thesis/dissertation). (b) Publication year.

Other characteristics. (a) Salience of helping request (explicit vs. implicit). (b) Physical or verbal presence of the person helped (person present vs. absent). (c) Relationship between the participant and person in need of help (no prior exposure vs. exposure). (d) Type of helping (donations vs. sacrificed time vs. increased productivity vs. forgone comfort).

Interrater Reliability

The included 281 studies were coded independently by two trained raters. Interrater reliability was computed for each variable using Cohen's Kappa (κ). Cohen's Kappa compares the agreement between two raters to the agreement expected to occur by chance, making it a stringent measure of interrater reliability. Landis and Koch (1977) proposed the following guidelines for interpreting Cohen's Kappa: poor (< 0), slight (0 – 0.20), fair (0.21 – 0.40), moderate (0.41 – 0.60), substantial (0.61 – 0.80), and almost perfect (0.81 – 1.00).

Most coded variables fell in the near perfect category of agreement. Three variables, however, had a κ value less than .80. These were assignment (κ = 0.51), relationship to helpee (κ = 0.62), and physical presence of the helpee (κ = 0.77). Assignment had three coding categories: random assignment, non-random assignment, and not informed. Seventy percent of disagreements within assignment occurred as a result of one researcher coding the study as "not informed" and the other finding evidence that the study used either random or non-random assignment. The relationship to helpee category related to whether the participant had previously interacted with the person who would later ask for help. Although this was straightforward in many studies, design ambiguity in some studies led raters to make different decisions. The physical presence of the victim category involved whether the recipient of help was physically present. This distinction was clear in many studies, but there were several instances where the decision was less clear. All disagreements were resolved by research team discussion until 100% agreement was obtained for each variable.

Effect Size

Because most of the studies reported helping behavior in frequency tables, we used odds ratios (OR) as our primary effect-size metric. We calculated odds ratios using the following formula: $OR = (n_{11}n_{22})/(n_{12}n_{21})$ with n_{11} being the number of individuals helping in the experimental group, n_{22} being the number of individuals not helping in the control group, n_{12} being the number of individuals not helping in the experimental group, and n_{21} being the number of individuals helping in the control group (Card, 2012). When any cell had a zero value, .5 was added to each cell, following Haddock, Rindskopf, and Shadish (1998). An odds ratio greater than 1 indicates greater odds of helping in the experimental group whereas values between 0 and 1 indicate greater odds of helping in the control group with values of 1 indicating equal odds of

helping in the two groups. Because the odds ratio is bound between 0 and a positive infinity such that the underlying distribution is not normally distributed, the computed odds ratio was converted to the log odds ratio (LOR) by taking the natural logarithm of the OR. Its associated variance (V_{LOR}) was computed by summing the inverses of the cell counts (n_{11}, n_{22}, n_{12}, n_{21}) in each of the four cells.

The OR is an effect-size measure that compares the odds of helping over the odds of not helping between experimental and control groups. Odds compare the likelihood of an event happening to the likelihood of it not happening. For example, if out of 12 people in the control group of a particular study, 3 people help, the odds of helping in the control group is 3:9 or .33. If in the experimental group, 9 people help while 3 do not help, the odds of helping will be 9:3 or 3. The OR then, is computed by dividing the odds of helping in one group by the other. Thus, the OR for helping in the experimental compared to the control group will be 3/.33 or 9. This means that there is a nine times greater odds of helping in the experimental compared to the control group. Because it is an odds *ratio,* the OR differs from the intuitive understanding that three times as many individuals helped in the experimental condition as in the control condition. Rosenthal (1996) describes ORs of 1.5 to be small, 2.5 medium, and 4.0 large.

Studies reporting the standardized mean difference (d) and its associated variance (V_d) were transformed to log odds ratios (LOR) using a formula suggested by Hasselbad and Hedge (1995) as LOR = $d*\pi$/sqrt(3); $V_{LOR} = V_d * \pi^2/3$; (see Sanchez-Meca, Marín-Martínez, & Chacón-Moscoso, 2003) so that all effect sizes are in the same metric. Some studies used a factorial design to test the influence of two or more independent variables on a single dependent variable. Often, both independent variables were of interest to us, which meant that one study could yield two or more dependent effect sizes. In such studies, adjustments for dependency were made by

averaging effect sizes and computing the variance following Borenstein, Hedges, Higgins, and Rothstein (2009). We assumed the correlation (*r*) between dependent effect sizes to be moderate and thus imputed an *r* of .5 in computing average effect size and its variance.

In addition to OR analyses, we conducted proportion analyses using the proportion of participants helping in the experimental conditions as the primary effect size. The proportion of participants helping in a given experimental condition was calculated by dividing the number of participants helping by the number of total participants in the group. The variance of each study was calculated using $p(1-p)/n$ where p indicates the proportion of individuals helping in the experimental condition and n is the number of individuals in the group following Lispey and Wilson (2001).

Studies on the influence of situational factors on helping behavior examine factors that either increase or reduce helping behavior. The situational manipulation for each effect size was classified as either inducing or inhibiting helping based on 1) the study authors' stated hypothesis or 2) an established precedent within the literature (e.g., bystander effects typically inhibit helping), or 3) the study authors' clearly inferred but not explicitly stated hypothesis (e.g., studies of a campaign against stealing are clearly meant to reduce stealing even if not explicitly stated). In order to ensure comparability of studies, only main effects were examined. Effects that could not be classified according to these criteria or which only reported interaction effects in the absence of main effects were excluded. Upon further inspection of our sample of 281 studies, 5 additional independent effect sizes estimates were found (i.e., multiple dependent variables within a single study), yielding 286 independent effect size estimates with a total of 46,705 participants.

Statistical Analyses

All statistical analyses were conducted with the R statistical software (R Core Team, 2013) using the metafor package (Viechtbauer, 2010). Using the *Q*-statistic, which follows chi-squared distributions with a degree of freedom of k - 1, the overall heterogeneity in effect sizes was first examined. The *Q* statistic was statistically significant ($Q_{total}(285) = 702.69$, $p < .01$), indicating significant heterogeneity in effect sizes. This result suggests the appropriateness of using the random-effects model for the analyses. Even though we discuss only the random-effects results in the text, we also provide the fixed-effects results in the tables for comparisons with other meta-analytic results of helping behavior based on the fixed-effects models (e.g., Fischer et al., 2011). Inasmuch as group comparisons typically showed a considerable heterogeneity in effect size which was evident by significant Q_{between} statistics, a mixed-effects model that incorporates between-study variance estimated by Restricted Maximum Likelihood Estimation method was used in moderator analyses. In reporting the findings, we converted the estimated effects and their 95% confidence intervals expressed as LOR back to OR by taking their exponential values. As the standard error of LOR is not meaningful, the associated *z*-values of the initial LOR are reported in place of the standard error.

Results

General Characteristics of the Studies

Many studies in this analysis were conducted before reporting guidelines of participant demographics were published. Consequently, information about participant ethnicity and gender was not available in all studies; the only demographic variable we are able to report is participant age. Further study characteristic information such as publication type, publication year, assignment, and sample size is found in Table 1.

Between Group Comparisons

Mean odds ratios for each of our hypotheses and potential moderators are reported as the odds of helping in the experimental group divided by the odds of helping in the control group. All odds ratios reported are the estimated mean odds ratios of the relevant studies and are denoted as OR.

Overall effect. In our initial assessment of hypothesis 1—that situational factors would influence helping behavior—we included both help encouraging conditions and help impeding conditions. In order to combine these effects into one analysis, we reverse coded the effect size estimates of studies with situational manipulations intended to inhibit helping to create a common metric for help inducing and help inhibiting conditions. This made it possible to obtain an overall estimate of the effects of all situational factors on helping behavior. Although analyses will be interpreted in terms of help inducing conditions (as help impeding conditions were reverse coded), it should be noted that the overall odds ratios are non-directional and apply to both help inducing and help impeding conditions. Overall analyses (including both help encouraging and help impeding conditions) indicate a significant difference in the odds of helping between experimental and control groups (OR = 2.25, k = 286, 95% CI [2.08, 2.43], z = 20.41, $p < .001$). An OR of 2.25 indicates that the odds of an individual helping in the experimental group were 2.25 times the odds of an individual helping in the control group. This is a small to medium effect (Rosenthal, 1996). This result supports hypothesis 1 as situational factors affect the odds of helping, compared to control group. See Table 2 for complete analysis details.

Help inducing and control group comparison. In comparisons of help inducing and control conditions, we expected an OR greater than 1, which would indicate more participants helping in the experimental group compared to the control group. We found that experimental

group participants helped significantly more (OR = 2.06, k = 144, 95% CI [1.87, 2.26], z = 14.98, $p < .001$). The OR indicates that the odds of experimental subjects helping were 2.06 times the odds of control subjects helping. This is consistent with hypothesis 1 because the experimental induction increased the likelihood of helping.

Help inhibiting and control group comparison. For the **h**elp inhibiting and control group comparison, we expected an OR less than 1, which would indicate that fewer participants helped in the experimental group compared to the control group. Situations designed to decrease helping also significantly influenced helping behavior, with fewer participants helping in the experimental groups than in the control groups (OR = 0.36, k = 84, 95% CI [0.44, 0.91], z = 10.52, $p < .001$). The OR indicates that subjects in the experimental group were 0.36 times as likely to help as subjects in the control group, which supports hypothesis 1.

Within Group Helping Proportions

In order to provide an understanding of the likelihood of helping within each condition, proportions of individuals helping in experimental and control groups were calculated. This approach can only be taken with studies reporting frequencies of people helping, and thus percentages are calculated using the subset of 185 effect sizes for which helping frequencies were available. A moderator analysis was conducted comparing the overall situational factor effect size in the subset reporting frequencies to those not reporting frequencies, and no significant difference was found ($Q_B(1) = 0$, $p = .99$). Thus, the effect size for the frequency reporting subset was not significantly different from the effect size for studies that did not report percentages.

When all of the control groups were included, the average percentage of participants helping in the control group was 41.77% (k = 185, 95% CI [.38, .46], z = -17.86, $p < .001$),

which is statistically significant. This result supports hypothesis 2a as a non-trivial proportion of participants helped without any situational inducement or impediment to helping.

The average percentage of individuals who helped in the help inducing experimental conditions was 51.31% (k = 115, 95% CI [.46, .57], z = -12.92, p < .001), a statistically significant result. The average percentage of people who helped in the control conditions of experiments focused on help inducing conditions was 33.11% (k = 115, 95% CI [.29, .38], z = -17.05, p < .001), also statistically significant. The key result is that the confidence interval for control group helping does not include zero. This result is consistent with hypothesis 2a in that a non-trivial proportion of people helped in the control condition in these experiments. In addition, this indicates that when the situational factors are present, approximately 20% more people would be involved in helping. .

In addition, the results support hypothesis 3 in that on average 48.69% of participants did not help in the help inducing conditions, indicating that individuals in help encouraging conditions are only slightly more likely to help than to not help. This suggests that help encouraging situational factors are not a sufficient condition to induce helping in all cases.

