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Corporate Crime Deterrence PROTOCOL

Sally S. Simpson, William S. Laufer, N. Craig Smith, Melissa Rorie and Natalie Schell-Busey

THE CAMPBELL COLLABORATION

Systematic Review Protocol
Cover Sheet

Corporate Crime Deterrence

Sally S. Simpson,[1] William S. Laufer,[2] N. Craig Smith[3]
and
Melissa Rorie[4] and Natalie Schell-Busey[5]

[1] Department of Criminology and Criminal Justice, University of Maryland, College Park, MD, 20741. SSimpson@crim.umd.edu.
[2] Department of Criminology, University of Pennsylvania, Philadelphia, PA, 19104. Lauferw@Wharton.upenn.edu
[3] INSEAD PMLS 0.13, Boulevard de Constance, 77305 Fontainebleau CEDEX, France, Craig.Smith@insead.edu
[4] Department of Criminology and Criminal Justice, University of Maryland, College Park, MD, 20741, mrorie@crim.umd.edu
[5] Department of Law & Justice Studies, Rowan University, 201 Mullica Hill Road, Glassboro, NJ 08028, Schell-Busey@rowan.edu

1. Background for the Review

Few subject areas span as many disciplinary boundaries as does corporate crime. Since Sutherland's famous Presidential Address to the American Sociological Association in 1939 and subsequent publication of White Collar Crime ten years later, business scholars, economists, sociologists, political scientists, lawyers, and psychologists, and criminologists have speculated not just about the etiological origins of corporate crime but about the success of various strategies for its prevention and control. Yet, scholars and policy-makers know very little about "what works, what doesn't, and what's promising" in this area. This is due to several related issues: (1) the ambiguity, scope, and complexity of the subject matter; (2) little systematic program or policy evaluation; (3) a lack of readily available and accessible data for research purposes which ultimately affects (4) the type and quality of research in this area.

Beginning with the first point, it is useful to define what *we* mean by corporate crime. Braithwaite (1984:6) describes corporate crime as "the conduct of a corporation, or of employees acting on behalf of a corporation, which is proscribed and punishable by law." Corporate crime, therefore, encompasses a wide array of illegal activities that are criminally, civilly, and administratively proscribed *and* which may be undertaken by individual managers/employees as well as by the firm (as an organizational actor). Corporate crimes generally are distinguished from other types of white-collar offenses by the use of organizational resources and by who gains from the offense. Thus, when Raymond Scott Stevenson, head of Tyco's tax department, directed a series of transactions designed to reduce Tyco's state tax liability by back-dating transactions to avoid reporting a $170 million dollar federal capital gain, he used organizational resources to "benefit" the company's bottom line.[6]

This distinction between white-collar and corporate offending is by no means unambiguous. For instance, a top manager may utilize organizational resources to enrich him or herself--described as "collective embezzlement" by Calavita and Pontell (1991). In addition, although many acts of corporate crime are undertaken to achieve organizational goals, such acts may indirectly benefit the individual through promotion or salary bonuses. However, in accordance with Braithwaite's definition and consistent with our focus on corporate deterrence, we are interested in the kinds of behaviors typically characterized as "corporate" and not "white-collar" offenses where the motivation for offending is organizational, not personal.

It is useful to categorize the kinds of offenses that meet our definitional criteria. Broadly conceived, corporate crimes in the United States[7] can include the following categories of offenses: administrative noncompliance, environmental violations, financial violations, labor violations, manufacturing violations, and/or unfair trade practices (Clinard and Yeager, 1980:113-116). Similar to classifications of street crimes (e.g., violent crimes), each category contains a variety of specific offenses, often with distinct laws that define illegalities and provide remedies and sanctions for violators. For instance, unfair trade practices include monopolization, price-fixing, unfair advertising, and price discrimination, among other illegal activities (Simpson, 1986). The Federal Trade Commission Act, Robinson-Patman Act, and the

[6] http://www.usdoj.gov/usao/fls/PressReleases/060921-04.html

[7] These categories of offenses are particular to the United States. Other countries, especially in the west, may have similar classifications, but the laws and punishments are not necessarily comparable.

