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Interview and interrogation methods and their effects on true and false confessions

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Abstract

BACKGROUND

The interviewing and interrogation of suspects can be particularly important to securing convictions against the guilty and freeing the wrongly accused. There are two general methods of questioning suspects: information-gathering and accusatorial. The information-gathering approach, used in the United Kingdom, New Zealand, Australia, and elsewhere, as more generally in Western Europe, is characterized by rapport-building, truth-seeking, and active listening. The accusatorial approach, used primarily in the United States and Canada, is characterized by accusation, confrontation, psychological manipulation, and the disallowing of denials. Which method is more effective has become a hotly debated topic as the number of false confessions identified continues to rise.

OBJECTIVES

Our objective was to systematically and comprehensively review published and non-published, experimental and observational studies on the effectiveness of interviewing and interrogation methods. We focus on the questioning of suspects using information-gathering and accusatorial methods seeking to elicit confessions.

SELECTION CRITERIA

We conducted two separate meta-analyses. The first meta-analysis focused on observational or quasi-experimental field studies that assess the association between certain interrogation methods and elicitation of a confession statement. Field studies must have included: 1) at least one coded and quantified interviewing/interrogation method; and 2) data on confession outcomes tied to the questioning style. The second meta-analysis focused on experimental, laboratory-based studies in which ground truth is known (i.e., whether the confession is factually true or false). Experimental studies must have included: 1) a comparison of at least two distinct interviewing or interrogation styles (e.g., control method and accusatorial); and 2) sufficient data on either true and/or false confession outcomes. Both meta-analyses focus on the interrogation of “criminal” suspects. We note that

whereas the aim of the accusatorial methods is to obtain confessions, the primary aim of information-gathering methods is to obtain information. Nevertheless, because of the importance placed on confessions in the extant literature and given the current focus on confessions in the analyses reviewed, our primary outcome measure was confession rather than the amount of information gained.

SEARCH STRATEGY

Several strategies were utilized to locate eligible studies: 1) keyword searches of more than 20 databases; 2) reviewing bibliographies of several relevant books and compendiums; 3) reviewing abstracts from recent conferences; and 4) requests of researchers and practitioners, individually and via listservs.

DATA COLLECTION AND ANALYSIS

We located 5 studies eligible for the field study meta-analysis and 12 studies eligible for the experimental study meta-analysis. We coded outcomes from both study types and report mean effect sizes with 95% confidence intervals. A random effects model was used for analysis of effect sizes. Moderator analyses were conducted when appropriate.

MAIN RESULTS

We located 5 studies eligible for the field study meta-analysis and 12 studies eligible for the experimental study meta-analysis. We coded outcomes from both study types and report mean effect sizes with 95% confidence intervals. A random effects model was used for analysis of effect sizes. Moderator analyses were conducted when appropriate.

AUTHORS' CONCLUSIONS

The available data support the effectiveness of an information-gathering style of interviewing suspects. Caution is warranted, however, due to the small number of independent samples available for the analysis of both field and experimental studies. Additional research, including the use of quasi-experimental field studies, appears warranted.

Summary

We conducted a systematic review of the published and unpublished literatures on the interview and interrogation of suspects. Our focus was to examine the impact of accusatorial versus information-gathering approaches on the elicitation of confessions. Two meta-analytic reviews were conducted: one that focused on observational and quasi-experimental field studies of actual suspects in which ground truth (i.e., veracity of the confession statement) was unknown, and another that assessed experimental, laboratory-based studies in which ground truth was known. To be eligible, field studies must have included 1) at least one coded and quantified interviewing/interrogation method and 2) data on confession outcomes tied to the questioning style. Experimental studies must have included 1) at least two distinct interviewing or interrogation styles (e.g., direct questioning and accusatorial approach) and 2) sufficient data on true and/or false confession outcomes. Following an exhaustive search, 5 field studies and 12 experimental studies were deemed eligible for inclusion in the analyses. Results revealed that while both information-gathering and accusatory methods were similarly associated with the production of confessions in field studies, experimental data indicated that the information-gathering method increased the likelihood of true confessions, while reducing the likelihood of false confessions. Given the small number of independent samples, the current findings are considered preliminary, yet suggestive of the benefits of information-gathering methods in the interrogative context.

1 Background for the Review

The request for a systematic review of the research on interviewing and interrogation methods is extremely timely and germane to current social events. Specifically, bright lights have been shone on both military and police investigation methods. The effectiveness of military interviewing, or human intelligence (HUMINT), has come under intense scrutiny as a result of the use of "enhanced" interrogation methods in Iraq and Afghanistan and the heated debate over the use and efficacy of torture for educing intelligence (see Evans, Meissner, Brandon, Russano, & Kleinman, 2010; Redlich, 2007). At the same time, police interview and interrogation methods in the criminal justice arena are being called into question because of the incidence of false confessions leading to wrongful conviction (see Kassin, Drizin, Grisso, Gudjonsson, Leo, & Redlich, 2010).

The elicitation of false confessions is an international problem that has been documented in almost every continent (Kassin et al., 2010; Lassiter & Meissner, 2010). Two general factors have been linked to the incidence of false confessions: personal (psychological) vulnerabilities of the individual and the use of accusatorial (psychologically based) interrogative methods. While accusatorial methods are commonly used in countries such as the United States, Canada, and many Asian nations (Costanzo & Redlich, 2010; Leo, 2008; Ma, 2007; Smith, Stinson, & Patry, 2009), European countries have, under the influence of article 6 par. 1 of the European Convention of Human Rights (ECHR), banned using closed-ended or confirmatory questions and deception (e.g., by presenting false evidence) in the interrogation of suspects. Other countries, such as the United Kingdom, Norway, New Zealand, and Australia, have amended their interrogation practices to employ information-gathering methods of interrogation (Bull & Soukara, 2010). Systematic research examining these two approaches to interviewing and interrogation has been conducted over the past decade, with studies generally demonstrating that accusatorial methods increase the likelihood of false confession, while information-gathering methods protect the innocent yet preserve interrogators' ability to elicit confessions from guilty persons (see Meissner, Russano, & Narchet, 2010).

The purpose of this systematic review was to evaluate the diagnostic value of information-gathering and accusatory (or guilt-presumptive) interrogative methods

for persons suspected of committing crimes.[1] Interviewing and interrogation methods can be considered "diagnostic" when they produce a higher ratio of true to false confessions and/or when they yield the ability to discriminate accurate from inaccurate information (in the context of deception detection). When assessing the effectiveness of questioning techniques on investigative outcomes, it is important to consider the accuracy of the outcome (i.e., not simply use "confession" as the outcome). It is equally important to assess efficacy when suspects are both guilty and innocent, as these two contexts may produce different levels of effectiveness. As discussed below, field studies and experimental (laboratory) studies may offer different perspectives regarding the effectiveness of certain interrogative methods depending upon these conditions.

Generally speaking, information-gathering and accusatorial interrogation methods can be distinguished along four dimensions. As displayed in Table 1, information-gathering methods seek to establish rapport within the interview, and use direct, positive confrontation of the suspect to elicit confessions or other self-incriminating statements. In contrast, accusatorial methods seek to establish control of the suspect and use psychological manipulation to achieve confession. As such, these two methods result in vastly different questioning approaches, with information-gathering methods relying upon open-ended, exploratory approaches while accusatorial methods employing closed-ended, confirmatory approaches. Additionally, the two methods differ in their primary intended outcome. Whereas the information-gathering method places a premium on obtaining information, the accusatorial approach aims to obtain confessions. Finally, the two methods can be contrasted based upon the model of deception detection that they invoke: information-gathering methods yield cognitive cues (see below) to deception, while accusatorial methods yield anxiety-based cues to deception. These two methods are explored in greater detail below.

The accusatorial method (as defined here) is typified by the United States model (Leo, 2008). It is generally contradictory to the information-gathering style in that it is confrontational and guilt-presumptive. In the United States, police questioning of suspects consist of two phases. In the first phase, the investigator generally conducts a non-accusatorial interview to determine whether the person of interest is indeed the "suspect" and should therefore be formally interrogated (e.g., the "Behavioral Analysis Interview", or BAI, proposed by Inbau, Reid, Buckley & Jayne, 2001). A major part of this determination of guilt is a reliance on non-verbal behavioral cues and analyses of linguistic and paralinguistic styles that are believed to indicate deception, but which consistently have been found by scientific methods to be unreliable (see DePaulo et al., 2003; Sporer & Schwandt, 2006, 2007).

[1] We believe that a review of interviewing styles on the effectiveness of eliciting accurate and complete information from victim/witnesses of crime combined with a review of suspects is inappropriate. The motivations of the individual being questioned and the resultant efficacy of interviewing styles are distinct for these groups. Further, we believe the more pressing policy issues relates to persons suspected of crimes.

It is only following a determination of "guilt" on the part of the investigator that a formal interrogation of the suspect – the second phase – begins. The investigator now employs a variety of psychologically manipulative tactics that are designed to elicit compliance from a suspect in the form of a confession to the crime. As summarized by Kassin and Gudjonsson (2004), interrogations generally involve three components: (a) custody and isolation, in which the suspect is detained in a small room and left to experience the anxiety, insecurity, and uncertainty associated with police interrogation; (b) confrontation, in which the suspect is presumed guilty and told (sometimes falsely) about the evidence against him/her, is warned of the consequences associated with his/her guilt, and is prevented from denying his/her involvement in the crime; and finally (c) minimization, in which a now sympathetic interrogator attempts to gain the suspect's trust, offers the suspect face-saving excuses or justifications for the crime, and implies more lenient consequences should the suspect provide a confession. The strong belief in "guilt" on the part of interrogators has been shown to lead to the use of longer interrogations that involve more psychologically manipulative tactics – ultimately leading to elicitation both true and false confessions that confirm the beliefs of the interrogator (see Kassin, Savitsky, & Goldstein, 2005; Meissner & Kassin, 2004; Narchet, Meissner, & Russano, in press). The psychological manipulation of consequences in this context, and the associated manipulation of perceived culpability on the part of the suspect, has been shown to directly influence the incidence of false confessions (see Horgan, Meissner, Russano, & Evans, in press).