The average percentage of individuals who helped in the help impeding experimental conditions was 39.36% (k = 70, 95% CI [.34, .45], z = -13.37, p < .001). The average percentage of people who helped in the control conditions of experiments focused on help impeding conditions was 58.25% (k = 70, 95% CI [.52, .65], z = -9.29, p < .001), with the confidence interval not including zero. These results are consistent with hypothesis 2, as helping occurred in both help impeding and control conditions. More specifically, the data are consistent with hypothesis 2a because there was a non-trivial proportion of people who helped in the control condition (58.25%), which was designed to be inert with respect to helping. Furthermore, results

support hypothesis 2b in that 39.36% of participants helped under conditions that were designed to impede helping.

There were striking and unexpected differences in the proportion of helping in the control groups of the experiments focused on help inducing (33.11%) vs. help impeding manipulations (58.25%). These differences were statistically significant ($Q_B(1) = 36.25$, $p < .001$). On the face of it, a control condition in the two experiments should be free of situational influences on helping, so this difference in the literature appears anomalous. We conducted follow-up analyses to explore whether this difference might be due to the type of situational factors involved. Studies were classified into three categories based on the kind of situational factor manipulated: mood manipulation studies, bystander studies, and studies manipulating the perceptual environment of the participant or the characteristics of the person in need of help. Studies were also classified into two categories based on whether the experimental manipulation was designed to encourage or inhibit helping. A 2x3 table of situational factor x encourage/inhibit helping was then constructed and cells were populated with the number of studies in each condition. Chi-squared tests of independence were conducted to see if the situational factor manipulated was distributed evenly across help-impeding and help-inducing conditions. A significant chi-square value was obtained ($\chi^2(2) = 61.44$, $p < .001$), indicating that studies are not distributed evenly. Inspection of the percentages of studies in each condition revealed that a greater percentage of studies with help-impeding conditions were bystander studies (41% vs. 2%) while a greater percentage of studies with help-inducing conditions were mood studies (31% vs. 13%). Thus, differences between situations inducing and inhibiting helping may be due to the kind of manipulation employed in effects based on help inducing or help impeding manipulations.

Moderator Effects by Hypothesis

Salience of helping request. We examined whether explicit or implicit requests for help moderated the overall effect of experimental conditions. The significant Q_B of 9.43 ($p < .01$) indicates that participants who were explicitly asked for help were less likely to be induced by situational factors to help when compared to control participants (OR = 1.91, $k = 107$, 95% CI: [1.72, 2.11], $z = 12.19$, $p < .001$) than were participants who were implicitly asked for help (OR = 2.57, $k = 169$, 95% CI: [2.30, 2.88], $z = 16.43$, $p < .001$).[3] This finding does not support hypothesis 4, wherein we predicted increased helping for subjects who received an explicit request. Instead, participants helped more when confronted with an implicit need to help than an explicit request.

As a way to understand this unexpected result, we classified studies according to the kind of help requested. Five primary categories were employed: retrieving a fallen item, returning a lost letter/wallet, intervening in a crisis situation, donating money or other items of value, and volunteering time to help a researcher-confederate with an extra task. A 2x5 table of explicit/implicit x help request was then constructed and cells were populated with the number of studies in each condition. A chi-squared test of independence was conducted to see if implicit and explicit requests for help varied by the kind of help requested. A significant chi-squared value was found ($\chi^2(4) = 177.97$, $p < .001$), indicating that the kind of help was not equally distributed between implicit and explicit requests for help. Further analysis of the data shows that approximately 38% of explicit requests for help involved donation and an additional 53% involved volunteering time to help a researcher or confederate with an extra task. Both of these behaviors can be classified as relatively "higher-cost" behaviors. On the other hand, 36% of

[3] These ORs compare the likelihood of participants helping in the experimental conditions compared to the control condition. In order to include all of the studies, all conditions were coded in the positive direction (meaning that help impeding conditions were reverse coded). Thus, the overall ORs assess the likelihood of a participant helping in an experimental group favoring helping when compared to a participant in a control group.

implicit requests involved retrieving a dropped item, a relatively low-cost behavior. An additional 46% of implicit requests involved intervening in a crisis situation, which although a potentially high-cost behavior, this situation may have induced more helping because of the urgency or importance of helping (cf. Fischer et al., 2011). Thus, the moderation we found when examining explicit and implicit requests for help appears to be due more to the cost or urgency of helping than to the way help is requested.

Relationship between the participant and the requestor of help. To test the level of familiarity between the participants and the person needing help, studies were classified in two groups based on whether the participants interacted with or obtained information about the person requesting help prior to the incident where help was needed. The moderator analysis showed that participants who interacted with or learned information about the person who needed help were as likely to be influenced by situational factors to help when compared to control participants (OR = 2.30, k = 138, 95% CI: [2.03, 2.61], z = 12.97, $p < .001$) as were participants who had not received information about or interacted with the person in need of help (OR = 2.20, k = 143, 95% CI: [2.00, 2.43], z = 15.80, $p < .001$), $Q_B(1) = 0.02$, $p = .88$. This finding does not support hypothesis 5, as participants who had interacted with the person requesting help were no more likely to help than those who had not interacted with the person.

Moderator Analysis of Other Variables

Several other moderator variables were tested to see if a situational factor's influence on helping was altered by other variables. These include the age of participants, the type of help requested, whether or not participants agreed to be in the experiment, the compensation participants received for participation in the experiment, and the physical presence of the person in need of help. Detailed results are presented in Table 3.

Age of participants. The estimated mean ORs for the two age groups were significantly different ($Q_B(1) = 6.36$, $p = .01$). Specifically, college-aged participants were more likely to be induced to help by situational factors (OR = 2.52, $k = 163$, 95% CI: [2.24, 2.83], $z = 15.31$, $p < .001$) than were other adults (OR = 1.97, $k = 123$, 95% CI: [1.80, 2.15], $z = 14.60$, $p < .001$).

Type of help. Participants sacrificed money, time, productivity, or comfort in order to help. There were no significant differences found in comparing the mean odds ratio of helping in response to situational factors between the money (OR = 2.08, $k = 40$, 95% CI: [1.71, 2.53], $z = 7.37$, $p < .001$), time (OR = 2.31, $k = 232$, 95% CI: [2.12, 2.52], $z = 18.87$, $p < .001$), productivity (OR = 1.36, $k = 9$, 95% CI: [1.05, 1.77], $z = 2.29$, $p = .02$), and comfort conditions (OR = 3.34, $k = 5$, 95% CI: [1.29, 8.66], $z = 2.48$, $p = .01$), $Q_B(3) = 0.14$, $p = .71$

Voluntary vs. non-voluntary participation. Participants either volunteered to be participants in a study or were included based on their chance presence in the area in which the situational manipulation occurred. The second group of participants did not consent to participation, nor were they aware of being observed by an experimenter. The first group largely participated as part of an experiment ostensibly focused on a different research question (e.g., perception) and were subjected to the helping manipulation under deception. A moderator analysis showed that those who participated voluntarily were not more likely to be influenced to help by situational factors (OR = 2.43, $k = 162$, 95% CI: [2.17, 2.73], $z = 15.23$, $p < .01$) than were those who did not participate voluntarily (OR = 2.06, $k = 124$, 95% CI: [1.86, 2.28], $z = 14.02$, $p < .01$), $Q_B(1) = 3.11$, $p = .08$.

Remuneration. Participants were compensated for their participation with course credit, money, a combination of the two, or neither/no information given. The impact of situational factors on helping behavior did not vary across course credit (OR = 2.57, $k = 64$, 95% CI: [2.14,

3.10], $z = 10.05$, $p < .01$), money (OR = 2.15, $k = 44$, 95% CI: [1.80, 2.56], $z = 8.56$, $p < .01$), a combination of the two (OR = 2.19, $k = 171$, 95% CI: [1.99, 2.42], $z = 15.51$, $p < .01$), or neither/no information given conditions (OR = 1.66, $k = 4$, 95% CI: [0.85, 3.27], $z = 1.47$, $p = .14$), $Q_B(3) = 2.08$, $p = .15$.

Helpee physically present. Some studies employed measures of helping where the person needing help was not physically present such as retrieving a lost letter or donating to a person known only through a vignette. The ORs of helping in response to situational inductions to help in studies where the person needing help was physically present (OR = 2.35, $k = 232$, 95% CI: [2.15, 2.58], $z = 18.44$, $p < .01$) was not significantly different from those where the person needing help was not physically present (OR = 1.93, $k = 49$, 95% CI: [1.65, 2.25], $z = 8.24$, $p < .01$), $Q_B(1) = 2.36$, $p = .12$.

Moderator Analysis of Study and Design Characteristics

Publication type. No significant differences in the mean ORs of helping in response to situational factors were noted between journal articles (OR = 2.25, $k = 253$, 95% CI: [2.08, 2.45], $z = 19.46$, $p < .01$),) and dissertations and theses (OR = 2.21, $k = 33$, 95% CI: [1.71, 2.85], $z = 6.10$, $p < .01$), $Q_B(1) = 0.08$, $p = .78$. Moderator analyses of study and design characteristics are presented in detail in Table 4.

Publication year. Several meta-analyses on helping behavior were published between 1986 and 1988, marking a crucial time for the field (e.g., Carlson & Miller, 1987; Carlson et al., 1988; Eagly & Crowley, 1986; Steblay, 1987). Consequently, studies were grouped based on being published pre- and post-1988. The impact of situational factors on the odds of participant helping behavior did not differ significantly between studies published before 1988 (OR = 2.28,

k = 198, 95% CI: [2.07, 2.51], z = 16.72, p < .01) and those published in or after 1988 (OR = 2.21, k = 88, 95% CI: [1.93, 2.52], z = 11.70, p < .01), $Q_B(1) = 0.18$, p = .67.

Setting. Studies were classified as either taking place in a laboratory or as a field experiment. Situational manipulations that were part of a laboratory study did not show a difference in the odds ratio of helping (OR = 2.47, k = 155, 95% CI: [2.19, 2.77], z = 15.08, p < .01) in comparison to situational manipulations in field experiments (OR = 2.04, k = 128, 95% CI: [1.84, 2.25], z = 13.94, p < .01), $Q_B(1) = 3.68$, p = .06.

Assignment. Studies were classified by participant assignment to conditions as random, non-random, or not informed. No significant differences were found in the odds ratio of participants helping in response to situational manipulations between studies using random assignment (OR = 2.41, k = 144, 95% CI: [2.15, 2.70], z = 15.11, p < .01), studies using non-random assignment (OR = 1.63, k = 24, 95% CI: [1.24, 2.13], z = 3.56, p < .01) and studies not reporting enough information to determine whether random assignment occurred (OR = 2.24, k = 118, 95% CI: [1.99, 2.51], z = 13.76, p < .01), $Q_B(2) = 0.51$, p = .47).