Sherman-Clayton Antitrust Act are some of the more significant pieces of legislation that define what constitutes unfair trade practices and the range of penalties for violators. Environmental violations are classified by different media (e.g., air, water, land) and statutes (e.g., Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act). Similar to anti-competitive illegality, some of these practices are defined as criminal offenses while others fall within the civil-administrative realm. While many corporate offenses are financial, others are "violent" in nature, where human lives are lost and individuals injured (for instance, Occupational Health and Safety Administration violations).

A key feature of corporate offending is crime complexity. Although some offenses may be quite simple (bribery or accounting fraud), others often involve multiple interconnected actors and organizations, occur over long periods of time, and entail manipulating shell companies and billions of dollars (such as Enron). Corporate crimes also vary by seriousness. Egregious offenses can carry substantial criminal and civil sanctions while others are fairly minor "technical" violations (e.g., failure to submit a report to a regulatory agency). While definitional murkiness, breadth, and complexity make the phenomenon difficult to study, there are other barriers to research as well.

Perhaps the most salient barrier to research lies with the lack of high quality data. There is no UCR-like national data base that can be used to "measure" the corporate crime problem, nor are there any systematic procedures for identifying the "hidden" figure of crime. Most studies of corporate offending are qualitative, case study investigations of sensational events. There are only a handful of systematic scientific studies of corporate offending (including Sutherland's original study) because most federal agencies that fund criminological research (e.g., National Institute of Justice) focus on "street" crime. These agencies are also more apt to fund evaluation research on programs and policies in these same areas. We therefore have learned a great deal about the successes or failures of drug courts, boot camps, or gun seizures, but relatively little about whether internal compliance systems (such as ethics training, randomized audits, hotlines) reduce illegal behavior by companies or if criminal prosecution promotes corporate deterrence and compliance better that civil litigation or regulatory interventions.

Because the subject matter crosses so many disciplinary boundaries, there are studies and evaluations outside of criminology and criminal justice that can inform a systematic review in this area. In addition, because a review of this type has never been conducted, it is essential to learn where empirical studies are concentrated (i.e., what kinds of interventions and outcomes) to assess the empirical quality. We began this work at a very general level, conducting an extensive search of the white-collar and corporate offending literatures without regard to specific types of crime prevention or intervention strategies.[8] Consequently, we have already completed the overall search of the published and unpublished literature and have found that many studies examine the effectiveness of legal restraints (including laws, official sanctions, and regulatory actions). Therefore, we have narrowed the scope of this protocol to that particular domain.

[8] The larger study culled documents related to any type of crime control or treatment program, including extra-legal strategies (e.g., training, internal compliance programs, market penalties) in addition to the legal and administrative domains included in the current protocol.

2. Objectives of the Review

Our overall objective is to identify and synthesize the extant empirical literature on *formal legal and administrative* prevention and control—i.e., the actions and programs of government law enforcement agencies, legislative bodies, and regulatory agencies. This review will consider all types of legal and regulatory practices as long as corporate crime prevention is part of the outcome. Other outcomes and information, if relevant, will also be collected.

Second, we need to assess the "quality" of this evidence (i.e., the kinds of studies and data that exist to answer our research questions) to determine whether a meta-analytic review is possible in this domain.

Once we have retrieved and fully coded relevant publications (including the calculation of effect sizes), we plan to focus on the effectiveness of the identified strategies and programs. Specifically, we will address the following questions:

- Which kinds of interventions (prevention and control) lower the risk of corporate offending?
- Do different types of interventions have different kinds of effects?
- Do effects vary by unit of analysis (e.g., manager vs. firm)?
- Do interventions have different effects by offense type?