In contrast, the information-gathering method of interviewing is typified by Great Britain's model. Because of a spate of high-profile false confessions, England and Wales enacted the Police and Criminal Evidence (PACE) Act of 1984 (Bull & Soukara, 2010; Home Office, 2003), which prohibited the use of psychologically manipulative techniques and mandated the recording of custodial interrogations. In 1992 as a result of a national review of investigative interviewing initiated by the Association of Chief Police Officers and the relevant government ministry the PEACE[2] model was introduced. (For more on this and the influential research available at the time, see Milne and Bull, 1999.) This model focuses on developing rapport, explaining the allegation and the seriousness of the offense, emphasizing the importance of honesty and truth gathering, and requesting the suspect's version of events. Suspects are permitted to explain the situation without interruption and questioners are encouraged to actively listen. Only after suspects have been given full opportunity to provide information are they (i) questioned and (ii) presented with any inconsistencies/contradictions (e.g. with other information known to the interviewer but not yet revealed to the suspect). As mentioned, this interview method has the goal of "fact finding" rather than that of obtaining a confession (with an emphasis on the use of open-ended questions), and investigators are expressly

[2] PEACE stands for **P**lanning and **P**reparation; **E**ngage and **E**xplain; Obtain an **A**ccount; **C**losure; **E**valuation (see Bull & Soukara, 2010).

prohibited from deceiving suspects (Milne & Bull, 1999; Mortimer & Shepherd, 1999; Schollum, 2005).

The PEACE model is similar to components of the Cognitive Interview (CI; Fisher & Geiselman, 1992; Memon, Meissner, & Faser, 2010). The CI was derived from basic memory research and involves a series of mnemonic elicitation techniques that have been shown to improve the recall of information from memory. One of the principal techniques is context reinstatement (i.e., attempts to reinstate emotions, perceptions, and sequences of the event to-be-remembered). Another technique is to vary the order in which events are recounted. For example, Vrij, Mann, Fisher, Leal, Milne, and Bull (2008) assessed whether asking liars and truth-tellers to recall an event in reverse order (which, in theory, should be more difficult for liars than truth-tellers) would improve the interviewers' ability to accurately detect deception. Although the effectiveness of the CI has been researched extensively, the majority of this research (but importantly, not all) has focused on witnesses and victims' reports of events, not suspects (see Fisher & Perez, 2007).

The scientific study of investigative interviewing has proliferated in the past two decades. Both the PACE and PEACE models and some of their individual components (e.g., strategic disclosure of evidence, use of open-ended questions) have been studied in the field and in the laboratory (Bull & Soukara, 2009; Meissner et al., 2010). Similarly, numerous experiments have been conducted on general (e.g., Russano, Meissner, Narchet, & Kassin, 2005) and more specific accusatorial methods (e.g., presenting false evidence; Redlich & Goodman, 2003). However, a synthesized review focusing on the effectiveness of information-gathering and accusatorial methods of questioning suspects is not yet available, though such a review will surely be informative to academics and policymakers alike.

2 Objectives of the review

The objectives of this review were to systematically and comprehensively review published and non-published, experimental, quasi-experimental, and observational studies on the effectiveness of interviewing and interrogation methods. We focus on suspects as our population, interview style (information-gathering, accusatorial) as the intervention, and the elicitation of true and false confessions as the primary measure of efficacy. Our guiding question was whether information-gathering or accusatorial methods are more diagnostic in the accuracy of the self-incriminating information that is produced when employed on guilty and innocent suspects. We note here that only experimental studies offer a sound perspective on the diagnostic value of an interrogative method – field studies cannot distinguish the "ground truth" that is necessary to assess the accuracy of a confession or the culpability of a suspect. While we review studies conducted in both contexts, the distinction between these types of studies and the ultimate conclusions that might be drawn from them is critically dependent upon this distinction. We also note that because a dichotomous, yes/no confession variable (as opposed to amount of information) has been the most-often used outcome in the studies we reviewed (and ultimately deemed eligible), our focal outcome measure by necessity is also confession (true and false).

3 Methods

We completed two separate meta-analyses of observational and quasi-experimental studies conducted in a field setting, and experimental studies conducted in a laboratory setting, respectively. Our search criteria were broad and intended to elicit a large sample of possible studies for inclusion in the analyses. Studies were selected based upon pre-specified inclusion/exclusion criteria, and relevant studies were coded on key variables by multiple researchers.

3.1 CRITERIA FOR INCLUSION AND EXCLUSION OF STUDIES

3.1.1 Field Studies

To be eligible for inclusion in the field study meta-analysis, published and unpublished studies must have met the following requirements:

- Intervention: Systematic studies that examined interview and interrogation techniques used in actual law enforcement/military settings (i.e., the "field") were included here. Studies could have involved quasi-experimental designs in which interrogators were assigned to use certain interrogative approaches. We also permitted the inclusion of studies that involved systematic observation of interviews/interrogations (live or on video) or the analysis of archival records (e.g., police reports, transcribed interviews) that provide sufficient detail regarding the interrogation methods employed in a given case. The study must have coded or quantified the use of at least one interview or interrogation technique. These techniques were then categorized (by reliable consensus) into information-gathering, accusatorial, or general interrogation approaches.
- Outcomes: Eligible studies must have reported the analysis of confessions (partial, full outcome). In addition, sufficient quantitative data to calculate effect sizes must have been present, specifically including the relationship between the use of certain interview/interrogation methods and elicitation of a confession.
- Population/Samples: The population of interest is suspects (of any age, nationality, or status) who are accused of committing a criminal act. Studies that assessed the interviewing of victims and witnesses were not included here, as the motivations and information to-be-gained (and thus the potential

effectiveness of methods) likely differ. Thus, to be eligible, studies must have included “suspected perpetrators” or “suspected transgressors.”

3.1.2 Laboratory Studies

To be eligible for inclusion in the laboratory study meta-analysis, published and unpublished studies must have met the following requirements:

- Intervention: The intervention of interest was interviewing approach (information-gathering, accusatorial, and/or “control” methods). To be included here, the study must have involved the experimental manipulation of information-gathering and/or accusatorial methods with one another or with a control interview method (e.g., a simple request for compliance).
- Outcomes: Outcome variables include the ratio of true to false information/confessions when the suspects are guilty and innocent. Eligible studies must have reported outcomes for “guilty” participants, “innocent” participants, either, or both (for example, several studies only include situations in which all participants are innocent). Further, at least one outcome measure (with sufficient quantitative data to calculate an effect size) must have been present.
- Population/Samples: The population of interest involved “mock” suspects (of any age, nationality, or status) who are accused of committing mock crimes/transgressions or withholding important information. The interviewing of victims and witnesses was not included here, as the motivations and information to-be-gained (and thus the potential effectiveness of methods) likely differ. Thus, to be eligible, studies must have included “suspected perpetrators” or “suspected transgressors.”

3.2 SEARCH STRATEGY FOR IDENTIFICATION OF RELEVANT STUDIES

Using a multi-step process, we searched for published and unpublished manuscripts describing experimental, quasi-experimental, and observational studies on information-gathering and accusatorial approaches to interviewing and interrogation.

We searched the following databases:

1. Criminal Justice Periodical Index
2. Criminal Justice Abstracts
3. National Criminal Justice Reference Services (NCJRS) Abstracts
4. PsychInfo [which includes PsychARTICLES]
5. MEDLINE
6. Sociological Abstracts

7. Social Science Abstracts (SocialSciAbs)
8. Social Science Citation Index
9. Dissertation & Theses Abstracts
10. Google, including Google Scholar—Advanced
11. Australian Criminology Database (CINCH)
12. Centrex (Central Police Training and Development Authority)—UK National Police Library
13. Scopus
14. Web of Knowledge
15. Publisher databases, such as Springer and Wiley
16. California POST Library

We used the following keywords, as well as combining keywords to produce more targeted searches, such as "interview and suspect," and "confession and interrogation."