Publication Bias

Multiple methods were employed to eliminate the presence of publication bias including searching proquest for dissertations and theses, posting on relevant listservs, and contacting experts in the field for unpublished manuscripts. In addition to these efforts, we employed various statistical methods to evaluate whether publication bias might be problematic. Rosenthal's controversial fail-safe N method was used to determine how many studies with null findings it would take to nullify our results. We found a fail-safe N of 109,764, indicating a robust effect. Because Rosenthal's failsafe N is sensitive to sample size, we also created a funnel plot with sample size on one axis and effect size on the other axis. Although upon visual

inspection the plot seemed to resemble a funnel, we used Egger's regression test to quantitatively check the symmetry of the plot. Under the random effects model, Egger's regression test yielded a significant *z* value of 8.44, $p < .001$, indicating the presence of publication bias. Consequently, we used a trim and fill method to estimate what the effect size would be without publication bias. Duval and Tweedie's (2000) trim and fill model estimated that 64 studies were missing on the left side of the funnel plot. Imputing these studies rendered a new mean odds ratio of 1.82 (95% CI: [1.66, 1.99]). This indicates an attenuated effect size from the estimated overall effect size of 2.25. Both effect sizes, however, fall into the small to medium range of Cohen's guidelines for effect size interpretation. Thus, although there is evidence of publication bias, the impact on the overall effect size appears to be mild.

Discussion

Between Groups Results

The present meta-analysis clearly indicates that the relationships between situational factors and helping behavior are not simple. Consistent with our theoretical predictions, situations designed to induce helping behavior roughly doubled the likelihood of helping, and situations designed to impede helping reduced it by more than half. These results are unsurprising, as they are consistent with virtually all discussions of the influence of situations on helping behavior. In view of the prevalence of this interpretation, this result requires no real discussion.

Within Groups Results

The results of this study that do bear discussion are those that require the qualification of assertions about the potency of situational factors in helping behavior and that require alternative conceptions of the sources of helping behavior. Our hypotheses directed our attention to the

likelihood of helping within experimental and control conditions, not just the differences between those groups. Although more helping occurred when it was encouraged by the situation, approximately 49% of participants did *not* help in the experimental conditions. Situations designed to inhibit helping did reduce the likelihood of helping, but approximately 39% of participants *did* help in the help-impeding experimental conditions. We also found that, across all studies, 42% of individuals in the control conditions helped. Although differences across conditions remain in evidence, these results qualify the group differences findings in very important ways.

We found that over four in 10 individuals in control conditions offered help. Nearly four in 10 individuals helped in the help impeding conditions as well. This indicates that helping is very widespread and spontaneous. This conclusion is strikingly different from the standard portrayal of situational factors as the only important result in the experimental studies of helping. The rate of helping in the control conditions provides something of a base rate for helping behavior that can be compared to more and less favorable conditions. Yet we must also keep in mind that research participants typically offered help to strangers in highly artificial settings, most commonly with low stakes for everyone involved (dropped pencils, lost letters). As Fischer et al. (2011) found in their insightful meta-analysis of bystander studies, individuals are more likely to help in dangerous situations, when the stakes are higher and when they are familiar with the other bystanders. In fact, familiarity with the other bystanders reverses the usual bystander attenuation of helping, with more helping when bystanders are familiar than when there are no bystanders. Thus, studies employing low stakes problems with strangers appear to militate against helping, so the result that over 40% of control group participants helped is very likely a

significant underestimate of helping when one is interacting with acquaintances, friends, or family, when one is in a typical daily situation, or when the stakes are higher.

In the control conditions of experiments seeking to induce helping behavior, 33.11% of participants helped, while in the control conditions of experiments seeking to inhibit helping behavior, 58.25% of participants helped. This difference in control group helping between comparisons with help encouraging and help discouraging conditions was unexpected. The difference between these two percentages appears to be an artifact of the situations that experimenters used (mood vs. bystander studies). Because control group helping in studies investigating help encouraging situations was low and control group helping in studies examining help discouraging situations was high, it raises the question of whether experimenters stacked the deck in favor of their hypotheses, knowingly or unknowingly. We have no clear evidence for or against deck-stacking, so it remains an open question. This provocative possibility only became visible because we examined the neglected likelihood of helping within groups in these studies rather than contenting ourselves with looking only at between-group differences, as is the common practice.

The results of this meta-analysis raise questions about whether situational factors are necessary or sufficient conditions for helping behavior. The frequency of helping in the control condition is important because the control conditions were designed to be as inert as possible regarding situational factors that might increase or reduce helping. One of our key inclusion criteria of this meta-analysis was the absence of specific help inducing or impeding factors in the control conditions with which the experimental manipulations were compared. Given that over 40% of the control participants helped in these inert conditions, it is clear that situational inducements are not necessary conditions for helping. In addition, the presence of helping in

conditions designed to reduce it suggests that the inclination to help is resilient in the face of mild discouragement.

One could argue that the helping in the control and help impeding conditions are due to unspecified help inducing conditions that are very difficult to eliminate from any experiment. There are three problems with this interpretation. First, unspecified and ineliminable situational influences cannot provide an explanation for helping behavior. Citing such mysterious factors would be a desperation move to try to save a flawed view. Second, if there are such ubiquitous help inducing conditions, it amounts to virtually the same thing as saying that humans are frequently inclined to help others, even if there is no special inducement to do so. Finally, although it could be claimed that the previously unspecified conditions include ordinary social conditions such as basic civility or cooperation that cannot be entirely removed from psychology laboratory experiments, these conditions are created by the same set of prosocial human inclinations that induce helping (Author, 2015a; Tomasello, 2014). Civility and cooperation are prosocial conditions created by people in interactions, which means that they cannot be cited as external situational factors that are distinctly separate from the prosocial act of helping.

We also found that a sizeable proportion of participants did not help (49%) in the experimental conditions designed to encourage helping. This indicates that virtually none of the 175 help inducing manipulations was sufficient to induce all participants to help. Of course, one could argue that this only shows that no single situational factor is sufficient to induce helping, but that some combination of situational factors would be sufficient. This is possible, but it is a claim that has not been tested. Until such sets of situational factors are found to be a sufficient condition to induce helping in all participants, such a claim must remain quite tentative. Taken together, these results require a distinct modesty in claims about the potency of situational

factors in helping behavior as situational factors appear to be neither necessary nor sufficient conditions for helping.

One possible rejoinder to our attention to control group helping is that this information is already common knowledge and is built into theory and research on helping. In a sense, this is perfectly true. The results are there for all to see, but how much attention has control group helping received? To better assess how well this information has been integrated in the helping behavior literature, we carefully reviewed the discussion sections of all of the studies included in this meta-analysis. We found that only 84 of the 281 studies (29.9%) even mentioned the degree of helping in the control groups. Of the studies that mentioned control group helping, only 23 (8.1%) offered any explanation at all for control group helping, and in the majority of these studies (18), the explanation for control group helping was either inferred or simply speculative rather than actually assessed directly in the study. The explanation for control group helping was directly assessed in only 5 studies (1.8%). This means that control group helping has been either entirely dismissed or treated very casually in the vast majority of studies. These data make it clear that the results of our study cannot be dismissed as information that is already available and has already been incorporated into helping theory and research. The implications of the obvious fact that many participants helped in control conditions have not been sufficiently explored in the 40 year history of experimental research on helping. In contrast to the largely unremarked helping in control groups, results that indicate the potency of situational factors are discussed in every publication at length. From our perspective, inattention to control group helping is a stunning instance of theoretical blindness because this phenomenon has so much to tell us. To make this point even more strongly, the degree of helping in help inhibiting conditions is not highlighted in *any* studies as a finding worth noting.

A second possible rejoinder to our attention to control group helping is that because the researchers who conducted these studies had a theoretically informed interest only in the effects of situational factors related to helping, it is not reasonable to expect them to attend to results outside their interest. That is fair enough, as far as individual researchers go. No investigator can be expected to cover every possible angle of a complex phenomenon like helping behavior. Yet when a literature with hundreds of studies entirely fails to attend to consistent results that are not entirely consonant with the central theoretical expectations of hundreds of researchers, we have to wonder whether a collective bias is in play. At the very least, we hope that the results of this meta-analysis function as a call for looking for a more complete understanding of helping behavior rather than a preselected explanation for helping. We now turn to two alternative explanations for the pattern of helping that may help to explain the pattern of helping behavior that clearly exceeds the explanatory power of situational factors.

Human Prosocial Inclinations

Evolutionary explanations of cooperation and social exchange predict frequent, naturally occurring helping behavior (Goetz, Keltner, & Simon-Thomas, 2010; Tomasello, 2014). The results from the present meta-analysis are consistent with these views of human behavior and provide a rough base rate estimate for helping, albeit in relatively artificial settings. Across control conditions, where participants are assumed not to have any additional motivation to help, nearly 40% of participants engaged in spontaneous helping behavior with a stranger. This meta-analysis does not provide positive evidence for a general human prosociality, but the results are consistent with this viewpoint, which offers one possible explanation of the control group helping that cannot be explained by situational factors. If the species characteristic of prosociality is accepted as a partial explanation of helping behavior in humans, then the

situational influences on helping would have to be reconceptualized as moderators of that prosociality.

Personality and Character as Explanations of Individual Differences in Helping

One feature that situational and species characteristic explanations have in common is that they both explain helping for individuals in general. They do not address variations in helping that may be based on individual differences, which is the primary role of trait-based explanations of behavior.

There is a substantial literature on the relationships among agreeableness, honesty-humility, prosocial personality orientation and helping. Inasmuch as there was both a non-trivial degree of helping in the control groups and the help impeding conditions, as well as less than universal helping in the help encouraging conditions, it seems likely that at least some of the observed helping can be explained by dispositional factors. Indeed, the extensiveness of helping in the control and help impeding conditions is consistent with Graziano et al.'s (2007) statement that some individuals "appear traited for helping" (p. 596). Unfortunately, the trait literature is almost exclusively characterized by self-report measures of intent or likelihood to help, and participants tend to consistently over-report prosocial behavior (Batson, 1991; Galen, 2012; Wilson, 2002). At a minimum, studies on the relationship between relevant traits and observed helping behavior are necessary to more clearly sort out the role of personality traits. In addition, some authors have pointed to the possibility of an interaction between situations and traits as an additional explanatory factor for helping behavior, and there is some evidence of such interactions (Fleeson, 2007; Graziano et al., 2007; Zettler, Hilbig, & Heydasch, 2013).

An even more direct approach to a trait-based explanation of helping may be found in character traits such as compassion, kindness, and generosity. Consider, for example, the trait of

kindness. Character traits manifest on a continuum, ranging from a very strong trait (a virtue) to its practical absence. Individuals high on trait kindness would tend to be relatively insensitive to simple help inducing or impeding situational factors and could be expected to help very consistently. We found a sufficient likelihood of helping in the control and help impeding conditions to suggest the plausibility of a subtype of people high on trait kindness. Someone with low to moderate trait kindness would help inconsistently, partly due to situational factors. Thus, a moderately kind person would be expected to help more often when conditions favor helping and less often when the situation impedes helping. Situational inducements did increase the frequency of helping, and situational impediments did decrease the frequency of helping. These results are consistent with the idea that there is a subset of individuals who are more likely to help when induced, and less likely to help when impeded (those with a low to moderate level of trait kindness). An individual who is very low in trait kindness would seldom help, even when the situation encouraged it. The fact that half of the participants in the help encouraging conditions did not help suggests that the plausibility of a subtype of people low on trait kindness.

Of course, the studies in this meta-analysis cannot confirm or disconfirm the existence of personality or character traits because these studies report only aggregate data, not individual level data. Moreover, traits were not assessed in these studies. Therefore, we suggest that the results of this meta-analysis have heuristic value in encouraging researchers to investigate personality and character traits as potential explanations for the extensive helping that occurred in these studies that cannot be explained by situational factors. An adequate study of character traits would require a direct, individual level assessment of such traits, and preferably assess the trait or traits over time rather than at a single point in time.