3. Methods

3.1 Criteria for inclusion and exclusion of studies in the review

As part of a larger study attempting to identify the universe of studies on prevention of corporate crime (see footnote 8), we will conduct a search for articles using a broad set of search terms (see section 3.2) and gleanstudies that involve both corporate crime behaviors and are empirical (including studies using either quantitative and qualitative methods) in nature.

After retrieving those articles, we will further cull the articles to find those we consider to be eligible for coding. Eligible articles are those that meet the following criteria:

1) The study was an evaluation of a corporate crime prevention/control strategy in the legal or administrative domains (i.e., deterrence resulting from effective regulations, fines, regulatory inspections, etc.).
2) The study includes a comparison group (or a pre-intervention comparison period in the case of pre-post studies) that did not receive the treatment condition. Studies may be experimental, quasi-experimental, or pre-post evaluations. If the study does not include a treatment *group*, does it report standardized regression coefficients/Pearson correlations if the treatment is measured continuously?
3) The study reports on at least one crime/misconduct outcome. In accordance with our broad definition of corporate crime (see Section 1), the outcome of interest may be one of a wide range of criminal behaviors, regulatory violations, or civil violations.
4) The study is written in English, but may be cross-national.
5) The study was published before 2011. Plans to update the study after this current review are described in Section 5.
6) Published and unpublished studies are included.

3.2 Search Strategy for identification of relevant studies

Our search will include published and unpublished articles, reports, documents, and other readily available sources. The studies will be identified via an exhaustive search of multiple online data bases and other sources using 74 search terms. These databases and legal/deterrence search terms are described below. In addition to the online searches, we will review the bibliographies of seminal articles/books that address corporate crime deterrence, prevention, and control. We also plan to e-mail the final list of articles deemed eligible for coding to leading corporate crime scholars in case we have missed other important sources.

The databases used in our search for *published* articles include:

- Social Work Abstracts
- ABI
- PsycINFO
- Sociological Abstracts
- ERIC
- CJA
- Worldwide Political-Science Abstracts
- BSP
- EconLit
- PAIS International
- WorldCat FirstSearch

After conducting the search for published documents described above (including reviewing the articles' bibliographies and later articles citing eligible studies in Web of Science), we will conduct subsequent searches for unpublished and missed published documents in the following sites:

- Google Scholar
- Digital Dissertation databases
- Department of Justice website
- Securities and Exchange Commission website
- Federal Trade Commission website
- Occupational Safety and Health Administration website
- European Corporate Governance Institute website
- DLA Piper website
- International Chamber of Commerce website
- National White Collar Crime Center website
- Financial Crimes Enforcement Network website
- Ministry of Finance Netherlands website
- United Nations Office on Drugs and Crime
- Royal Canadian Mounted Police
- European Commission—Company Law, Corporate Governance and Financial Crime Unit website
- American Prosecutors Research Institute: White Collar Crime Unit website
- Association of Inspectors General website
- Commodity Futures Trading Commission website
- U.S. Department of Justice Tax Division website
- U.S. Department of Justice Criminal Division: Fraud Section website
- U.S. Secret Service Financial Crimes Division website
- Ethics Resource Center website
- International Association of Financial Crimes Investigators website
- Transparency International website
- World Trade Organization website

- British Home Office of Foreign and Commonwealth website
- Department for Business Enterprise and Regulatory Reform website
- Crime Research Centre website
- Australia Institute of Criminology website
- The World Bank website

The search terms used to collect studies from the above databases are given below:

Sanction and Accounting Fraud
Sanction and Anti-competitive Behavior
Sanction and Antitrust
Sanction and Business Corruption
Sanction and Business Crime
Sanction and Business Misconduct
Sanction and Business Violations
Sanction and Corporate Corruption
Sanction and Corporate Manslaughter
Sanction and Corporate Crime
Sanction and Corporate Misconduct
Sanction and Corporate Violations
Sanction and Environmental Crime
Sanction and Health Care Fraud
Sanction and Organizational Corruption
Sanction and Organizational Crime
Sanction and Organizational Misconduct
Sanction and Organizational Violations
Sanction and Securities Fraud
Sanction and Ethical Business Culture
Sanction and Unethical Conduct
Sanction and Unethical Behavior
Sanction and White Collar Crime
Fine and Accounting Fraud
Fine and Anti-competitive Behavior
Fine and Antitrust
Fine and Business Corruption
Fine and Business Crime
Fine and Business Misconduct
Fine and Business Violations
Fine and Corporate Corruption
Fine and Corporate Manslaughter
Fine and Corporate Crime
Fine and Corporate Misconduct
Fine and Corporate Violations
Fine and Environmental Crime
Fine and Health Care Fraud
Fine and Organizational Corruption
Fine and Organizational Crime
Fine and Organizational Misconduct
Fine and Organizational Violations
Fine and Securities Fraud
Fine and Ethical Business Culture
Fine and Unethical Conduct
Fine and Unethical Behavior
Fine and White Collar Crime
Regulatory Policy and Accounting Fraud
Regulatory Policy and Anti-competitive Behavior
Regulatory Policy and Antitrust
Regulatory Policy and Business Corruption
Regulatory Policy and Business Crime
Regulatory Policy and Business Misconduct
Regulatory Policy and Business Violations
Regulatory Policy and Corporate Corruption
Regulatory Policy and Corporate Manslaughter
Regulatory Policy and Corporate Crime
Regulatory Policy and Corporate Misconduct
Regulatory Policy and Corporate Violations
Regulatory Policy and Environmental Crime
Regulatory Policy and Health Care Fraud
Regulatory Policy and Organizational Corruption
Regulatory Policy and Organizational Crime
Regulatory Policy and Organizational Misconduct
Regulatory Policy and Organizational Violations
Regulatory Policy and Securities Fraud
Regulatory Policy and Ethical Business Culture
Regulatory Policy and Unethical Conduct
Regulatory Policy and Unethical Behavior
Regulatory Policy and White Collar Crime

The first task involving these searches is to keep track of the number of "hits" each search term reveals within each data base. Next, we will review all titles and abstracts to determine: (1) whether the article is relevant to our study; and (2) whether the article is quantitative or not. Next, we will sort the empirical articles by keywords across search engines to eliminate article redundancy between search engines. We will then identify articles that are eligible for complete coding based on the criteria defined in section 3.1.

3.3 Description of methods used in the component studies

We include studies that use a wide variety of methods, but will concentrate on identifying studies in which a treatment group that was subject to a specific legal restriction was compared to a control group that was not. Studies can be experimental, quasi-experimental, or pre-post evaluations. We will also include observational studies in which groups were constructed by natural means (e.g., analyzing adjacent jurisdictions). In the case of observational data, we will include studies that report standardized regression coefficients or Pearson correlations as well as those that have enough information to allow the calculation of an effect size.

The studies included will include various samples, including individuals (e.g., employees, students, CEOs), corporations, or geographical areas. These different units of analysis will be kept separate for the purpose of our analyses.

Given our definition of corporate crime[9], the outcome variables included in our study will be very broad. Some examples of the outcomes (but not an exhaustive list) include: variations in pollution emissions, official records of compliance with regulations (e.g., environmental, employment, OSHA), recidivism, safety violations/compliance, number of financial transactions, perceived intentions to offend, perceptions of ethicality of behaviors, injuries from safety violations or environmental accidents, convictions, citations, noncompliant inspections, compliance measures (e.g., self-ratings), accuracy of regulatory records, complaints (e.g., about consumer fraud), and perceptions of enforcement effectiveness.