1. Interrogation(ory)
2. Information (gathering)
3. Inquisitorial
4. Interview(ing)
5. Suspect
6. Confession
7. Cognitive Interview
8. Conversation Management
9. Ethical interviewing
10. Disclosure
11. Strategic evidence
12. Accusatory(ion)
13. Deception detection
14. PEACE model of interviewing
15. PACE (Police Crime and Evidence Act)
16. Adversary(ial)
17. Miranda
18. Coercion (psychological coercion)
19. Entrapment

We reviewed the reference sections of the below comprehensive resources:

- Educing information. Interrogation: Science and Art. Intelligence Science Board, Phase 1 Report (December, 2006). Washington, DC: National Defense Intelligence College.
- Bull, R., Valentine, T., and Williamson, T. (Eds.) (2009). Handbook of psychology of investigative interviewing. Chichester: Wiley-Blackwell.
- Gudjonsson, G. H. (2003). The psychology of interrogations and confessions. Chichester: Wiley.
- Justice, B. P., Bhatt, S., Brandon, S. E., & Kleinman, S. M. (2009). Army field manual 2-22.3 interrogation methods: A science-based review.
- Kassin, S. M., Drizin, S., Grisso, T., Gudjonsson, G., Leo, R. A., & Redlich, A. D. (2010). APLS-Approved White Paper, Police-induced confessions: Risk factors and recommendations. Law and Human Behavior. DOI 10.1007/s10979-009-9188-6.
- Lassiter, G. D., & Meissner, C. A. (2010). Police interrogations and false confessions: Current research, practice, and policy recommendations. Washington, DC: American Psychological Association.
- Schollum, M. (2005). Investigative interviewing: The literature. New Zealand Police Department. Retrieved January 15, 2006, http://www.police.govt.nz/resources/2005/investigative-interviewing/investigative-interviewing.pdf
- Williamson, T. (2006). Investigative interviewing: Rights, research, and regulation. Devon, England: Willan Publishing.

Finally, the reviewers have many well-established contacts with researchers studying interviewing and interrogation here in the United States and abroad. Researchers who have published in this area were contacted by the reviewers with a request to provide any unpublished or 'in press' studies that might be included in the review. Multiple follow-up requests were sent to those who failed to respond initially. A request for studies was also placed on a popular listserv for interviewing and interrogation researchers. Officials from government agencies were also contacted, including program officers that manage research programs relevant to the current review. Requests were also sent to a self-formed group called FAIR (Federal Alliance for Interdisciplinary Research), which includes personnel from the Central Intelligence Agency, United States Secret Service, National Institute of Justice, Office of Science and Technology Policy, among others, and to PASILE, a group of national security psychologists from the United Kingdom, Canada, Australia, and New Zealand.

3.3 DETAILS OF STUDY CODING CATEGORIES

All studies that passed an initial screening for eligibility (e.g., the study did not focus on cooperative witnesses) went through two additional rounds of coding. The first round involved an eligibility survey that determined ultimate eligibility for the present review. The second round of coding focused on details of the studies that might be used subsequently for descriptive purposes and moderator analysis of effect sizes.

3.3.1 Studies deemed potentially eligible

Studies that were screened in based upon abstract information were subsequently reviewed for eligibility. In addition to documenting basic information about the publication, dates, and authors, we coded whether the study met all of the eligibility criteria to be included in the meta-analytic review (discussed previously).

3.3.2 Studies deemed eligible for the field study meta-analysis

For studies that were deemed eligible for the field study meta-analysis, we coded the following information:

a. Reference information (e.g., title, authors, publication, etc.);
b. Purpose of the study;
c. Methodological factors (e.g., method of coding, type of observation, etc.);
d. Characteristics of the suspect, crime, interrogation, and interrogator; and
e. Relevant outcomes and statistics provided.

3.3.3 *Studies deemed eligible for laboratory study meta-analysis*

For studies that were deemed eligible for the experimental laboratory study meta-analysis, we coded the following information:

a. Reference information (e.g., title, authors, publication, etc.);
b. Method/approach of interrogation;
c. Manipulations (e.g., guilt/innocence, training, suspect/interviewer characteristics, etc.);
d. Methodological factors (e.g., random assignment, suspect/interviewer status, etc.);
e. Sample sizes by condition; and
f. Relevant outcomes and statistics provided.

Two trained researchers independently coded all studies for initial screening. Upon determination of eligibility, these same researchers coded all eligible studies based upon key variables. Uncertainty and disagreement between the two coders were resolved through discussion and consultation with the first author, who ultimately reconciled all disagreements. When necessary, confidential, government documents were coded by Drs. Brandon and Bhatt, who maintained the appropriate security clearances.

4 Findings

4.1 SELECTION OF STUDIES

Using the broad search strategy specified above, we initially located more than 2,000 studies in the 16 databases using the 22 distinct keywords. We first determined relevance by reading titles and abstracts. For example, titles that clearly referred to victim/witness accounts were excluded. Additionally, when abstracts revealed that systematic experimental, quasi-experimental, or observational methods were not utilized, these articles were excluded. When researchers were uncertain regarding key aspects of the study, articles were accessed and reviewed more completely. Trained graduate research assistants were responsible for initial determinations of relevance, with Drs. Meissner and Redlich making all final decisions regarding inclusion/exclusion. Based upon the results of the screening process, 33 field studies and 22 laboratory studies were deemed eligible for complete coding.

4.1.1 Field Studies

A total of 33 potentially eligible field studies were located; of these, only 5 studies were ultimately deemed eligible for inclusion in the meta-analysis. Eligible studies are described in more detail below

The primary reason that field studies were determined to be ineligible involved the failure of the study to assess (or report on) associations between interview/interrogation approach and confession outcomes. Approximately half the studies were conducted in either the United Kingdom or Australia, and the other half in North America (United States and Canada). The 14 excluded studies from the United Kingdom and Australia were: 1) Baldwin, 1993 (peer-reviewed journal, see also, Baldwin, 1992); 2) Bull and Soukara, 2010 (peer-reviewed chapter); 3) Dixon, 2007 (authored book); 4) Griffiths, 2008 (unpublished dissertation); 5) McConville and Baldwin, 1982 (peer-reviewed journal); 6) McGurk, Carr, and McGurk, 1993 (government report); 7) Medford, Gudjonsson, and Pearse, 2003 (peer-reviewed journal); 8) Moston, Stephenson, and Williamson, 1992 (peer-reviewed journal); 9) Pearse, 2006 (government report, see also 2009); 10) Pearse and Gudjonsson, 1999 (peer-reviewed journal); 11) Softley, 1980 (government report); 12) Stephenson and Moston, 1994 (peer-reviewed journal); 13) Walsh and Milne, 2008 (peer-reviewed

journal); and 14) Willis, MacLeod, & Naish, 1988 (government report). The 12 excluded studies from the United States and Canada were: 1) Cassell and Hyman, 1996 (published law review); 2) DesLauriers-Varin, Lussier, & St-Yves, 2011 (peer-reviewed journal); 3) Faller, Birdsall, Henry, Vandervort, and Silverschanz, 2001 (peer-reviewed journal); 4) Feld, 2006 (published law review); 5) Lippert, Cross, Jones, and Walsh, 2010 (peer-reviewed journal); 6) Medalie, Zeitz, and Alexander, 1968 (published law review); 7) Neubauer, 1974 (peer-reviewed journal); 8) New Haven Study, 1967 (published law review); 9) Reiss and Black, 1967 (peer-reviewed journal); 10) Seeburger and Wettick, 1967 (published law review); 11) Vera Institute Study, 1967 (unpublished document); and 12) Witt, 1973 (peer-reviewed journal).

Publication dates for the initial sample of field studies ranged from 1967 to 2010. A primary reason for several of the early studies was to examine the impact of the Miranda ruling (decided in 1966) on confession rates. Many of these early studies, however, were non-systematic and failed to examine key aspects of the interrogation approach (the focus of the current meta-analysis) or to include the necessary statistics.

In reviewing the initial sample of 33 field studies, we found that many failed to report basic descriptive information about the suspects or the interrogations. Of the 33 studies we coded, approximately half did not report gender or age of the suspect. Only one-third of the studies reported race/ethnicity. Additionally, characteristics of the detectives were frequently omitted, with the exception of years of experience or amount of training (particularly when the focus of the study concerned the influence of training). Most studies also failed to report either the crime type/severity across suspects and only 7 studies attempted to code the strength of the evidence against the suspect (a key factor identified in producing confessions; see Gudjonsson, 2003).

Our coding of the available literature demonstrated other factors that researchers associated with a confession outcome. Table 2 provides a listing of the various factors and the percentage of studies that examined each. Factors that tend to be reported include characteristics of the suspect and/or interrogator, the crime type and/or severity, and the time and location of the interviews and interrogations. In addition, though not characteristics that can influence receipt of confession, sometimes case (14%) and sentencing (6%) outcomes are reported.

We note here that all of the field studies obtained from the literature involved systematic observation methods in which researchers coded the frequency of certain predictor and outcome variables via live observation (14.8%), audio-video (44.4%), verbatim transcripts (7.4%), and/or other archival (court) records associated with the interrogation (40.7%). No studies involving a quasi-experimental analysis of interrogation methods in a field setting were located. We return to the omission of such a research literature in our discussion.

4.1.2 Laboratory Studies

Of the 22 potentially eligible experimental studies located, 12 were deemed eligible to be included in the meta-analysis. The eligible studies are described below.

The remaining ten studies were ineligible because they did not contrast interviewing/interrogation approaches, but rather examined the influence of only one type (most often, this was accusatorial methods on false confessions), failed to include an appropriate control condition, or examined other factors that might influence true or false confession rates (such as anxiety, suggestibility, etc.). The nine excluded studies were: 1) Abboud, Wadkins, Forrest, Lanfe, and Alavi, 2002 (unpublished presentation); 2) Beune, Giebels, & Sanders, 2009 (peer-reviewed journal, see also Beune, 2009); 3) Forrest, Wadkins, and Larson, 2006 (peer-reviewed journal); 4) Horgan, Russano, Meissner, and Evans, in press (peer-reviewed journal); 5) Horselenberg, Merckelbach, and Josephs, 2003 (peer-reviewed journal); 6) Kebbel and Daniels, 2006 (peer-reviewed journal); 7) Kebbel, Hurren, and Roberts, 2006 (peer-reviewed journal); 8) Klaver, Lee, and Rose, 2008 (peer-reviewed journal); 9) Nash and Wade, 2009 (peer-reviewed journal); and 10) van Bergen, Jelicic, and Merckelbach, 2008 (peer-reviewed journal). Three of these studies were conducted in the United States, two in Australia, three in the Netherlands, and one each in the United Kingdom and Canada. All studies included college students as subjects.