This discussion of the possible role of traits suggests that research that combines the assessment of personality or character traits with manipulations of situational factors may expand and deepen our understanding of what contributes to helping behavior. It would be useful to know if these traits can explain individual difference in helping behavior above and beyond what situational factor can explain. It would also be valuable to know if situational factors interact with character traits. Main effects for both situational factors and traits and interactions between situational factors and personality traits have been successfully identified by Fleeson (2007) in a daily diary study. Such interactions may indicate that situational factors operate as moderators of traits that preexist the situational encounter.

One of the inhibiting factors for research on character traits has been the perception that situational factors are sufficient to explain helping and other moral behaviors. This perception has seemed correct to many because there is so much evidence that situational factors influence helping. The results of this meta-analysis suggest that although situational factors appear to influence helping behavior, there is apparently no empirical basis for believing that situational factors are either necessary or sufficient conditions for helping. Thus, character and personality explanations of behavior cannot be ruled out on the basis of the extant empirical data.

Methodological Considerations and Limitations

There are important limitations in this meta-analysis. Although we endeavored to include all relevant studies, it is possible that the sample is biased due to a lack of unpublished studies. Our analyses indicated that there was evidence of publication bias in this meta-analysis. We also recognize that due to the many different ways that both helping behavior and situational factors can be conceptualized and discussed, it is possible that studies were not included in the meta-analysis because they were not detected in our initial search although we purposefully used broad

search terms and began with a pool of 24,512 studies. Rosenthal's fail-safe N of 109,764 indicates that a very large number of studies with null results would be necessary to nullify the overall results of the meta-analysis, and the trim and fill analysis attenuated but did not eliminate the overall effect of situational influence. Thus, it is unlikely that the overall results would be nullified by undiscovered, unpublished studies. The overall effect size, however, could be attenuated if a large body of unpublished studies with null findings were discovered.

Our definition of helping behavior was necessarily narrow in order to achieve some degree of homogeneity in the dependent variable. In particular, many studies were excluded for not using behavioral observations of helping and for not including a no-manipulation control group. Additional research must be done before generalizing the results of this meta-analysis to studies that included self-report measures of helping or lacked a no-manipulation control group.

Conclusion

As expected, the results of this meta-analysis indicated significant effects for both help inducing and help impeding situational factors. Additionally, significant frequencies of helping emerged in no-manipulation control groups and in help impeding experimental groups. These instances of helping clarify that situational factors are not necessary conditions for helping behavior. Moreover, helping behavior was not universal in conditions including help encouraging factors, raising doubts about whether situational factors are sufficient to induce helping behavior. The overall pattern of helping found in this meta-analysis makes it clear that the existing evidence cannot rule out the influence of species characteristic prosociality or personality or character traits as sources of helping. Rather, the purely situationist explanation of helping (Doris, 2002; Harman, 1999, 2000), which has been criticized theoretically (Homiak, 2011; Kristjánsson, 2008; Kupperman, 2001), has now been found to be empirically inadequate

as well. This is the first large-scale empirical demonstration of the inadequacy of situationist explanations of helping. Future research is needed to investigate the plausibility of alternative explanations of helping. In particular, research is needed to evaluate the role of both trait and situational factors so that the main effects of each source of helping and the interaction between these factors can be better understood.

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Table 1
General Characteristics of the Studies

Characteristic	Number of studies (*k*)
Year of report	
1964-1969	13
1970-1979	122
1980-1989	71
1990-1999	11
2000-2009	44
2010-present	25
Source of study	
Published (i.e., journal article)	253
Unpublished (e.g., dissertations, theses)	33
Population sampled	
College students	163
Other adults	123
Participant assignment method	
Random	144
Non-random	24
Not informed	118
Sample size	
≤ 50	83
51-100	101
101-200	52
200-999	44
≥ 1000	6
Situational manipulation	
Inducing helping	144
Inhibiting helping	84

Table 2
Overall Effect and Tests of Main Hypotheses

			95% CI		
Variable	*k*	OR	LL	UL	$Q_{Between}$
Overall model	286	2.25*** (1.98) ***	2.08 (1.90)	2.43 (2.07)	
Situations inducing helping	144	2.06*** (1.85) ***	1.87 (1.75)	2.26 (1.96)	
Situations inhibiting helping	84	2.76*** (2.27) ***	2.28 (2.09)	3.33 (2.46)	
Salience of helping request					9.43***(8.62)***
Explicit	107	1.91*** (1.83) ***	1.72 (1.72)	2.11 (1.95)	
Implicit	169	2.57*** (2.12) ***	2.30 (2.00)	2.88 (2.26)	
Relationship with helpee					0.02 (0.36)
Prior interaction	138	2.30*** (2.03) ***	2.03 (1.90)	2.61 (2.18)	
No prior interaction	143	2.20*** (1.93) ***	2.00 (1.82)	2.43 (2.04)	

Note. Fixed effects estimates are put in parentheses and random effects estimates are put outside of the parentheses.
** $p < .01$ *** $p < .001$

Table 3
Moderator Analyses of Other Situational Variables

Variable	*k*	OR	95% CI LL	95% CI UL	$Q_{Between}$
Age of participants					6.36* (15.35)***
College students	163	2.52*** (2.21)***	2.24 (2.06)	2.83 (2.38)	
Other adults	123	1.97*** (1.85)***	1.80 (1.76)	2.15 (1.96)	
Type of help					0.14 (0.71)**
Money	40	2.08*** (1.87)***	1.71 (1.67)	2.53 (2.09)	
Time	232	2.31*** (2.01)***	2.12 (1.92)	2.52 (2.11)	
Productivity	9	1.36** (1.36)***	1.05 (1.05)	1.77 (1.77)	
Comfort	5	3.34** (3.62)***	1.29 (2.25)	8.66 (5.82)	
Voluntary participation					3.11 (8.37)**
Voluntary	162	2.43*** (2.15)***	2.17 (2.00)	2.73 (2.31)	
Non-voluntary	124	2.06*** (1.88)***	1.86 (1.79)	2.28 (1.99)	
Remuneration					2.08 (8.55)**
Course credit	64	2.57*** (2.29)***	2.14 (2.05)	3.10 (2.56)	
Money	44	2.15*** (1.97)***	1.80 (1.73)	2.56 (2.24)	
Combination	171	2.19*** (1.93)***	1.99 (1.83)	2.42 (2.03)	
Neither/no information	4	1.66 (1.48)*	0.85 (1.01)	3.27 (2.16)	
Physical presence of victim					2.36 (6.51)*
Physically present	232	2.35*** (2.04)***	2.15 (1.94)	2.58 (2.15)	
Not present	49	1.93*** (1.82)***	1.65 (1.67)	2.25 (1.97)	

Note. Fixed effects estimates are put in parentheses and random effects estimates are put outside of the parentheses.
* $p < .05$ ** $p < .01$ *** $p < .001$

Table 4
Moderator Analyses of Study/design Characteristics

Variable	*k*	OR	95% CI LL	95% CI UL	$Q_{Between}$
Publication type					0.08 (5.90)*
Journal articles	253	2.25*** (2.04)***	2.08 (1.94)	2.45 (2.15)	
Dissertations/theses	33	2.21*** (1.82)***	1.71 (1.67)	2.85 (1.97)	
Publication year					0.18 (10.92)***
Pre-1988	198	2.28*** (2.11)***	2.07 (1.99)	2.51 (2.23)	
1988-present	88	2.21*** (1.82)***	1.93 (1.71)	2.52 (1.95)	
Setting					3.68 (13.67)***
Laboratory	155	2.47*** (2.23)***	2.19 (2.08)	2.77 (2.41)	
Field	128	2.04*** (1.86)***	1.84 (1.76)	2.25 (1.96)	
Assignment					0.51 (0.20)
Random	144	2.41*** (2.03)***	2.15 (1.91)	2.70 (2.15)	
Non-random	24	1.63*** (1.73)***	1.24 (1.52)	2.13 (1.97)	
Not informed	118	2.24*** (1.99)***	1.99 (1.86)	2.51 (2.14)	

Note. Fixed effects estimates are put in parentheses and random effects estimates are put outside of the parentheses.
* $p < .05$ ** $p < .01$ *** $p < .001$

Table 5
Effect Size Estimates of Helping Behavior

Authors/Year	Independent Variable	*LOR*	*SE Odds*	*n*	Inducing/Inhibiting Helping	Salience	Relationship	F
Aderman & Berkowitz (1970_1)	No help video, help video, help and thanks video	0.092	0.351	120	Inducing	Explicit	Present	Pro
Ashton & Severy (1976_1)	Average, above average	-0.201	0.635	120	Inducing	Implicit	Present	Tim
Baer, Goldman, &, Juhnke (1977_1)	Control, 3 request conditions	1.159	0.489	100	Inducing	Implicit	Present	Tim
Baron & Yechiam (2002_1)	Single recipient, four other recipients of email	0.588	0.293	240	Inhibiting	Explicit	Absent	Tim
Batson *et al.* (1979_1)	Neutral mood, elevated mood	1.466	0.677	40	Inducing	Implicit	Present	Tim
Batson *et al.* (1981_1)	Similar, dissimilar	-2.214	0.758	44	Inhibiting	Explicit	Present	Cor
Batson *et al.* (1989_1)	No anticipated mood enhancement, anticipated mood enhancement	0.182	0.637	40	Inducing	Explicit	Present	Cor
Beaman (1973_1)	Control, evaluation apprehension	-0.804	0.646	40	Inhibiting	Implicit	Present	Tim
	Control, social comparison	-0.542	0.664	40	Inhibiting	Implicit	Present	Tim

Beaman *et al.* (1978_1)	Uninformed, informed about bystander effect	1.705	0.846	27	Inducing	Implicit	Present	Tim
Beaman *et al.* (1978_2)	No information on bystander effect, video, lecture	0.545	0.583	60	Inducing	Implicit	Present	Tim
Becker-Haven & Lindskold (1978_1)	Alone, group, normal dress, hooded	0.409	0.370	120	Inhibiting	Implicit	Present	Tim
Begin (1976_10)	Control, success	0.506	0.815	20	Inhibiting	Explicit	Present	Mo
	Control, failure	-1.145	0.831	20	Inducing	Explicit	Present	Mo
Begin (1976_3)	Male control, male success	1.329	0.684	30	Inhibiting	Explicit	Present	Tim
	Male control, male failure	1.001	0.675	30	Inducing	Explicit	Present	Tim
Begin (1976_6)	Control, success	1.234	0.834	20	Inhibiting	Explicit	Present	Tim
	Control, failure	1.542	0.847	20	Inducing	Explicit	Present	Tim
Begin (1976_7)	Control, success	-1.252	0.835	20	Inhibiting	Explicit	Present	Tim
	Control, failure	5.673	1.209	20	Inducing	Explicit	Present	Tim
Begin (1978_1)	No model, singing petition	0.336	0.387	103	Inducing	Explicit	Present	Tim
	No model, not signing petition	1.153	0.329	103	Inhibiting	Explicit	Present	Tim
Berkowitz, Klanderman,	Experimenter unaware (low)	-0.011	0.287	160	Inducing	Explicit	Present	Pro