3.4 Criteria to ensure we are only using independent findings

Many studies report more than one outcome that is relevant to our domain of interest and many authors publish more than one article using data from the same sample. In order to statistically analyze our coded articles properly, we must make sure that the effect sizes we calculate come from independent samples. To ensure that this is the case, we will enter the articles into a data file (using Microsoft Excel). As the coders code the articles, they will note where a sample may have overlapped with another study. For each study, we will differentiate truly unique outcomes derived from the same sample, and then will combine multiple effect sizes describing the same

[9] For our purposes, we will include studies that examine criminal and regulatory violations by corporations or their employees. The majority of corporate offenses are handled be regulatory agencies, like the EPA & OSHA. Thus, a focus on strictly criminal behaviors would limit this study and miss a great deal of corporate misconduct. According to Braithwaite (1984), corporate crime is the "conduct of a corporation, or of employees acting on behalf of a corporation, which is proscribed and punishable by law" (p. 6). This offense-based definition encompasses a wide range of behaviors such as antitrust offenses, intentionally polluting the environment, unsafe labor practices, and tax and securities violations. It also includes individual-level behaviors as well as corporate actions.

outcome from the same sample. Before completing our analyses, we will review all of the sample characteristics from the population of studies to verify that any effect sizes from different studies utilizing the same sample are combined for our final analysis.

3.5 Details of study coding categories

We created a coding protocol for the larger systematic review (in which we were searching the entire domain of corporate crime prevention/deterrence research) that included the specific treatment variables we are interested in here—legal restraints. The entire coding protocol is attached as Appendix A. In this document, the variable named "TREATMENT" (p. 18 of the current document) provides all potential descriptions of the treatment program; those treatments falling under 2. Law, 3. Official Sanction/Fine, or 4. Regulatory Policy are the most relevant to the current discussion.

The protocol includes codes used to describe the source of the study (Section I of Appendix A; e.g., country of publication, journal's disciplinary area), characteristics of the study (Section II; e.g., randomized experiment or not, start/end date of data collection, concerns about validity), sample characteristics (Section III; e.g., whether individuals or corporations), the methods and procedures used by the study authors (Section IV; e.g., use of a control group), descriptions of the independent variable (Section V; e.g., construct and operationalization), descriptions of the dependent variable (Section VI; e.g., construct and operationalization), effect size data (Section VII; i.e., coding the data provided that will be employed to calculate an effect size), and then conclusions made by the study authors (Section VIII). There are also shaded boxes at the very end that describe the various types of effect sizes and relevant statistics needed for future analysis.

Articles will be coded by two coders, who will input all data into a Microsoft Excel spreadsheet. An initial coding session was completed in which 80 articles collected at that point were coded by two coders. Based on initial coding, inter-rater reliabilities were calculated. Coders would then resolve differences between the two databases. Often, this collaboration would result in decision rules which are provided at the very bottom of the codebook. After reviewing approximately 80 articles in this manner, an acceptable inter-rater reliability was established for most variables (those not reaching either a Kappa value or Pearson correlation value of 0.70 will not be used in further analyses). The coders will split the rest of the articles for independent coding. No changes were made to the coding sheet after an acceptable inter-rater reliability was established and no further decision rules were necessary.

3.6 Statistical procedures and conventions

Due to the breadth of the outcomes included in our systematic review, we will likely be coding various forms of data that will result in multiple types of effect sizes being calculated. For example, dichotomous outcomes will likely be calculated as an odds ratio, while continuous outcomes in a two-group comparison will likely result in a standardized mean-difference effect size. However, we also have data in which both the independent variable and dependent variable are continuous; such data is used to calculate a product-moment correlation effect-size statistic.

When reporting the results, we will only compare similar effect sizes to each other and combine within types for the appropriate analysis.

Following Lipsey and Wilson (2001), mean effect sizes and the homogeneity of effects across studies will be computed using the inverse variance weight method. We assume a random effects model and will calculate variance components accordingly. Computations will be run using Stata macros provided by D.B. Wilson. Sample output from these macros from a previous analysis (Rorie et al., 2009) is presented in Appendix B.