4.2 CHARACTERISTICS OF ELIGIBLE STUDIES

4.2.1 Field Studies

A total of five empirical research articles were included in the meta-analysis representing data recorded from 608 interrogation sessions. Eight independent samples (k) across three effect size comparisons (accusatorial, information-gathering, and combined interrogative methods) were evaluated. Three of the studies were conducted in the United Kingdom, one in Canada, and one in the United States. It seems, therefore, that all eligible studies were conducted in countries where accusatorial methods are still in use, or have been used until relatively recently.

Based upon a priori characteristics of accusatorial and information-gathering approaches (see Table 1), the lead reviewers coded the interrogation approaches that were quantified in each of the 5 studies for whether the approach was consistent with accusatorial methods, information-gathering methods, or general interrogation methods common to both techniques. Coders demonstrated high agreement rates (> 90%), and all discrepancies were resolved via discussion. Brief descriptions of the five eligible field studies are provided below.

King and Snook (2009). The authors coded 44 videotaped interrogations from Atlantic Canada. They used the Reid Technique (an accusatorial approach) and 23 (of 25) tactics noted by Leo (1996) as a guiding framework, as well as coding pre-defined coercive tactics. Interrogations had been conducted over a 10-year span. Most crimes were serious crimes against persons. Overall, 50% of the suspects offered a full or partial confession.

Leo (1996). One of the largest field studies, Leo observed and coded 122 live interrogations and 60 videotaped interrogations (across three separate police stations in Northern California). Leo described the typical suspect in his sample as a "young, lower or working class, African-American male" (p. 273). The majority of crimes were serious (homicide, robbery, and assault), though about 20% were theft, burglary, or 'other.' Leo coded the number of interrogation tactics used, as well as the type of approach. He developed a list of 25 tactics, which he examined in relation to several other variables. These tactics included, for example, 'appeal to suspect's conscience,' 'identify contradictions,' and 'confront suspect with false evidence.' Approximately 64% offered some admission of guilt.

Pearse, Gudjonsson, Clare, and Rutter (1998). A primary intent of this study was to examine differences in psychological vulnerabilities between suspects who did vs. did not confess during police questioning. The authors, however, also coded three interview tactics: introducing evidence, emphasizing the nature of the offense, and challenging a suspect by saying he or she was lying. Interviews of 160 suspects were conducted from December 1991 to April 1992 at two London, England police stations. Interviews were audiotaped and then transcribed. The interview tactics were then coded using the transcripts. Confessions were made in 58% of the cases (50% for vulnerable and 60% for non-vulnerable, which was not a significant difference).

Soukara, Bull, Vrij, Turner, and Cherryman (2009). The authors obtained 80 audiotaped interviews of suspects and coded the presence/absence of 17 different interview tactics. The interviews were conducted in England by a "relatively large police force" (p. 497) and 22 distinct crimes were represented. Thirty-one of 80 suspects confessed during the interview (see also, Bull & Soukara, 2010).

Walsh and Bull (2010). In this study, Walsh and Bull focused on social security benefit fraud. Using British 142 suspect interviews conducted between 2004 and 2007, the authors coded whether questioners were at, above, or below PEACE (i.e., information-gathering approach) standards. They coded the interviews for 19 specific skills/tactics, such as "displays active listening skills," "uses pauses and silences," and "conversation management skills." The authors also examined associations between PEACE interviewing skills and confession outcomes (e.g., denials, partial admissions, detailed confessions).

4.2.2 Laboratory Studies

A total of 30 independent sample (k) contrasts described in 12 experimental research manuscripts were included in the meta-analysis, representing the responses of 1,814 participants. The 12 eligible, experimental studies varied by publication status, interview style contrast, and confession type outcome. All but one of the studies was conducted in the United States (i.e., Hill, Memon, & McGeorge, 2008 in Aberdeen, UK). Nine have been published in peer-reviewed journals (from 1996 to 'in-press') and three are currently unpublished.

Only one study contrasted all three interviewing styles (accusatory vs. information-gathering vs. control; Meissner, Russano, Rigoni, & Horgan, 2011), and only one additional study examined the information-gathering approach (Narchet, Meissner, & Russano, in press). The remaining 10 studies contrasted a control method with the accusatorial method. Six studies examined the impact of interviewing method on both true and false confessions, while the remaining six focused only on false confessions. We did not find an eligible, experimental study that examined only true confessions.

Eleven of the 12 studies used variations of either the Kassin and Kiechel (1996) or the Russano et al. (2005) paradigm. The Kassin and Kiechel paradigm is one in which all participants are 'innocent' of the mock crime of crashing the computer. The Russano et al. paradigm includes participants randomly assigned to an innocent or guilty condition of a known, intentional act (i.e., cheating). (See Meissner et al., 2010, for more complete descriptions of these two paradigms). Eleven of the studies used undergraduate students as participants, with two studies including students from other minor age groups (i.e., Billings, Taylor, Burns, Corey, Garven, & Wood, 2007; Redlich & Goodman, 2003).

Brief descriptions of the 12 eligible laboratory studies are provided below.

4.2.2.1 Billings, Taylor, Burns, Corey, Garven, and Wood (2007)

Billings and colleagues examined how reinforcement (i.e., receiving verbal reinforcement that the given answer was correct/desired) influenced children's willingness to falsely confess or express guilty knowledge. Children from kindergarten through 3rd grade watched the staged theft of a toy in their classrooms. Then, children were randomly assigned to one of two interview conditions: control or reinforcement. In the control condition, children were asked straightforward suggestive questions about the theft. In the reinforcement condition, children were asked the same questions but also received reinforcement for the "right" answers. Children in both conditions were also asked if they themselves took the toy (which would be false confessions). For our purposes, the reinforcement condition was accusatory (thus, accusatory vs. control).

4.2.2.2 Blair (2007)

This study used the basic Kassin and Kiechel (1996) paradigm, though with some variations. Specifically, the author instructed participants not to touch the Control, ALT, and Delete keys (simultaneously) or the computer would crash (rather than just the ALT key). Undergraduate students were randomly assigned to be or not be presented with false evidence (i.e., being told that the computer server documented the keys hit and that indeed CTRL, ALT, and DEL were hit), and either to no-minimization/maximization tactics or minimization-maximization tactics. The minimization/ maximization tactic consisted of the following statement: "Look, there is no doubt that you pressed the Control, Alt, and Delete keys. That is the only way that this could happen. It has happened a few times during this study. There are usually only two reasons for someone to do something like this. Either they were just goofing around to see what would happen or they were trying to ruin the experiment. I want to believe that you were just goofing around, but the only way I can know it is if you tell the truth and sign this paper. Otherwise, I have to assume that you did it to ruin the experiment.'' No differences were found by condition.

4.2.2.3 Cole, Teboul, Zulawski, Wicklander, and Sturman (2005; unpublished presentation)

The purpose of this study was to replicate a study done by Kassin and Kiechel (1996; see below) but using a different task. More specifically, in the original Kassin and Kiechel paradigm, participants are accused of hitting the ALT key (which they had been told to avoid) and crashing the computer, and then asked to sign a (false) confession statement. In the Cole et al. study, participants are accused of breaking a lamp, an act which the authors argue is much less ambiguous. Fifty-five undergraduate students were accused of breaking the lamp and randomly assigned to either an incriminating false evidence condition (an accusatory approach, which was a confederate eyewitness falsely claiming to have seen the subject hit the ALT key) or to the no false evidence condition (control). Not one participant in either condition falsely confessed.

4.2.2.4 Hill, Memon, and McGeorge (2008)

This publication consisted of three separate studies. Only Study 2 was eligible to be included here. In this study, 64 undergraduates from the University of Aberdeen self-selected themselves to be either innocent or guilty of cheating (accepting answers from a confederate) during a laboratory task. Half of the guilty and half of the innocent participants were questioned with guilt-presumptive questions (accusatory style), whereas the other half were questioned with neutral questions (control) and confession outcomes were measured. A main effect of interview style did not emerge for either true or false confessions.

4.2.2.5 Kassin and Kiechel (1996)

In this study, college students were invited into the laboratory to participate in a reaction time study. However, the actual purpose of the study was to investigate why persons falsely confess. Participants are placed at a computer and told not to hit the ALT key or the computer will crash. The computer does crash and participants are asked one or two times to sign a statement taking responsibility for crashing the computer (i.e., the false confession). Participants were randomly assigned to either a slow or fast pace condition (pace of reading off keys to hit on the computer) and randomly assigned to a false-evidence or no-false-evidence condition. In the false-evidence condition, a confederate claims to have seen the participant hit the ALT key. The false evidence condition was considered accusatorial style, while the no false evidence was considered control. The primary outcome was the number who signed the false confession which ranged from 35% to 100% depending upon condition.

4.2.2.6 Meissner, Russano, Rigoni, and Horgan (2011; unpublished manuscript)

Across two studies, the authors conducted a comparative analysis of information-gathering and accusatorial methods of interrogation. Using the Russano et al. (2005) paradigm (explained above), guilty and innocent participants were exposed to either information-gathering, accusatorial, or control interrogation tactics, and the elicitation of true vs. false confessions was recorded. The authors consistently observed that information-gathering methods reduced the likelihood of false confessions and increased the likelihood of true confessions.