& Harris (1964_1)	of performance, Experimenter aware (high) of performance							
Berkowitz & Connor (1966_1)	No experience on previous task, success	0.613	0.431	72	Inducing	Explicit	Present	Pro
	No experience on previous task, failure	0.128	0.428	72	Inhibiting	Explicit	Present	Pro
Berkowitz (1978_1)	Alone, group	0.897	0.475	60	Inhibiting	Explicit	Present	Pro
Bickman (1971_1)	Alone, with able confederates, with not able confederates	0.000	1.074	30	Inhibiting	Implicit	Present	Tim
Bickman (1975_1)	No campaign, anti-stealing campaign	1.588	1.096	125	Inducing	Implicit	Present	Tim
Bickman & Rosenbaum (1977a_1)	No instruction (control), encourage reporting	1.317	0.551	65	Inducing	Implicit	Present	Tim
	No instruction (control), discourage reporting	0.361	0.542	65	Inhibiting	Implicit	Present	Tim
Bickman & Rosenbaum (1977a_2)	No instruction (control), encourage reporting	2.780	0.609	72	Inducing	Implicit	Present	Tim
	No instruction (control), discourage reporting	0.573	0.772	72	Inhibiting	Implicit	Present	Tim
Bickman & Green (1977b_2)	No sign, sign	-0.081	0.402	100	Inducing	Implicit	Present	Tim
	No	0.904	0.413	100	Inducing	Implicit	Present	Tim

	interpretation, interpretation							
Bickman (1979_1)	Control, encourage reporting	1.803	0.718	38	Inducing	Implicit	Present	Tim
	Control, discourage reporting	-0.455	0.678	38	Inhibiting	Implicit	Present	Tim
	Non-crime interpretation, crime	1.135	0.789	38	Inducing	Implicit	Present	Tim
Bihm, Gaudet, & Sale (1979_1)	Alone, group	0.300	0.289	205	Inhibiting	Explicit	Absent	Tim
Blair, Thompson, & Wuensch (2005_1)	Alone, group	0.876	0.251	400	Inhibiting	Explicit	Absent	Tim
Blevins & Murphy (1974_1)	Neutral mood, positive mood	-0.118	0.628	50	Inducing	Implicit	Present	Tim
Boice & Goldman (1981_1)	Control, victim oriented request	0.807	0.411	80	Inducing	Explicit	Present	Tim
Borges & Penta (1977_1)	Alone, group	-0.563	0.478	72	Inhibiting	Implicit	Present	Tim
	No intervention, Intervention	2.708	0.590	72	Inducing	Implicit	Present	Tim
Bowman (1988_2)	Clear, ambiguous	1.253	0.668	40	Inhibiting	Implicit	Present	Tim
Bridges (1996a_1)	Control, 4 different addresses (varying level of deviance)	0.414	0.250	405	Inhibiting	Implicit	Absent	Tim
Bridges &	Control, 4	0.675	0.249	420	Inhibiting	Implicit	Absent	Tim

Coady (1996b_1)	different addresses (varying level of deviance)							
Bridges & Coady (1996b_2)	Control, 3 different addresses (varying level of deviance)	0.211	0.229	408	Inhibiting	Implicit	Absent	Tim
Bridges & Clark (2000_1)	Control, 4 different addresses (both more and less socially acceptable	2.761	0.664	85	Inhibiting	Implicit	Absent	Tim
Bridges, Anzalone, & Ryan (2002_1)	Control, health education	0.220	0.239	335	Inhibiting	Implicit	Absent	Tim
Bridges, Anzalone, & Ryan (2002_2)	Control, 4 different addresses (varying level of deviance)	0.726	0.258	500	Inhibiting	Implicit	Absent	Tim
Brockner, Altman, & Chalek (1982_1)	No time lapse, 45 seconds, 2.25 minutes, 4 minutes	0.223	0.509	83	Inducing	Implicit	Present	Tim
Bryan & Test (1967_1)	No model, model	0.517	0.216	4000	Inducing	Implicit	Present	Tim
Bushman & Anderson (2009_1)	Non violent video game, violent	0.211	0.266	320	Inhibiting	Implicit	Present	Tim
Bushman & Anderson (2009_2)	Not watching violent movie, violent movie	1.596	0.342	162	Inhibiting	Implicit	Present	Tim
Cialdini *et al.* (1987_1)	No reward, praise and money	0.272	0.448	81	Inhibiting	Explicit	Present	Cor
Clark & Word (1972_2)	Alone, group conditions (combine four group	0.000	0.574	60	Inhibiting	Implicit	Present	Tim

	conditions together)							
Clark & Word (1974b_1)	Alone, other person	-0.636	0.423	108	Inhibiting	Implicit	Present	Tim
	Not dangerous, dangerous	1.126	1.649	108	Inhibiting	Implicit	Present	Tim
	No ambiguity, moderate ambiguity, high ambiguity	4.345	1.047	108	Inhibiting	Implicit	Present	Tim
Clark & Word (1974b_2)	Alone, other person	-0.194	0.537	72	Inhibiting	Implicit	Present	Tim
	No ambiguity, moderate, high	1.062	3.303	72	Inhibiting	Implicit	Present	Tim
Clark *et al.* (1987_2)	Neutral mood, sad	1.047	0.534	48	Inducing	Explicit	Present	Pro
Colamosca (1973_1)	Non-hostile victim, hostile victim	-0.433	0.383	192	Inhibiting	Implicit	Present	Tim
	No responsibility, responsibility	4.342	0.343	192	Inducing	Implicit	Present	Tim
Cramer *et al*. (1988_1)	Alone, group	0.773	0.564	56	Inhibiting	Implicit	Present	Tim
Cryder & Loewenstein (2012_2)	No pictures, pictures	-0.372	0.273	296	Inducing	Explicit	Absent	Mo
	Not determined, determined	0.112	0.236	296	Inducing	Explicit	Absent	Mo
Cunningham, Steinberg, & Grev (1980_1)	Not positive mood, positive mood	0.276	0.430	90	Inducing	Implicit	Present	Tim
	No negative, guilt, distraction	0	0.521	90	Inducing	Implicit	Present	Tim
Cunningham, Steinberg, &	Not positive mood, positive	0.389	0.362	160	Inducing	Explicit	Present	Dor

Grev (1980_2)	mood							
	No negative, guilt	-0.259	0.361	160	Inducing	Explicit	Present	Dor
Cunningham *et al.* (1990_1)	No positive mood, positive mood	1.242	0.470	80	Inducing	Explicit	Present	Tim
	No negative mood, guilt	1.130	0.465	80	Inducing	Explicit	Present	Tim
Cunningham *et al.* (1990_2)	No positive mood, positive mood	1.609	0.694	78	Inducing	Explicit	Present	Tim
	No negative, guilt	-0.116	0.483	78	Inducing	Explicit	Present	Tim
Darley & Latane (1968_1)	Alone, group	1.653	0.833	52	Inhibiting	Implicit	Present	Tim
Darley & Batson (1973a_1)	No hurry, hurry	0.316	0.693	39	Inhibiting	Implicit	Present	Tim
	Non-relevant to helping, relevant to helping	1.048	0.663	39	Inducing	Implicit	Present	Tim
Darley & Teger (1973b_1)	Alone, group	1.386	0.908	30	Inhibiting	Implicit	Present	Tim
De Guzman (1979_1)	Alone, group	-1.116	0.415	80	Inhibiting	Implicit	Present	Tim
Deaux (1974_1)	Unimportant, important	0.794	0.257	300	Inducing	Implicit	Absent	Tim
Deaux (1974_2)	Unimportant, important	0.511	0.247	300	Inducing	Implicit	Absent	Tim
DeBeer-Keston,	Non-invasion, invasion	2.255	0.837	32	Inhibiting	Implicit	Absent	Tim

Mellon, & Solomon (1986_1)								
Dejong, Marber, & Shaver (1980_1)	Unambiguous, ambiguity, semi-ambiguous	1.396	0.599	90	Inducing	Implicit	Present	Tim
Dickert (2008_3)	Unidentified, identified	-0.076	0.280	168	Inducing	Explicit	Absent	Mo
Dovidio & Morris (1975_1)	Common, dissimilar fate	1.280	0.553	60	Inhibiting	Implicit	Present	Tim
Edelmann *et al*. (1984b_1)	Innocuous package, embarrassing package (tampax)	1.487	0.597	40	Inhibiting	Implicit	Present	Tim
Edwards (1975_2)	Innocuous package, embarrassing package (tampax)	2.559	1.118	43	Inhibiting	Implicit	Present	Tim
Enzle & Harvey (1977_1)	Recipient unaware, aware	1.214	0.575	42	Inducing	Explicit	Absent	Mo
	3rd party unaware, aware	1.113	0.536	42	Inducing	Explicit	Absent	Mo
Enzle & Harvey (1982_1)	Direct request, rhetorical agreement	0.895	0.410	100	Inducing	Explicit	Absent	Tim
Enzle & Harvey (1982_2)	Simple interrogative, indirect negation rhetorical	1.044	0.526	70	Inducing	Explicit	Absent	Tim
Enzle & Harvey (1982_2.5)	Simple declarative, direct negation rhetorical	0.575	0.483	70	Inhibiting	Explicit	Absent	Tim
Feldman (1968_2)	Unstamped, stamped	0.840	0.153	766	Inducing	Explicit	Present	Tim
Fennis (2011_1)	Not perspective taking,	0.595	0.419	76	Inducing	Explicit	Present	Tim

	perspective taking							
	No ego depletion, ego depletion	-0.201	0.416	76	Inhibiting	Explicit	Present	Tim
Filter & Gross (1975_1)	Non deviant, deviant	0.872	0.425	84	Inducing	Explicit	Present	Tim
Fischer *et al*. (2006_1)	Alone, group	1.068	0.476	84	Inhibiting	Implicit	Present	Tim
Fischer-Lokou, Lamy, & Gueguen (2009_1)	Neutral (music), love condition	0.533	0.333	338	Inducing	Implicit	Present	Tim
Fischer-Lokou *et al*. (2011_1)	No mimicry, mimicry	1.045	0.387	210	Inducing	Explicit	Present	Mo
Fischer (1971_1)	Control, transgression	0.838	0.329	160	Inducing	Explicit	Present	Mo
	Private, public	0.051	0.321	160	Inducing	Explicit	Present	Mo
Foehl & Goldman (1983_1)	Control, 3 different kinds of requests	2.744	0.792	80	Inducing	Implicit	Present	Tim
Foehl & Goldman (1983_2)	Control, 2 different kinds of requests	0.214	0.569	60	Inducing	Implicit	Present	Tim
Foss & Crenshaw (1978_1)	Innocuous package, embarrassing package	1.063	0.529	64	Inhibiting	Implicit	Present	Tim
Foss & Dempsey (1979_1)	Control, delay 3 conditions	-0.016	0.613	69	Inducing	Explicit	Present	Mo
Foss & Dempsey (1979_2)	Control, size of request 3 conditions	-0.188	1.173	138	Inducing	Explicit	Present	Mo
Foss & Dempsey (1979_3)	Control, size of request 3 conditions	1.223	0.770	150	Inducing	Explicit	Present	Mo
Gaertner	Alone, group	3.328	1.499	42	Inhibiting	Implicit	Present	Tim