3.7 Treatment of qualitative research

Although we consider all empirical studies (using either qualitative or quantitative methods) in this review, we only use studies that allow us to code usable quantitative data. Therefore, we do not currently plan on including purely qualitative studies in our systematic review.[10]

4. Timeframe

We have already begun work on collecting studies, and many of the tasks proposed have already been completed for studies up to 2003. We hope to have a complete bibliography of studies (through 2011) by **May of 2012**.

Also in **May 2012**, we will begin to examine the coded data and calculate effect sizes where possible. This entails the following steps:

1. Identify where we have enough information to calculate an effect size. Where we don't have enough information, we will attempt to email the authors and collect that information.
2. Using the Lipsey/Wilson decision tree, determine what the appropriate effect size calculation will be—whether it will be OR, *d*, or *r*.
3. Calculate unbiased effect sizes and standard errors in Excel using formulas in the Lipsey/Wilson book.
4. As needed (for specific projects), plug individual effect sizes into Stata and use macros to calculate overall effect sizes.

The projected completion date for calculating effect sizes is **August 2012,** after which we will begin work on written products and a Campbell Collaboration report. We hope to have a written report to the Campbell Collaboration by **June 2013.**

5. Plans for Updating the Review

Once we submit the written report to the Campbell Collaboration and at least one journal publication, we will begin work on updating the review. We plan on updating the review every three years in accordance with Campbell Collaboration guidelines. We also plan to carve other areas out of the initial review (see footnote 8) and update the literature in these areas.

[10] In our review of the empirical literature thus far, we have found no qualitative studies that produce data that is usable for meta-analytic purposes.

6. Acknowledgements

This research would not have been possible without the assistance of several undergraduate and graduate research assistants who have helped with finding, collecting, and coding studies for eligibility. We gratefully acknowledge Katy DeCelles, Megan Bears, Kerry Richmond, Rachael Powers, Patricia Joseph, Cliff Akiyama, Alex Bob, and other undergraduate assistants for their work on this project. In addition, many others provided methodological input and steered us to literature that we did not find in our original searches. Special thanks go out to Michael Benson, John Braithwaite, Mark Cohen, Peter Grabosky, Michael Levi, Christine Parker, Henry Pontell, David Weisburd, David B. Wilson, and Peter Yeager.

7. Statement Concerning Conflict of Interest

Not Applicable

8. References

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Appendix A: Corporate Crime Systematic Review Coding Sheet

CC Meta Analysis Coding Sheets: Study-Level Coding Protocol

Bibliographic Reference (APA format):_____

_____

_____

I. Source Descriptors

Variable Name	**Code**	**Item**
ID		1) Study ID number: - First 3 letters of first author's last name followed by year - If duplicates, add an "A" or "B" based on alphabetical order of titles
PUBTYPE		2) Type of Publication: 1. Book 2. Book chapter 3. Journal article 4. Thesis or dissertation 5. Government report (state/local) 6. Government report (federal) 7. Working paper 8. Conference paper 9. Regulatory Agency report 10. Corporate Report 11. Other (specify)
PUBTYPE_OTH		2b) Type of Publication—specify other publication type:
YEAR		3) Year of Publication
DISCIPLINE		4) Disciplinary Affiliation of Publication/Journal[i]: 1. Criminology 2. Sociology 3. Business/Marketing 4. Political Science 5. Environmental Science/Biology 6. Psychology 7. Public Policy 8. Economics 9. Other 10. Multiple disciplines (list under DISC_OTH)