4.2.2.7 Narchet, Meissner, and Russano (in press)

This study investigated the role of interrogators' perceptions of the guilt/innocence of suspect on the likelihood of eliciting true vs. false confessions. Undergraduate students participated in a laboratory experiment using the Russano et al. (2005) paradigm. The researchers evaluated the use of various interrogative approaches on the likelihood of confession, including both information-gathering and accusatorial methods, finding that information-gathering approaches significantly reduced the likelihood of false confessions.

4.2.2.8 Newring and O'Donohue (2008)

This study utilized a variant of the Kassin and Kiechel (1996) computer crash paradigm, but was the only study to employ a within-subject design. The authors did have a between-subjects condition of suspects (accused of crashing the computer) and witnesses (observed the computer crashing); only the suspect condition is included here. All subjects were interviewed in a 5-part process. The first part was a control question of "what happened" (control style), Subsequent parts, which were based on Reid approaches and thus categorized as accusatory for our purposes, included requests for written statement, verbal reviews of statements, and for

explanations of what happened (the latter using the Reid Theme of "reducing the suspect's feeling of guilt by minimizing the moral seriousness of the offense" (p. 93). Twenty-six undergraduates served as suspects. The main outcome was false confessions.

4.2.2.9 Perillo and Kassin (in press)

Kassin and colleagues conducted three studies examining the influence of the bluff technique on true (Study 3 only) and false (all studies) confessions. The bluff, categorized as an accusatorial approach here, is when interrogators insinuate there is incriminating evidence against suspects. Studies 1and 2 utilized the Kassin and Kiechel (1996) paradigm. Study 1, which included 79 college students, had five conditions: no-tactics control, false witness evidence, the bluff technique, false witness and bluff combined, and a witness-affirmed innocence (another control condition). Study 2 included 44 college students using only the bluff and no-tactic control conditions. Study 3 utilized the Russano et al. (2005) paradigm, and thus participants (72 college students) were randomly assigned to the guilt or innocent condition. The interview style conditions were bluff vs. no-bluff (control).

4.2.2.10 Redlich and Goodman (2003)

This study was a replication of the original Kassin and Kiechel study with some alterations. In addition to college students, juveniles aged 12 and 13, and 15 and 16 years were included to examine if juveniles were more likely to falsely confess than adults. The pace of reading keys was not manipulated and the false evidence was not an eyewitness confederate but rather a fake printout that demonstrated subjects (in that condition) hit the ALT key. Like the original study, the false-evidence condition was considered accusatorial, and no-false-evidence was control. Also as in the original, all participants were innocent of the mock crime and thus false confessions were the outcome.

4.2.2.11Russano, Meissner, Narchet, and Kassin (2005)

In this study, undergraduates came to the laboratory to participate in a study on problem-solving. During this task, half of the participants were induced to cheat via a confederate (the guilty condition), whereas the other half were not (innocent condition). All subjects were confronted with the possibility of cheating and interviewed using minimization techniques, a deal of leniency, both minimization and deal, or neither (the control condition). The ratio of true to false confessions decreased with the use of accusatorial methods.

4.2.2.12 Russano, Narchet, and Meissner (2005; unpublished presentation)

Using the Russano et al. (2005) paradigm, the authors examined the influence of presenting false evidence to guilty and innocent participants on the likelihood of eliciting true vs. false confessions, respectively. Participants in the false evidence condition were shown a written confession statement that appeared to have been

signed by a second participant (a confederate to the experiment) prior to being asked to sign their own confession statement. Participants in the no false evidence condition were shown no such statement; they were simply asked to sign their own confession statement. Guilty participants were more likely to confess than innocent participants; however, there was no effect of presentation of false evidence on confession rates.

4.3 META-ANALYSIS OF THE INFLUENCE OF INTERVIEW/INTERROGATION METHOD ON CONFESSION OUTCOMES: FIELD STUDIES

The aim of the field study meta-analysis was to provide a quantitative assessment our understanding of the statistical association between the use of certain interrogation methods and the likelihood of eliciting confessions (regardless of veracity) in a real world context.

Our primary measure of effect size was the logged odds-ratio (LOR), consistent with the recommendations of Lipsey and Wilson (2001) for studies involving dichotomous outcomes (i.e., confess vs. not confess in the present analysis). The LOR, standard error (seLOR), and weight (wLOR) parameters were computed directly from the sample size and cell frequencies reported in each research article or were derived based upon the statistical information provided by authors (see Lipsey & Wilson, 2001, pp. 52-55, for relevant formulae). The LOR was transformed into the Cox index, yielding the Hedge's g effect size, which is what we report (see Cox, 1970; Lipsey & Wilson, 2001; Sanchez-Meca, Marín-Martínez, & Chacón-Moscoso, 2003).

We examined the relationship between the use of certain interrogative methods (accusatorial, information-gathering, or general interrogative methods) and elicitation of a confession. A random effects model was used to estimate the mean weighted effect size for each association. Given the small number of samples within each effect size analysis ($k < 3$), no moderator analyses were conducted.

Table 3 provides the mean weighted effect size and 95% confidence intervals calculated for outcomes of true confessions and false confessions across each of the three interrogative contrasts. Estimates of homogeneity (Q) are also provided. Figure 1 shows a forest plot of the effect sizes.

4.3.1 Accusatorial Methods

Three empirical articles ($k = 3$, $N = 306$) assessed the relationship between use of accusatorial methods and elicitation of a confession statement in a real-world context. Consistent with the experimental literature, a random effects analysis demonstrated that the use of such methods was associated with a large and significant increase in confession rates ($g = 0.90$, $z = 3.43$, $p < .001$). There was no

significant degree of variability across the studies (Q = 4.89, ns.), and the findings appeared mildly robust given the small number of available studies.

4.3.2 Information-Gathering Methods

Two empirical articles (k = 2, N = 222) assessed the relationship between use of information-gathering methods and elicitation of a confession statement in a real-world context. Also consistent with the experimental literature, a random effects analysis found that the use of such methods was associated with a large and significant increase in confession rates (g = 0.86, z = 2.04, p < .05). A significant degree of variability between the two studies was observed (Q = 5.54, p < .05), though no moderator analysis was conducted due to sample size limitations. Sample size also limited the robustness of the finding.

4.3.3 General Interrogative Methods

A number of tactics observed in these studies could reasonably be coded as a part of accusatorial and information-gathering approaches (as described previously). An analysis was conducted on the influence of these combined methods in eliciting confessions in a real-world context as opposed to those methods that might be exclusively linked to either accusatorial or information-gathering approaches. Three empirical articles (k = 3, N = 422) assessed the relationship between such methods and elicitation of a confession statement. Results of a random effects analysis demonstrated no significant relationship between the use of these general methods and confession statements provided by suspects (g = 0.19, z = 0.41, ns.). A significant degree of variability across the three samples was observed (Q = 25.35, p < .001), as might be expected from the combination of such generalized interview/interrogative methods. No moderator analysis was conducted due to sample size limitations.

4.3.4 Summary

The use of accusatorial and information-gathering methods of interrogation was significantly associated with the elicitation of confessions in a real-world context. While these results suggests that such methods are effective tools for elicitation of confessions, it is important to note that these findings fail to distinguish the diagnostic value of the information obtained – field studies offer little-or-no opportunity to distinguish between innocent and guilty suspects, and "ground truth" in such contexts is nearly impossible to determine. As such, researchers have assessed the diagnostic value of certain interrogative methods by modeling the interrogative process in an experimental, laboratory context. We turn now to a meta-analysis of these studies as a method for further assessing the diagnostic value of accusatorial and information-gathering approaches.

4.4 META-ANALYSIS OF THE INFLUENCE OF INTERVIEW/INTERROGATION METHOD ON CONFESSION OUTCOMES: EXPERIMENTAL STUDIES

The aim of the current meta-analysis was to provide a quantitative assessment the statistical effect of certain interrogation methods on the likelihood of eliciting true vs. false confessions for studies conducted in an experimental, laboratory context.

Again, our primary measure of effect size was the logged odds-ratio (LOR). The LOR was transformed into the Cox index, yielding the Hedge's g.

We examined the contrasting effects of accusatorial, information-gathering, and control (no tactic) interrogation methods across the outcomes of both true and false confessions. The number of independent samples (k) contributing to each contrast differed substantially, as can be seen in Table 4. A random effects model was used to estimate the mean weighted effect size for each comparison. Our analysis of moderating variables was limited due to the small number of independent samples in each contrast, though we address the role of publication bias and include a moderator analysis when appropriate.

Table 4 also provides the mean weighted effect size and 95% confidence intervals calculated for outcomes of true confessions and false confessions across each of the three interrogative contrasts. Estimates of homogeneity (Q) are also provided.

4.4.1 Control vs. Accusatorial

The contrast between an accusatorial interrogative method and a control interview condition was most frequently represented in the experimental research literature, though researchers more often assessed the effects on false confessions ($k = 14$, $N = 892$) compared with true confessions ($k = 6$, $N = 272$). A random effects analysis across studies demonstrated that accusatorial methods yielded a significant increase in the frequency of both true confessions ($g = 0.46$, $z = 2.24$, $p < .05$) and false confessions ($g = 0.74$, $z = 3.75$, $p < .001$). While these represent medium-to-large effects, only the contrast on false confessions appears robust and tests of homogeneity were similarly only significant for the outcome of false confessions ($Q = 32.99$, $p < .01$). Figure 2 provides a forest plot of the independent samples contributing to the analysis of true and false confessions.