(1975_1)								
Gaertner & Dovidio (1977_1)	Alone, group	1.695	0.642	64	Inhibiting	Implicit	Present	Tim
Gaertner & Dovidio (1977_2)	Unambiguous, ambiguous	2.089	0.518	160	Inhibiting	Implicit	Present	Tim
	No arousal, arousal	0.913	0.423	160	Inhibiting	Implicit	Present	Tim
Gaertner, Dovidio, & Johnson (1982_1)	Alone, group	1.667	0.581	43	Inhibiting	Implicit	Present	Tim
Geller & Malia (1981_1)	Ambient noise, noise	0.166	0.408	104	Inhibiting	Implicit	Present	Tim
	Absence of non-verbal cues, presence of non-verbal cues,	0.501	0.411	104	Inducing	Implicit	Present	Tim
Geller & Malia (1981_2)	Ambient sounds, noise	0.402	0.318	160	Inhibiting	Implicit	Present	Tim
Gino & Desai (2012_1)	No childhood memories, childhood memories	0.892	0.411	110	Inducing	Explicit	Present	Tim
Gino & Desai (2012_2)	No childhood memories, childhood memories	0.888	0.440	87	Inducing	Explicit	Absent	Mo
Gino & Desai (2012_5)	No childhood memories, childhood memories	1.127	0.443	106	Inducing	Explicit	Present	Tim
Goldman, Florez, &	Control, 3 kinds of door	0.463	0.530	82	Inducing	Implicit	Present	Tim

Fuller (1981_1)	holding behavior							
Goldman & Fordyce (1983_1)	No touch, touch	0.200	0.317	160	Inducing	Implicit	Present	Tim
	No eye contact, eye contact	0.100	0.316	160	Inducing	Implicit	Present	Tim
	Cold voice tone, normal voice tone	0.605	0.320	160	Inducing	Implicit	Present	Tim
Goodstadt (1971_1)	No statement read, statement read	0	0.730	40	Inducing	Explicit	Present	Tim
Goodstadt (1971_2)	No statement, strong statement, mild statement	0.076	0.475	84	Inducing	Explicit	Present	Tim
Gottlieb & Carver (1980_1)	Alone, group	0.685	0.390	98	Inhibiting	Implicit	Present	Tim
	No future interaction, future interaction,	1.211	0.377	98	Inducing	Implicit	Present	Tim
Grace (1989_1)	Private, public	1.509	1.154	54	Inhibiting	Implicit/ Explicit	Present	Tim
Grace (1989_2)	Alone, bystander	1.935	0.501	96	Inhibiting	Implicit	Present	Tim
	Control, public	0.588	0.547	96	Inhibiting	Implicit	Present	Tim
	Control, private	-0.552	0.557	96	Inducing	Implicit	Present	Tim
Grant & Gino (2010_1)	Control, gratitude	1.388	0.511	69	Inducing	Explicit	Present	Tim

Grant & Gino (2010_2)	Control, gratitude	1.306	0.574	57	Inducing	Explicit	Present	Tim
Grant & Gino (2010_4)	Control, gratitude	0.880	0.414	79	Inducing	Explicit	Present	Tim
Gray, Russell, & Blockley (1991_1)	No justification, justification	0.707	0.262	240	Inducing	Explicit	Present	Tim
Greitemeyer (2009a_3)	Neutral music, prosocial music	1.208	0.430	100	Inducing	Explicit	Present	Mo
Greitemeyer (2009b_1)	Neutral music, prosocial music	1.850	0.672	33	Inducing	Implicit	Present	Tim
Greitemeyer & Osswald 36(2010_1)	Neutral video game, prosocial video game	1.386	0.707	36	Inducing	Implicit	Present	Tim
	Neutral video game, aggressive video game	0.262	0.726	36	Inhibiting	Implicit	Present	Tim
Greitemeyer & Osswald (2010_3)	Neutral video game, prosocial video game	1.476	0.739	36	Inducing	Implicit	Present	Tim
Greitemeyer & Osswald (2010_4)	Neutral video game, prosocial video game	1.792	0.740	37	Inducing	Implicit	Present	Tim
Gueguen (2001_1)	No smiley face, smiley face	-0.477	0.175	1600	Inducing	Explicit	Present	Tim
Gueguen (2003b_1)	Control (same name), different name	1.186	0.601	50	Inducing	Explicit	Absent	Tim
Gueguen & De Gail (2003c_1)	Not smiling, smiling	0.450	0.166	800	Inducing	Implicit	Present	Tim
Gueguen & Fischer-Lokou	Not smiling, smiling	0.594	0.232	800	Inducing	Explicit	Present	Tim

(2004_1)								
Gueguen, Pichot, Le Dreff (2005_1)	Different name, same name	3.098	1.096	50	Inducing	Explicit	Absent	Tim
Gueguen & Ciccotti (2008_1)	No dog, dog	1.446	0.424	160	Inducing	Explicit	Present	Mo
Gueguen & Ciccotti (2008_2)	No dog, dog	1.086	0.303	200	Inducing	Explicit	Present	Mo
Gueguen & Ciccotti (2008_3)	No dog, dog	1.644	0.575	80	Inducing	Implicit	Present	Tim
Gueguen, Meineri, & Stefan (2012c_1)	No flowers, flowers	0.462	0.156	2000	Inducing	Implicit	Present	Tim
Hammersla (1974_1)	Control (informed and naïve), role players and observers	2.186	0.414	150	Inducing	Implicit	Present	Tim
Hansson & Slade (1977_1)	Control, deviant	0.832	0.299	216	Inhibiting	Implicit	Absent	Tim
Harada (1981_1)	Alone, 2 or 2 potential helpers	0.523	0.245	300	Inhibiting	Implicit	Present	Tim
Harada (1985_2)	Alone, two acquaintances	-0.409	0.519	71	Inhibiting	Implicit	Present	Tim
	Low ambiguity, high ambiguity	-0.166	0.476	71	Inhibiting	Implicit	Present	Tim
Harrell (1977_1)	No disclosure, disclosure	0.606	0.282	168	Inducing	Explicit	Present	Tim
Harrell & Goltz (1980_1)	No accusation, accusation	0.962	0.730	80	Inducing	Implicit	Present	Tim

Harris (1972_1)	Dime only, time and directions	1.743	0.823	54	Inducing	Explicit	Present	Mo
Harris, Liguori, & Joniak (1973a_1)	Control, helpful	-1.558	0.826	80	Inducing	Explicit	Present	Mo
	Control, aggressive	0.811	0.659	80	Inhibiting	Explicit	Present	Mo
Harris & Huang (1973c_1)	No information, competence (sum 4 conditions)	2.708	0.951	38	Inducing	Explicit	Present	Tim
	No information, low competence	0.588	1.095	38	Inhibiting	Explicit	Present	Tim
Harris & Robinson (1973g_1)	Alone, bystander	1.274	0.551	46	Inhibiting	Implicit	Present	Tim
Haymes (1975_1)	Not in charge, in charge	1.205	0.605	38	Inducing	Implicit	Present	Tim
Hedge & Yousif (1992_1)	Not urgent, urgent	0.624	0.164	800	Inducing	Implicit	Absent	Tim
Hedge & Yousif (1992_2)	Not urgent, urgent	0.508	0.140	1000	Inducing	Explicit	Present	Tim
Heinold (1982_1)	Unambiguous, ambiguous	1.173	0.365	137	Inhibiting	Explicit	Present	Tim
Hoover, Wood, & Knowles (1983_2)	No manipulation, other awareness	0.784	0.777	40	Inducing	Explicit	Present	Tim
Hornstein, Fisch, & Holmes (1968_1)	Similar, dissimilar model	0.560	0.409	105	Inhibiting	Explicit	Absent	Tim
	Neutral,	-0.403	0.537	105	Inducing	Explicit	Absent	Tim

	positive mood							
	Neutral, negative mood	1.792	0.579	105	Inhibiting	Explicit	Absent	Tim
Hornstein *et al*. (1971_1)	No manipulation, similar opinion	-0.206	0.411	118	Inducing	Explicit	Absent	Tim
	No manipulation, dissimilar opinion	0.360	0.411	118	Inhibiting	Explicit	Absent	Tim
Horowitz (1971_1)	Alone, group	0.503	0.451	80	Inhibiting	Explicit	Present	Tim
	Low norm salience, high norm salience	0.818	0.411	80	Inducing	Explicit	Present	Tim
Isen (1970_3)	Control, success	1.740	0.857	20	Inducing	Explicit	Present	Tim
	Control, failure	0.600	0.817	20	Inhibiting	Explicit	Present	Tim
Isen & Levin (1972_2)	Neutral mood, positive mood	5.124	1.270	16	Inducing	Explicit	Present	Tim
Isen, Clark, & Schwartz (1976_1)	Neutral mood, positive mood	2.203	1.096	51	Inducing	Implicit	Present	Tim
Isen & Noonberg (1979_1)	No pictures, pictures	1.270	0.840	54	Inhibiting	Explicit	Present	Mo
Jacob, Charles-Sire, & Gueguen (2013)	No slogan, slogan	0.485	0.134	1549	Inducing	Explicit	Present	Mo
Jegerski (1987_1)	Private, public	-0.207	0.331	120	Inducing	Explicit	Absent	Tim
Katzev et al. (1978_1)	No reprimand, reprimand	0.684	0.591	51	Inducing	Implicit	Present	Tim
Katzev et al. (1978_2)	No reprimand, reprimand	0.357	0.739	36	Inducing	Implicit	Present	Tim

Keating et al. (2003_1)	Normal face, neotonous face	0.272	0.174	584	Inducing	Implicit	Absent	Tim
Keys (1972_1)	Alone, bystander	0.418	0.460	72	Inhibiting	Implicit	Present	Tim
	Subject not responsible, subject responsible	-0.029	0.428	72	Inducing	Implicit	Present	Tim
	Other not responsible, other responsible	0.036	0.518	72	Inhibiting	Implicit	Present	Tim
Keys (1972_2)	Alone, bystander	0.242	0.417	76	Inhibiting	Implicit	Present	Tim
	Not responsible, responsible	0.178	0.416	76	Inducing	Implicit	Present	Tim
Kidd & Berkowitz (1976_2)	Neutral, humor	0.606	0.641	40	Inhibiting	Implicit	Present	Tim
Kidd (1977_1)	No choice, choice	3.584	1.318	20	Inducing	Implicit	Present	Tim
Kidd (1977_2)	No choice, choice	3.045	1.568	22	Inducing	Implicit	Present	Tim
Kogut & Ritov (2005_1)	Unidentified, identified	0.245	0.369	153	Inducing	Explicit		Mo
Kogut (2011a_1)	Victim not responsible, victim not responsible	0.307	0.343	112	Inhibiting	Explicit	Explicit	Mo
Kogut & Kogut (2013a_1)	Unidentified, identified	0.872	0.411	80	Inducing	Explicit		Mo
Kogut & Kogut (2013a_2)	Unidentified, identified	0.717	0.346	112	Inducing	Explicit		Mo
Konenci	Control,	1.584	0.531	124	Inducing	Implicit	Present	Tim

(1972_1)	negative mood							
Konenci & Ebbesen (1975a_1)	Unaccompanied by child, accompanied by child	0.154	0.464	91	Inducing	Implicit	Present	Tim
Konenci & Ebbesen (1975a_2)	Unaccompanied by child, accompanied by child	-0.575	0.540	56	Inducing	Explicit	Present	Tim
Korte (1971_1)	No communication, minimizing communication	0.606	0.640	40	Inhibiting	Implicit	Present	Tim
	No communication, communication	-0.820	0.649	40	Inducing	Implicit	Present	Tim
	Not strapped down, strapped down	0.546	0.526	40	Inducing	Implicit	Present	Tim
Kriss, Indenbaum, & Tesch (1974_1)	Simple request, positive appeal	0.241	0.245	288	Inducing	Explicit	Present	Tim
	Simple request, negative appeal	0.647	0.239	288	Inhibiting	Explicit	Absent	Tim
Lamy, Fischer-Lokou, & Gueguen (2008_1)	Neutral (music), love condition	0.761	0.304	253	Inducing	Explicit	Present	Mo
Lamy, Fischer-Lokou, & Gueguen (2009_1)	Neutral (music), love condition	0.630	0.206	401	Inducing	Implicit	Present	Tim
Lamy, Fischer-Lokou, & Gueguen (2010_1)	Neutral (music), love condition	0.840	0.419	120	Inducing	Explicit	Present	Tim
Latane & Darley	Alone, two passive	3.296	1.155	34	Inhibiting	Implicit	Present	Tim

(1968_1)	confederates							
Latane & Rodin (1969_1)	Alone, stooge condition	3.376	1.121	40	Inhibiting	Implicit	Present	Tim
Leftgoff-Sechooler (1978_1)	Neutral room, pleasant room	0.074	0.331	120	Inducing	Implicit	Present	Tim
	Neutral room, unpleasant room	0.025	0.331	120	Inhibiting	Implicit	Present	Tim
Levin & Isen (1975_1)	Neutral mood, positive mood	2.890	1.269	19	Inducing	Implicit	Absent	Tim
Levin & Isen (1975_2)	Neutral mood, positive mood	3.421	0.902	42	Inducing	Implicit	Absent	Tim
	Unstamped letter, stamped letter	0.560	0.630	42	Inducing	Implicit	Absent	Tim
Levine et al. (2005_1)	Plain shirt, in group (Manchester United)	3.178	1.208	25	Inducing	Implicit	Present	Tim
	Plain shirt, out group (Liverpool)	0.154	0.923	25	Inhibiting	Implicit	Present	Tim
Levine et al. (2005_2)	Plain shirt, in group (Manchester United)	2.639	1.126	19	Inducing	Implicit	Present	Tim
	Plain shirt, out group (Liverpool)	-2.100	1.058	19	Inhibiting	Implicit	Present	Tim
Levy et al. (1972_1)	Alone, group	1.959	0.513	90	Inhibiting	Implicit	Present	Tim
Lewis (2004_1)	Alone, group	-0.359	0.224	590	Inhibiting	Explicit	Absent	Tim
Lovell (1994_1)	No emergency, emergency	-0.120	0.300	201	Inducing		Present	Tim

	No request, request	1.054	0.316	201	Inducing		Present	Tim
Macaulay (1975_1)	Neutral conversation, pleasant conversation	0.893	0.529	61	Inducing	Explicit		Mo
	Neutral conversation, negative conversation	0.849	0.518	61	Inducing	Explicit		Mo
Marsh (1985_1)	Control, helping training	0.145	0.538	56	Inducing	Implicit	Present	Tim
Mathews & Canon (1975_1)	Ambient noise, low + high noise	0.956	0.628	52	Inhibiting	Implicit	Present	Tim
Mathews & Canon (1975_2)	Ambient noise, high noise	1.946	0.573	80	Inhibiting	Implicit	Present	Tim
McDonald (2012_1)	Alone, group	0.947	0.427	111	Inhibiting	Implicit	Present	Tim
McMillen, Sanders, & Solomon (1977_2)	No manipulation, high self-esteem	0.820	0.649	40	Inducing	Implicit	Present	Tim
	No manipulation, low self-esteem	-0.306	0.643	40	Inhibiting	Implicit	Present	Tim
	No noise, high noise	0.910	0.537	40	Inducing	Implicit	Present	Tim
Midlarsky (1971_1)	Low dependency, high	3.670	0.499	80	Inducing	Implicit	Present	Cor

	dependency							
	Low visibility, high visibility	0.925	0.412	80	Inducing	Implicit	Present	Cor
Moriarty (1975_2)	No commitment, commitment	4.443	1.708	18	Inducing	Implicit	Present	Tim
Moser (1988_1.25)	No noise, noise	0.772	0.213	450	Inhibiting		Present	Tim
Moser (1988_1.5)	No noise, noise	1.121	0.455	450	Inhibiting		Present	Tim
Moser (1988_1.75)	No noise, noise	-0.457	0.451	365	Inhibiting		Present	Tim
Moss & Page (1972_1)	No reinforcement, positive reinforcement	0.220	0.470	80	Inducing	Implicit	Present	Tim
	No reinforcement, negative reinforcement	1.358	0.475	80	Inhibiting	Implicit	Present	Tim
Neumann (1974_3)	No cheating, cheating	0.559	0.456	64	Inducing	Explicit	Present	Tim
O'Quin (1981_1)	No groan, groan	0.681	0.343	114	Inducing	Implicit	Present	Tim
Page (1977_1)	Ambient noise, moderate and high noise	0.811	0.559	60	Inhibiting	Implicit	Present	Tim
Page (1977_2)	Ambient noise, moderate and high noise	0.284	0.285	200	Inhibiting	Implicit	Present	Tim
Page (1977_3)	Ambient noise, moderate and high noise	0.160	0.283	200	Inhibiting	Implicit	Present	Tim
Pandey & Griffitt (1977_1)	0 potential helpers, many potential helpers	2.013	0.436	80	Inhibiting	Explicit	Present	Tim
Pantin & Carver (1982_1)	Alone, group	1.417	0.678	57	Inhibiting	Implicit	Present	Tim

	Low competence, high competence (video)	0.272	0.622	57	Inducing	Implicit	Present	Tim
Patterson, Powell, & Lenihan (1986_1)	No touch, touch	0.486	0.333	120	Inducing	Explicit	Present	Tim
Paulsell & Goldman (1984_1)	No touch, touch	0.295	0.392	200	Inducing	Implicit	Present	Tim
Pearce (1980_1)	Unfamiliar stranger, familiar stranger	0.942	0.174	646	Inducing	Explicit	Present	Tim
Peterson (1984_1)	Not competent, competent	0.409	0.524	64	Inducing	Implicit	Present	Tim
	Alone, group	0.973	0.540	64	Inhibiting	Implicit	Present	Tim
Pomazal (1977_1)	No model, positive model	0.472	0.261	240	Inducing	Explicit	Present	Mo
Porath & Erez (2007_1)	Not rude, rude	2.853	0.420	98	Inhibiting	Implicit	Present	Tim
Porath & Erez (2007_2)	Not rude, rude	2.695	0.452	82	Inhibiting	Implicit	Present	Tim
Przybyla (1985_1)	Non-arousing film, erotic film	0.556	0.265	240	Inducing	Implicit	Present	Tim
Rawlings (1968_1)	Shock control group, guilt group	1.064	0.828	20	Inducing	Implicit	Present	Cor
Rayko (1977_1)	Alone, group	3.015	1.491	54	Inhibiting	Implicit	Present	Tim
	Low competence, high competence	1.281	0.871	54	Inducing	Implicit	Present	Tim

Regan (1971_1)	No interview, cathartic interview	0.913	0.464	81	Inhibiting	Explicit	Absent	Mo
	Control, responsible and witness	0.870	0.477	81	Inducing	Explicit	Absent	Mo
Regan, Williams, & Sparling (1972_1)	No guilt, guilt	1.935	0.771	40	Inducing	Implicit	Present	Tim
Riske (2000_1)	Within norms, outside of norms	1.038	0.209	400	Inhibiting	Implicit	Absent	Tim
Rosenhan, Salovey, & Hargiz (1981_1)	Control, positive affect	-1.350	1.162	30	Inducing	Explicit	Present	Tim
Ross (1970_1)	No model, model	2.325	1.128	40	Inducing	Explicit	Present	Tim
Ross (1971_1)	Alone, group	2.996	1.135	35	Inhibiting	Implicit	Present	Tim
Rudestam, Richards, & Garrison (1971_1)	No confrontation, confrontation	0.724	0.795	29	Inducing	Implicit	Present	Tim
Rushton & Campbell (1977_1)	No model, model	2.168	1.509	37	Inducing	Explicit	Absent	Mo
	No manipulation, reward	-0.693	1.018	37	Inducing	Explicit	Absent	Mo
	No manipulation, punishment	-0.272	0.988	37	Inhibiting	Explicit	Absent	Mo
Sabina (2005_1)	No praise, praise	-0.323	0.707	89	Inducing	Explicit	Absent	Mo
Sabina (2005_2)	No reward, reward	0.531	0.265	265	Inducing	Explicit	Absent	Tim

Samerotte & Harris (1976_1)	Not responsible, responsible	0.995	0.386	120	Inducing	Implicit	Present	Tim
Satow (1975_1)	Private, public	2.150	0.440	80	Inducing	Implicit	Absent	Mo
Schellenberg & Blevins (1973_2)	No coupon, coupon	-0.760	0.904	66	Inducing	Explicit	Present	Tim
Schnall, Roper, & Fessler (2010_2)	Control, mirth	0.598	0.779	22	Inhibiting	Explicit	Present	Tim
	Control, elevation	2.790	0.880	22	Inducing	Explicit	Present	Tim
Schneider, Lesko, & Garrett (1980_1)	Neutral temperature, hot	0.405	1.447	47	Inhibiting		Present	Tim
	Neutral temperature, cold	-1.489	1.664	47	Inhibiting		Present	Tim
	Neutral temperature, hot	-0.063	0.662	49	Inhibiting		Present	Tim
	Neutral temperature, cold	-0.140	0.627	49	Inhibiting		Present	Tim
	Neutral temperature, hot	0.505	0.358	138	Inhibiting		Present	Tim
	Neutral temperature, cold	0.124	0.291	138	Inhibiting		Present	Tim
Schwartz & Clausen (1970a_1)	Alone, group	0.599	0.351	190	Inhibiting	Implicit	Present	Tim
	No training, training	0.557	0.295	190	Inducing	Implicit	Present	Tim
Schwartz & Ben David (1976a_1)	Neutral, able	1.059	0.763	48	Inducing	Implicit	Present	Tim
	Neutral, unable	0.551	0.611	48	Inhibiting	Implicit	Present	Tim