A number of variables were considered for inclusion in a moderator analysis of the influence of accusatorial methods in eliciting false confessions. Unfortunately, studies varied little in several key variables of interest. For example, only 2 of the 14 independent samples involved children or adolescents (i.e., Billings et al., 2007; Redlich & Goodman, 2003), while the remainder involved college students. In addition, none of the published studies manipulated race or ethnicity in participant recruitment or analyses of the data. Similarly, only 1 of the 14 samples was conducted outside of the United States (i.e., Hill et al., 2008). Finally, a mix of

accusatorial methods were employed across studies, including aspects of minimization, maximization, presentation of false evidence, and various combinations therein – although we coded the inclusion of such methods across studies, there was too much variability across studies in the application of accusatorial methods to conduct an informative moderator analysis along this dimension. This is rather unfortunate, as such a variable is likely to account for significant variance with respect to this effect size analysis.

One variable that appeared to vary systematically across studies involved the use of different experimental paradigms, including the Kassin and Kiechel (1996) "ALT key" paradigm (k = 6) and the Russano et al. (2005) "cheating" paradigm (k = 6). A moderator analysis of these two sets of studies showed no significant difference in the effect sizes produced. Both the Kassin and Kiechel paradigm (g = 0.66, z = 2.14, p < .05, with 95% CI: 0.05, 1.27) and the Russano et al. paradigm (g = 0.93, z = 4.00, p < .001, with 95% CI: 0.47, 1.38) yielded medium-to-large effects demonstrating that accusatorial methods significantly increased false confession rates (when compared with a control condition).

4.4.2 Control vs. Information-Gathering

Only two studies have examined the influence of information-gathering interrogative methods (versus that of a "control" condition) in eliciting true confessions (k = 2, N = 110) and false confessions (k = 2, N = 110). A random effects analysis of these studies demonstrated that information-gathering methods yielded a greater frequency of true confessions (g = 0.67, z = 2.02, p < .05), but did not significantly influence the likelihood of eliciting false confessions (g = -0.23, z = -0.60, ns.). Given the small number of studies, the lack of a robust effect on true confessions was not surprising, and neither effect size analysis demonstrated significant variability from which to assess moderator effects (Qs < 1.41, ns.). Figure 3 provides a forest plot of the independent samples contributing to the analysis of true and false confessions.

4.4.3 Accusatorial vs. Information-Gathering

Three studies assessed the direct contrast between accusatorial and information-gathering interrogative methods in eliciting true confessions (k = 3, N = 215) and false confessions (k = 3, N = 215). A random effects analysis demonstrated that information-gathering methods produced a significantly greater frequency of true confessions (g = 0.64, z = 1.97, p < .05), while significantly reducing the frequency of false confessions (g = -0.77, z = 2.19, p < .05), when compared with accusatorial methods. These medium-to-large effect sizes were not particularly robust. Similarly, neither analysis produced significant variability to warrant a moderator analysis (Qs < 4.43, ns.). Figure 4 provides a forest plot of the independent samples contributing to the analysis of true and false confessions.

4.4.4 Summary

A small, but growing, experimental literature has assessed the influence of information-gathering and accusatorial interrogative methods in eliciting true vs. false confessions. While both methods increase the likelihood of obtaining a true confession from a guilty participant when compared with a control condition, accusatorial methods also significantly increase the likelihood of obtaining a false confession from an innocent participant. When directly contrasted with one another, information-gathering methods of interrogation prove more diagnostic – they elicit a greater proportion of true confessions, while significantly reducing the likelihood of false confession.

5 Discussion

We begin by noting the relatively sparse experimental and field literature evaluating the systematic influence of interrogative methods in eliciting true and false confessions. Although we found significant and sometimes robust effects, the number of independent samples, particularly for information-gathering approach and for true confessions, limits our ability to make definitive conclusions. Here, we briefly discuss the findings of the field study and experimental study meta-analyses, then conclude our review by discussing the implications of our analyses for policy and practice.

5.1 FIELD STUDY CONCLUSIONS

Our review of the available field study literature located 33 potentially eligible observational studies on interrogation, though only 5 of these studies empirically assessed the relationship between interrogative approaches and elicitation of a confession. That so few studies have assessed this relation was surprising to us, particularly in light of the clear need for research and evidence-based policy recommendations on this issue (see Kassin et al., 2010).

Analysis of the field studies suggests that both accusatorial and information-gathering methods work to significantly increase the likelihood of obtaining a confession statement, producing large effect sizes that are not particularly robust given the small number of available studies. Interestingly, methods that might be considered general interrogative approaches that are shared across these methods failed to show a significant association with elicitation of a confession. Thus, it may be that the techniques that truly distinguish between the information-gathering and the accusatorial approach are those associated with generating confessions.

It is important here to note that field studies fail to offer us important information regarding the relative diagnostic value of the confession that is elicited. That is, such studies lack “ground truth” that would enable us to factually determine the veracity of the statement provided by a suspect, and thereby preclude our ability to assess the diagnostic value of the information elicited and therein the effectiveness of such techniques when employed in the field. One method often used to assess veracity in field studies has been to evaluate the “strength” of available evidence against the defendant (cf. Behrman & Davey, 2001; Leo & Ofshe, 1998); however, none of the

studies took this approach to evaluating the likely credibility of the confession obtained as a moderator of interrogative efficacy.

We also note here that each of the studies included in the field study meta-analysis examined the bivariate relationship between certain interrogative methods and elicitation of a confession. As indicated in our review of the available literature, a number of control variables could reasonably be included in such analyses (e.g., factors related to interrogator experience, crime type, interrogator/suspect ethnic backgrounds, geographic characteristics, etc.), and more complex modeling approaches (such as multi-level modeling or path analysis) could have been pursued, albeit many (if not all) of these studies may not have had a large enough sample size to consider multiple factors simultaneously. We strongly encourage researchers to obtain larger samples and initiate more systematic, multi-level analyses of the influence of interrogative methods. Further, there is a great need for the use of quasi-experimental methods in this field context as our understanding of the effects of certain interrogative methods matures. Quasi-experimental methods could include the random assignment of certain factors in real-world interviews and interrogations, such as the use of the Cognitive Interview, whether suspects are told they are being recorded, and many of the variables under consideration here. Such quasi-experimental methods are effective tools for assessing the policy implications of alternative approaches to police interviewing and interrogation, and should be considered in the years ahead.

5.2 EXPERIMENTAL STUDY CONCLUSIONS

While a total of 22 experimental, laboratory studies on interrogation were potentially eligible, only 12 of these studies manipulated interrogative methods and assessed their influence on key outcomes (i.e., true and/or false confessions). The majority of the excluded studies were not focused on interrogation style per se, but rather on certain dispositional factors. For instance, the studies conducted by Forrest et al. (2006), Horselenberg et al. (2003), and Klaver et al. (2008) utilized the Kassin and Kiechel paradigm but did not manipulate the interrogation style. Klaver et al. manipulated plausibility of committing the crime, whereas Forrest et al. and Horselenberg et al. concentrated on individual suspect differences.

A meta-analysis of the eligible experimental literature demonstrated several key findings that may have implications for policy and practice. First, while accusatorial methods significantly increased the likelihood of obtaining a true confession (when compared with a no-tactic control condition), these methods also significantly increased the likelihood of obtaining a false confession – a rather medium-to-large effect that is consistent with many cases of wrongful conviction in the United States (see Kassin et al., 2010). In contrast to this, information-gathering approaches significantly increased true confession rates, but showed no significant increase in the rate of false confessions when compared with a no-tactic control condition. In fact, information-gathering approaches appeared to show a numerical decrease in

the rate of false confessions obtained. When compared directly against accusatorial methods, information-gathering approaches showed superior diagnosticity by significantly increasing the elicitation of true confessions and significantly reducing the incidence of false confessions. Although not particularly robust due to the small number of studies, these medium-to-large effects suggest that information-gathering approaches may be preferable for the collection of more diagnostic confession evidence.

Given the small number of available studies in this literature, it is not surprising that the current findings lack a degree of robustness. Although the studies included met appropriate standards of methodological rigor, it is imperative that further research be conducted to replicate and extend the current findings.

5.3 POLICY IMPLICATIONS

In accomplishing this systematic review, it became readily clear to us that the current experimental and field study literatures must continue to mature if we are to offer a complete understanding of the various psychological, sociological, criminological, and cultural factors that influence the interrogative process. While we have a robust understanding of the factors that lead to false confessions in an interrogative context (see Kassin et al., 2010), only a limited literature exists to assess the value of alternative methods of interrogation that might promote the diagnostic elicitation of confessions evidence in the law enforcement context (see Meissner, Hartwig, & Russano, 2010), or the elicitation of critical knowledge in a military or intelligence context (see Evans et al., 2010; Redlich, 2007). The current analysis suggests that information-gathering approaches introduced by Great Britain and other countries (see Bull & Soukara, 2010) can be equally effective in eliciting confessions when compared with accusatorial methods, but also have the advantage of eliciting more diagnostic information. In the experimental meta-analysis, when the information-gathering and accusatorial approaches were contrasted, the information-gathering approach clearly produced more advantageous outcomes (although caution is warranted given the small number of eligible studies). Specifically, the information-gathering approach produced significantly more true confessions, whereas the accusatorial approach produced significantly more false confessions. As such, the current analysis suggests that law enforcement, military, and intelligence agencies should consider the use of information-gathering approaches to interrogation. In addition, additional research should be conducted to further refine and solidify our understanding of the effects of various interrogative methods in eliciting true and false confessions, therein providing a stronger foundation for evidence-based practice and policy recommendations.