Schwartz & Gottlieb (1976b_1)	Alone, group	2.852	1.170	28	Inhibiting	Implicit	Present	Tim
	Subject unaware, subject aware	0.890	0.554	28	Inhibiting	Implicit	Present	Tim
	Others unaware, others aware	1.534	0.583	28	Inducing	Implicit	Present	Tim
Schwartz & Gottlieb (1980b_1)	Control, non-recall and recall	0.204	0.458	86	Inhibiting	Implicit	Present	Tim
	Nonrecall, recall of previous experiment involving bystander helping	1.371	0.620	86	Inhibiting	Implicit	Present	Tim
Schwarz et al. (1980_1)	No commitment, commitment	1.792	0.854	30	Inducing	Implicit	Present	Tim
Senneker & Hendrick (1983_1)	Alone, group	0.904	0.404	160	Inhibiting	Implicit	Present	Tim
Shaffer, Rogel, & Hendrick (1975_1)	No request, request	1.296	0.449	96	Inducing	Implicit	Present	Tim
Shaffer, Rogel, & Hendrick (1975_2)	No request, request	2.197	0.609	64	Inducing	Implicit	Present	Tim
	Alone, group	1.224	0.540	64	Inhibiting	Implicit	Present	Tim
Shaffer & Smith (1985_1)	Neutral mood, positive mood	0.223	0.473	72	Inducing	Explicit	Present	Tim
	Neutral mood, negative mood	-0.113	0.476	72	Inducing	Explicit	Present	Tim

Shotland & Johnson (1978_1)	No eye contact, eye contact	0.973	0.326	160	Inducing	Implicit	Present	Tim
Shotland & Huston (1979_4)	Non emergency, emergency	0.800	0.242	286	Inducing	Explicit	Present	Tim
Shotland & Stebbins (1980_1)	Control, help, rape, police	0	0.636	40	Inducing	Implicit	Present	Tim
	Control, fire	0.647	0.663	40	Inhibiting	Implicit	Present	Tim
Shotland & Heinold (1985_1)	Alone, group	0.629	0.324	163	Inhibiting		Present	Tim
	Unambiguous, ambiguous	1.592	0.349	163	Inhibiting		Present	Tim
Simmons & Lerner (1968_1)	Control, other person betrayed undeservedly	-0.185	0.513	50	Inducing	Implicit	Absent	Pro
	Control, partner (self) fail-betrayed	0.067	0.513	50	Inducing	Implicit	Absent	Pro
Simmons & Lerner (1968_2)	Control, other person betrayed undeservedly	0.188	0.513	50	Inducing	Implicit	Absent	Pro
	Control, partner (self) fail-betrayed	0.398	0.513	50	Inducing	Implicit	Absent	Pro
Small & Loewenstein (2003_2)	Unidentified (undetermined), identified victim (determined)	0.566	0.275	234	Inducing	Explicit	Absent	Mo
Small & Simonsohn (2008_2)	Not friend, friend	0.177	0.305	142	Inducing	Explicit	Present	Mo
Smith, Smythe, &	Alone, confederate	2.005	0.613	60	Inhibiting	Implicit	Present	Tim

Lien (1972_1)								
Solomon & Grota (1976_1)	No model, model	0.788	0.735	32	Inducing	Implicit	Present	Tim
Solomon et al. (1981_1)	Not smiling, smiling	0	0.845	30	Inducing	Explicit	Present	Tim
Solomon et al. (1981_2)	Not smiling, smiling and mistaken	3.313	1.538	26	Inducing	Explicit	Present	Tim
Solomon, Solomon, & Maiorca (1982_1)	Not identified, identified	1.099	0.485	90	Inducing	Implicit	Present	Tim
Staub (1971_3)	No information, permission	0	1.060	36	Inducing	Implicit	Present	Tim
	No information, prohibition	1.627	0.892	36	Inhibiting	Implicit	Present	Tim
Steele (1975_1)	No came calling, called positive name	0.693	0.754	29	Inducing	Explicit	Present	Tim
	No came calling, called negative name	1.749	0.699	29	Inducing	Explicit	Present	Tim
Steele (1975_2)	No name calling, name calling	0.836	0.380	161	Inducing	Explicit	Present	Tim
Steele, Critchlow, & Liu (1985_1)	No get alcohol, get alcohol	0.909	0.419	78	Inducing	Explicit	Present	Tim
Steele, Critchlow, & Liu (1985_2)	No alcohol, alcohol	0.415	0.404	81	Inducing	Explicit	Present	Tim

Stel, Van Baaren, & Vonk (2008_1)	No mimicry, mimicry	1.540	0.670	32	Inducing	Explicit	Absent	Mo
Stel, Van Baaren, & Vonk (2008_2)	No mimicry, mimicry	1.116	0.547	46	Inducing	Explicit	Present	Mo
Sterling (1977_1)	Unambiguous, ambiguous	2.477	0.474	128	Inhibiting	Implicit	Present	Tim
Sterling (1977_3)	Low exercise, moderate and high exercise	0.389	0.588	54	Inducing	Implicit	Present	Tim
	Unambiguous, ambiguous	1.217	0.571	54	Inhibiting	Implicit	Present	Tim
Sterling & Gaertner (1983_1)	No negative model, negative model	-0.810	0.874	50	Inhibiting	Implicit	Present	Tim
Sterling & Gaertner (1984_1)	Unambiguous, ambiguous	1.217	0.571	54	Inhibiting	Implicit	Present	Tim
	No exercise, moderate and high exercise	0.389	0.588	54	Inducing	Implicit	Present	Tim
Stevick & Addleman (1995_1)	Control, prior volunteer experience	-0.104	2.017	59	Inducing	Implicit	Absent	Mo
Strenta & Dejong (1981_1)	No feedback, prosocial label	0.916	0.797	28	Inducing	Implicit	Present	Tim
	No feedback, intelligent label and salience	0.288	0.657	28	Inhibiting	Implicit	Present	Tim
Taylor (1998_1)	No reason, reason	0.480	0.263	240	Inducing	Explicit	Present	Mo
Test & Bryan (1969_1)	No model, negative model	0.405	0.639	40	Inhibiting	Implicit	Present	Tim
	No model,	3.258	1.110	40	Inducing	Implicit	Present	Tim

	positive model							
Thompson, Cowan, & Rosenhan (1980_1)	Control, self-focused	0	0.943	24	Inhibiting	Implicit	Present	Tim
	Control, other-focused	2.708	1.021	24	Inducing	Implicit	Present	Tim
Tipton & Browning (1972b_1)	Not obese, obese	1.185	0.313	218	Inducing	Implicit	Present	Tim
Tucker et al. (1977_1)	No information, positive information	0.427	0.299	199	Inducing	Implicit	Absent	Tim
	No information, negative information	1.162	0.298	199	Inhibiting	Implicit	Absent	Tim
Turek (2002_1)	Alone, unconcerned confederate	1.787	0.465	68	Inhibiting	Implicit	Present	Tim
	Unconcerned about emergency, concerned about emergency	0.638	0.447	68	Inducing	Implicit	Present	Tim
Twenge et al. (2007_1)	Not rejected, (combine 3 controls) rejected	4.626	1.574	38	Inhibiting	Explicit	Present	Mo
Twenge et al. (2007_3)	Not rejected, (combine 3 controls) rejected	2.394	0.652	48	Inhibiting	Implicit	Present	Tim
Twenge et al. (2007_7)	Not rejected, (combine 3 controls) rejected	2.467	0.771	30	Inhibiting	Explicit	Present	Mo
Underwood et al. (1977_1)	Neutral movie, sad movie	1.369	0.334	717	Inhibiting	Implicit	Present	Mo
Valentine & Ehrlichman	Not looked at, looked at	0.255	0.226	320	Inducing	Implicit	Present	Tim

(1979_1)								
Valentine (1980_1)	No gaze, gaze	2.083	0.437	110	Inducing	Implicit	Present	Tim
	Alone, group	-0.073	0.382	110	Inhibiting	Implicit	Present	Tim
Van den Bos, Muller, & van Bussel (2009_1)	Control, disinhibition	2.698	1.160	29	Inducing	Implicit	Present	Tim
Van den Bos, Muller, & van Bussel (2009_2)	Control, disinhibition	0.780	0.915	52	Inducing	Implicit	Present	Tim
	Alone, group	2.822	1.497	52	Inhibiting	Implicit	Present	Tim
Van de Ven, Zeelenberg, & Pieters (2010_1)	Control, envied	1.145	0.618	60	Inducing	Explicit	Present	Tim
Van de Ven, Zeelenberg, & Pieters (2010_2)	Control, envied	0.514	0.466	93	Inducing	Explicit	Present	Tim
Van de Ven, Zeelenberg, & Pieters (2010_3)	Control, envied	1.741	0.718	60	Inducing	Implicit	Present	Tim
Van Rompay, Vonk, & Fransen (2009_1)	No camera, monitored by security camera	1.274	0.417	80	Inducing	Implicit	Present	Tim
Veraldi (1980_1)	Control, guilt group	0.246	0.406	80	Inducing	Explicit	Present	Pro
Vrugt & Vet (2009_1)	Neutral expression, smile from male experimenter	0.742	0.262	240	Inducing	Explicit	Present	Tim
Wagner, Hornstein, &	No social information,	0.370	0.180	500	Inducing	Implicit	Absent	Tim

Holloway (1982_1)	positive information							
	No social information, negative information	0.216	0.182	500	Inhibiting	Implicit	Absent	Tim
	No similarity given, similar (0 +33%)	0.040	0.200	500	Inducing	Implicit	Absent	Tim
	No similarity given, dissimilar (66+100%)	0.537	0.203	500	Inhibiting	Implicit	Absent	Tim
Webb (1979_1)	Control, self-recording	0.616	0.491	71	Inducing	Explicit	Present	Tim
Wegner & Schaefer (1978_1)	Alone, 3 potential helpers	1.248	0.539	48	Inhibiting	Implicit	Absent	Pro
Weinbach (1968_1)	Low cost, moderate and high cost	1.049	0.112	1800	Inhibiting	Explicit	Absent	Tim
Weyant (1977_1)	Neutral mood, positive mood	1.330	0.723	64	Inducing	Implicit	Absent	Tim
	No graphite, graphite	0.847	0.673	64	Inhibiting	Implicit	Absent	Tim
Whitaker & Bushman (2012_2)	Neutral video game, violent video game	0.749	0.415	78	Inducing	Explicit	Present	Tim
	Neutral video game, relaxing video game	-0.195	0.411	78	Inhibiting	Explicit	Present	Tim
Whitehead & Metzger (1981_1)	Non-deviant, deviant	0.961	0.535	60	Inhibiting	Implicit	Absent	Tim
Wiesenthal, Austrom, & Silverman (1983_1)	Alone, group	1.922	0.369	212	Inhibiting	Explicit	Present	Mo
Wilson (1976a_1)	Alone, passive bystander	1.620	0.385	130	Inhibiting	Implicit	Present	Tim

	Alone, helping bystander	0.491	0.433	130	Inducing	Implicit	Present	Tim
Wilson (1980_1)	Unambiguous, ambiguous	2.829	0.655	40	Inhibiting		Present	Tim
Wilson & Dovidio (1985_1)	No excuse, illegitimate excuse	0.869	0.475	80	Inhibiting	Explicit	Present	Tim
Wolfson (1981_1)	Alone, group	1.510	0.804	72	Inhibiting	Implicit	Present	Tim
Yakimovich & Saltz (1971_1)	No verbalization, verbalization	2.342	0.832	33	Inducing	Implicit	Present	Tim
Yinon et al. (1982_1)	Individuals, groups	2.295	0.614	63	Inducing	Implicit	Absent	Tim
Zoccola et al. (2011_1)	Alone, bystander	1.012	0.461	84	Inhibiting	Implicit	Present	Tim
	No interview, interview after	1.227	0.468	84	Inducing	Implicit	Present	Tim