6 Plans for Updating the Review

The review will be updated every three to five years. The lead reviewers and their students will be responsible for updating. The same search and data coding methods will be employed.

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10 Tables

10.1 DIMENSIONS ALONG WHICH INFORMATION-GATHERING AND ACCUSATORIAL METHODS CAN BE DIFFERENTIATED

Information-Gathering Methods	Accusatorial Methods
Establishes Rapport	Establishes Control
Uses Direct, Positive Confrontation	Uses Psychological Manipulation
Employs Open-Ended, Exploratory Questions	Employs Closed-Ended, Confirmatory Questions
Primary Goal is Elicitation	Primary Goal is Confession
Focuses on Cognitive Cues to Deception	Focuses on Anxiety Cues to Deception

10.2 VARIABLES OFTEN EXAMINED AS POTENTIALLY INFLUENCING "CONFESSION" RATES ACROSS THE INITIAL SAMPLE OF FIELD STUDIES

Factors Associated with "Confession"	% of Studies
Crime Type or Severity	29%
Suspect Demographic Characteristics	26%
Strength of Evidence	20%
Location of the Interrogation	11%
Interrogator Demographic Characteristics	9%
Interrogation Length	3%
Timing of Interrogation	3%
Use of the Polygraph	3%

10.3 MEAN WEIGHTED EFFECT FOR ACCUSATORIAL, INFORMATION-GATHERING, OR BOTH INTERROGATIVE APPROACHES AND ELICITATION OF A CONFESSION IN REAL CASES

Interrogative Method	*k*	*N*	Hedge's *g*	95% CI	*Q*
Accusatorial	3	306	0.90***	(0.38, 1.41)	4.89
Information-Gathering	2	222	0.86*	(0.04, 1.69)	5.54*
General Interrogative Methods	3	422	0.19	(-0.69, 1.06)	25.35***

* $p < .05$, ** $p < .01$, *** $p < .001$

10.4 MEAN WEIGHTED EFFECT SIZES ACCUSATORIAL, INFORMATION-GATHERING, AND CONTROL INTERROGATIVE APPROACHES ACROSS TRUE AND FALSE CONFESSIONS

Interrogative Contrast	Outcome	*k*	*N*	Hedge's *g*	95% CI	*Q*
Control vs. Accusatorial	True Confession	6	272	0.46*	(0.06, 0.86)	7.52
	False Confession	14	892	0.74***	(0.35, 1.12)	32.99**
Control vs. Information-Gathering	True Confession	2	110	0.67*	(0.02, 1.32)	1.41
	False Confession	2	110	-0.23	(-0.98, 0.52)	0.11
Accusatorial vs. Information-	True	3	215	0.64*	(0.01, 1.28)	3.62

Gathering	Confession					
	False Confession	3	215	-0.77*	(-1.46, -0.08)	4.43

* $p < .05$, ** $p < .01$, *** $p < .001$

11 Figures

11.1 INFLUENCE OF METHOD IN ELICITING A CONFESSION

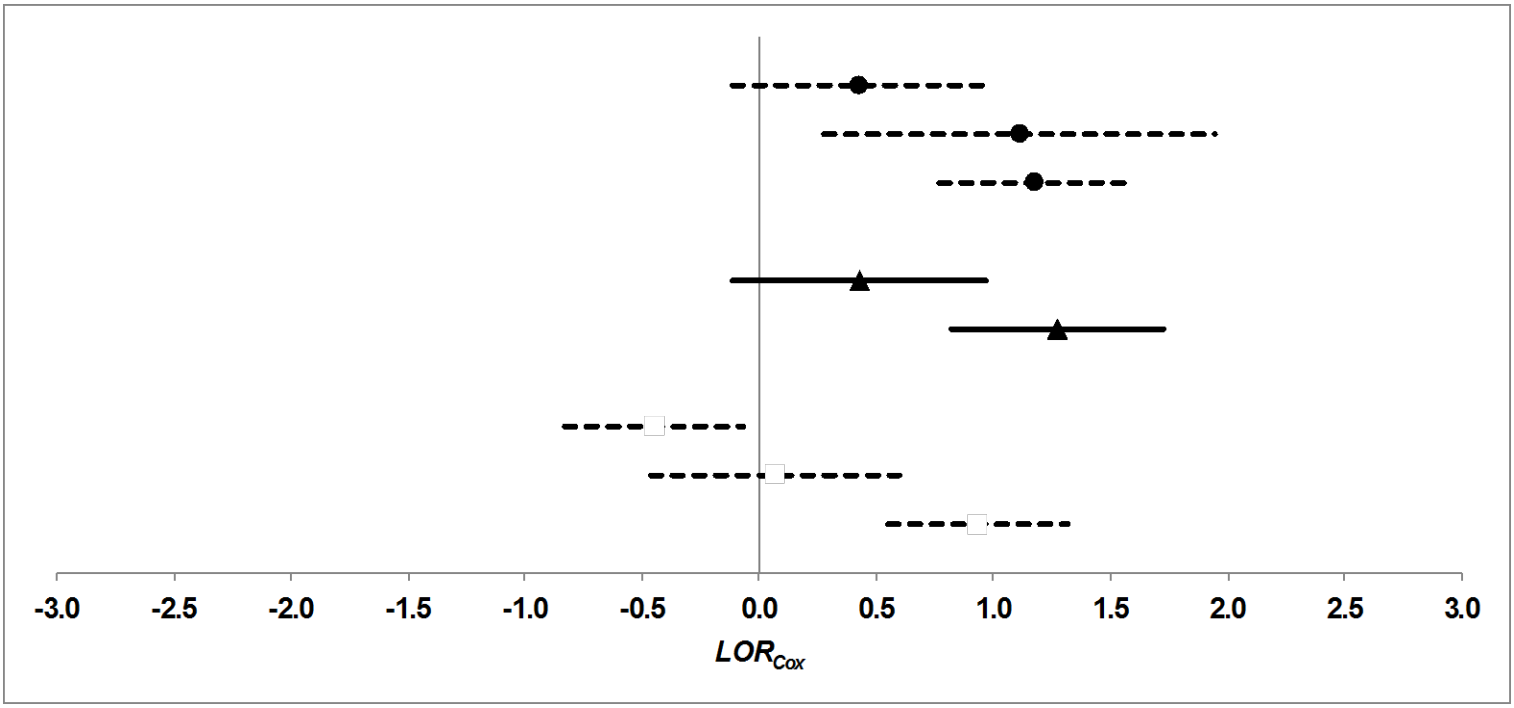

Figure 1. Forest plot of independent samples assessing the influence of accusatorial (circular markers with dashed lines), information-gathering (triangular markers with solid lines), and combined interrogative methods (square markers with dashed lines) in eliciting of a confession in a real world context.

11.2 CONTROL VS ACCUSATORIAL METHODS

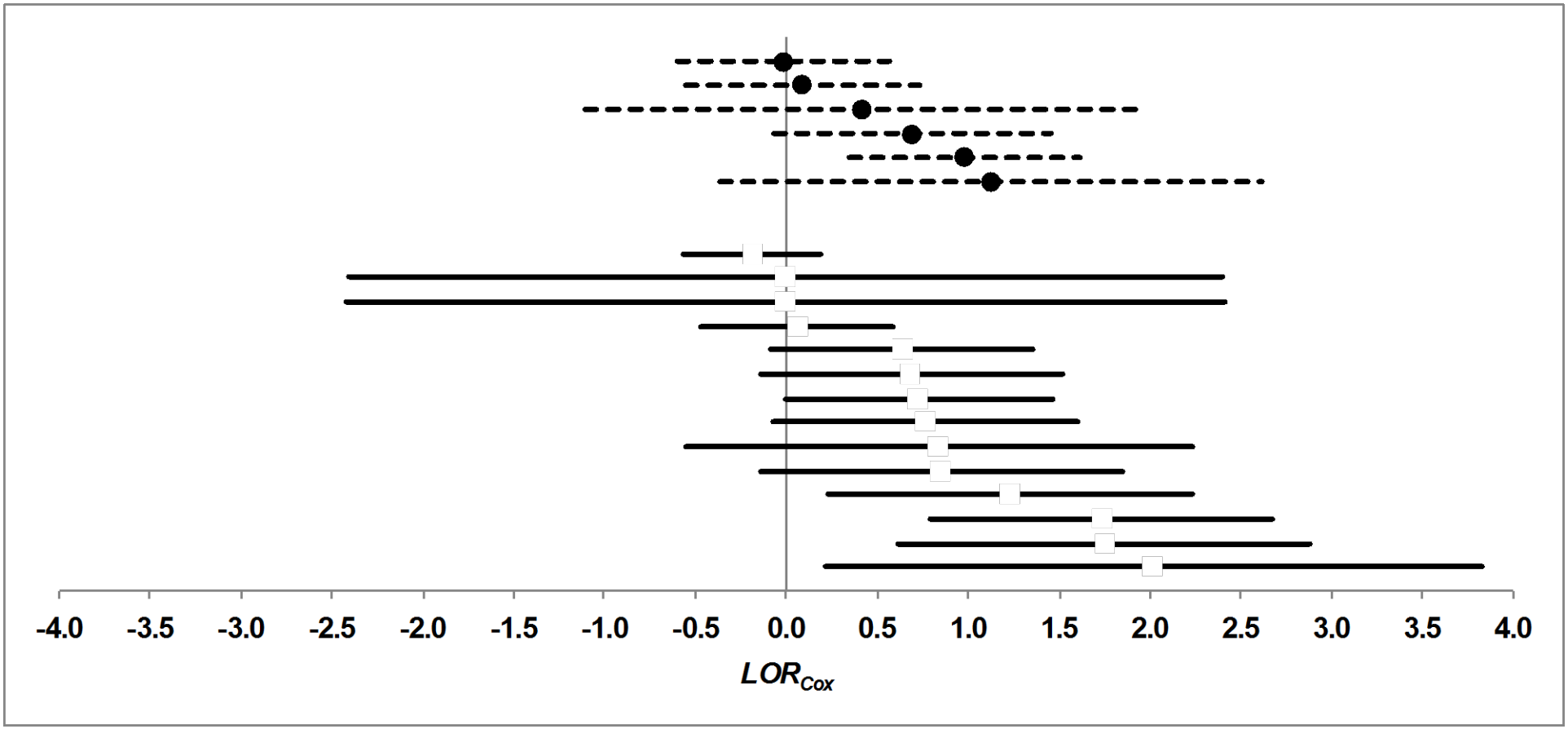

Figure 2. Forest plot of independent samples assessing the influence of control vs. accusatorial interrogative methods in eliciting true confessions (circular markers with dashed lines) and false confessions (squared markers with solid lines) in an experimental context

11.3 CONTROL VS INFORMATION GATHERING

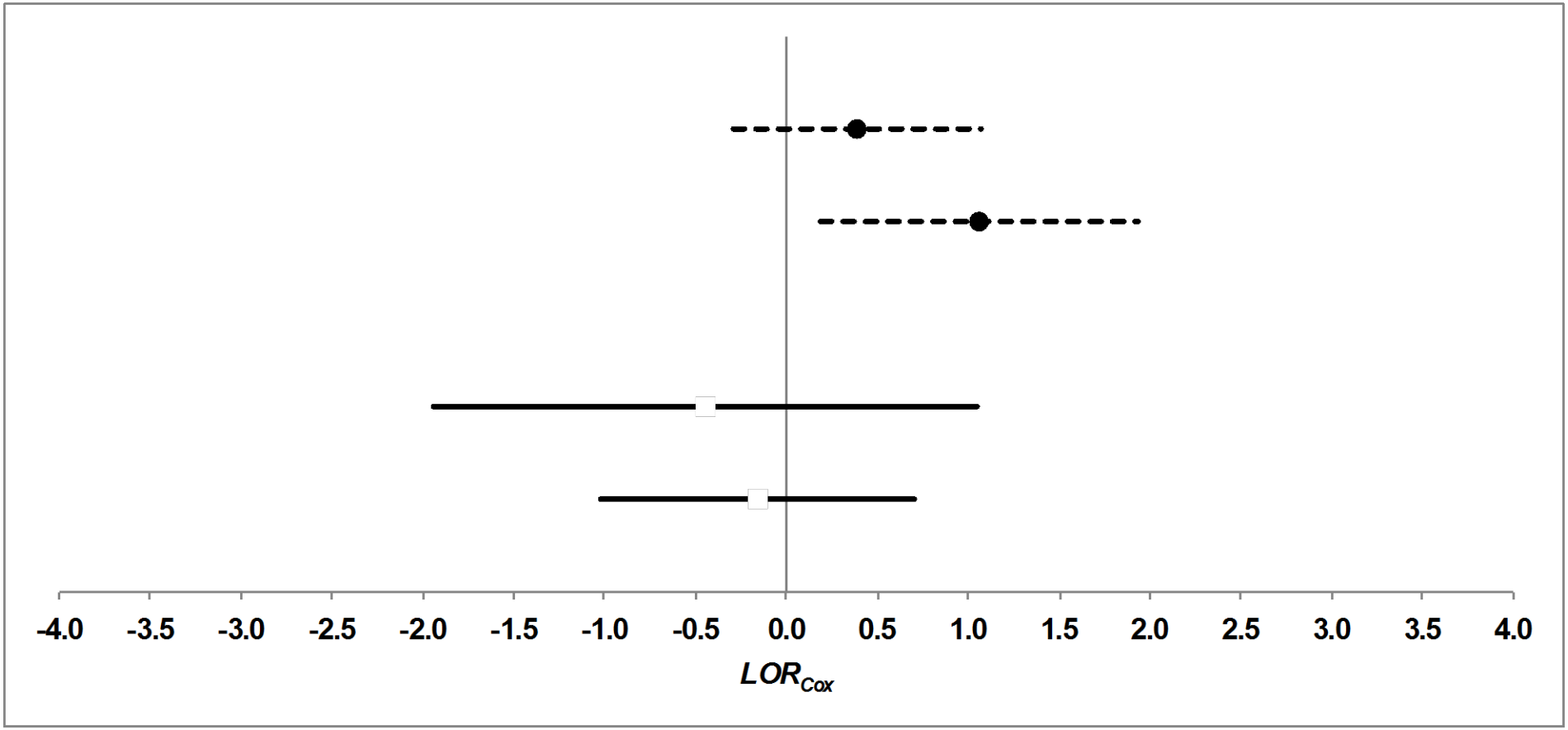

Figure 3. Forest plot of independent samples assessing the influence of control vs. information-gathering interrogative methods in eliciting true confessions (circular markers with dashed lines) and false confessions (square markers with solid lines) in an experimental context.

11.4 ACCUSATORIAL VS. INFORMATION GATHERING INTERROGATIVE METHODS

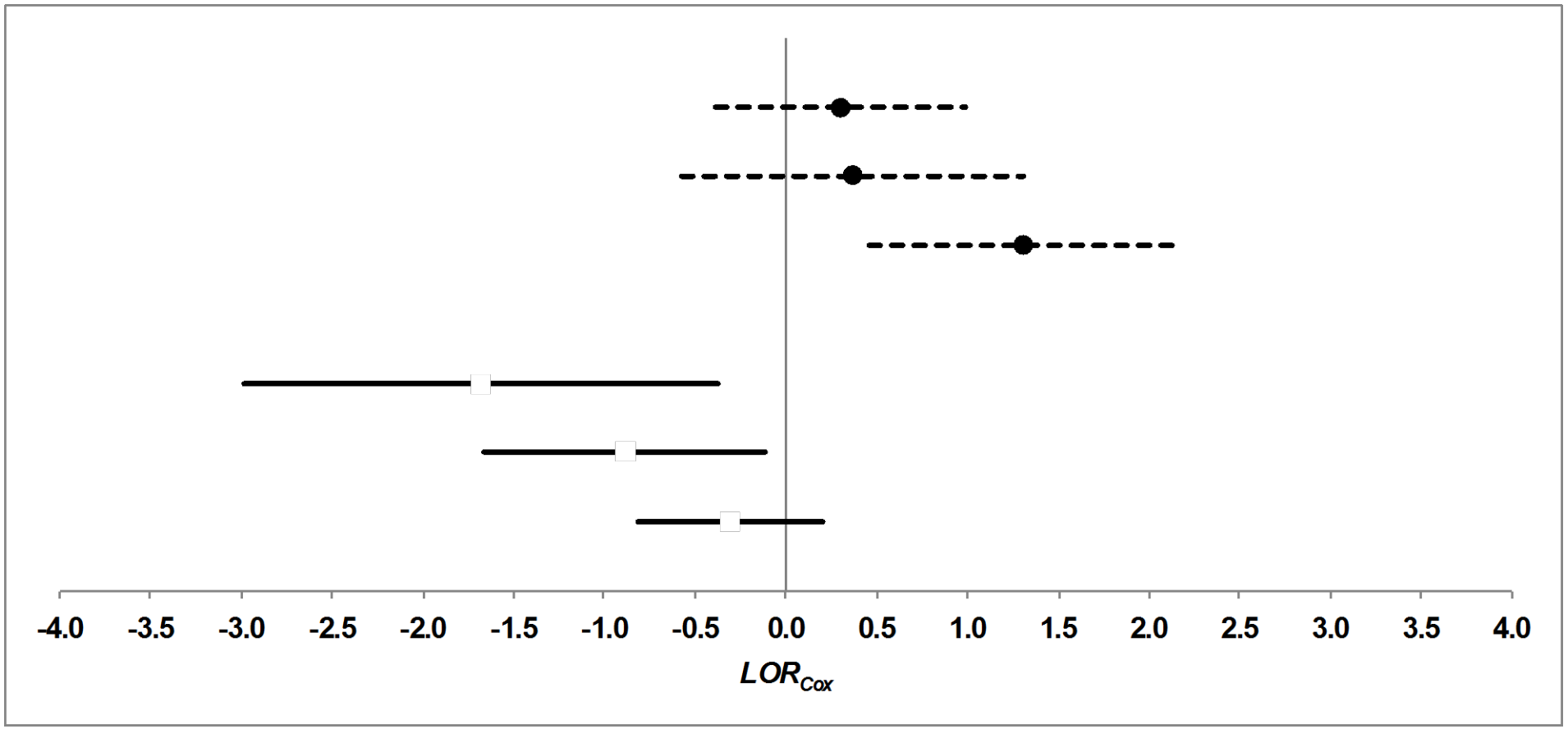

Figure 4. Forest plot of independent samples assessing the influence of accusatorial vs. information-gathering interrogative methods in eliciting true confessions (circular markers with dashed lines) and false confessions (square markers with solid lines) in an experimental context.