DISC_OTH		4b) Disciplinary Affiliation of Publication/Journal—specify other discipline:
FUNDING		5) Source of funding for the research: 0. No funding/None reported 1. Government agency 2. University 3. NGO/Non-profit 4. Private business 5. Other (specify)
FUND_OTH		5b) Source of funding for the research—specify other:
NAT_PUB		6) Country of Publication
DATE		7) Date coded
CODER ID		8) Coder: 1. Natalie 2. Patricia 3. Melissa
II. <u>Study Characteristics</u>		
STUDYTYPE		1) Type of study: 1. Randomized experiment (in-basket or lab; e.g., conditions are randomized at the individual level or everyone receives the same survey) 2. Randomized experiment (vignette survey; e.g., conditions within scenarios are randomized) 3. Nonequivalent control group (quasi-experimental)—has a comparison group that is not randomly assigned (e.g., matched pairs comparison or propensity score matching) 4. Time-series/pre-post test (no control group) 5. Time-series/pre-post test (with control group) 6. Non-experimental (i.e., multiple regression or correlation) 7. Other (specify)
STTYPE_OTH		1b) Type of study—specify Other:
STARTDATE		2) Date Range of Research: First year of data

ENDDATE		3) Date Range of Research: Last year of data
NAT_STUD		4) Country where study conducted:
NUMOUT		5) Number of crime/misconduct outcomes reported in study[ii]
UOA		6) What is the unit of analysis in this study (i.e., the type of outcome)? 1. Individual decision-making/behavior 2. Company decision-making/behavior 3. Geographic area (e.g., state, country) 4. Other (specify)
UOA_OTH		6b) What is the unit of analysis in this study? Specify other:
DATARLBTY		7) Did the researcher empirically assess the reliability of the data collected? 1. Yes 0. No
DATAVLDY		8) Did the researcher assess the validity of the data collected (e.g., discussed whether measures used accurately represented the construct of interest)? 1. Yes 0. No
DATACONC		9) Did the researcher express any concern over the quality of the data or data collection procedures? (Even if the author thinks he/she addressed them adequately, include as a concern and describe solution in 9b) 1. Yes 0. No
DATAPROB		9b) If yes, what was the nature of the concern?
III. <u>Sample Descriptors</u>		
SAMPLEN		1) Sample size
SAMP_INDCOR		2) Does the sample consist of individuals or corporations? 1. Individuals 2. Corporations 3. Other (specify; e.g., court cases)

SAMP_OTHER		2b) Does the sample consist of individuals or corporations? Specify other:
SAMP_MIX		3) Was the sample drawn from more than one organization? 1. Yes 0. No
If the sample consists of individuals, answer the following questions. Otherwise, skip to question #9:		
AGE		4) Mean Age of Sample (if mean age cannot be determined, enter 888)
RACE		5) Predominant Race of sample 1. Mostly white 2. Mostly black 3. Mostly Hispanic 4. Mostly Asian 5. Mixed, none more than 50% 6. Mixed, cannot estimate proportion 888. Unknown/Not reported
SEX		6) Predominant Sex of sample 1. 60% or more male 2. 60% or more female 3. Even mix of male and female 888. Unknown/Not reported
MGMT		7) Predominant management level of sample: 1. 60% or more non-managerial employee 2. 60% or more middle managers or supervisors 3. 60% or more CEO/Executives (or highest-level employees such as law firm partners) 4. Even mix of multiple levels 5. Other (Specify) 888. Unknown/Not reported
MGMT2		7b) Management level of sample—specify other:

PRTCPNT		8) Who were the participants of the study? 1. Unemployed students 2. Working students 3. Both unemployed and working students 4. Professionals 5. Both students and professionals
EDUCATION		9) Predominant education level of sample 1. 60% or more: High school degree or less 2. 60% or more : Some college education (or currently in college) 3. 60% or more: College graduates 4. 60% or more: Some graduate education (or currently in graduate program) 5. 60% or more: Completed graduate degree 6: Even mix of multiple education levels 888. Unknown/Not reported
EMPLENGTH		10) Length of employment of the target population:_____ 1. No work experience 2. Less than 5 years 3. Between 5 – 10 years 5. More than 10 years 6. Multiple levels of experience included in sample 888. Unknown/Not reported
INDUSTRY		11) From what industry was the sample drawn? (choose all that apply) 1. Agriculture 2. Accounting 3. Advertising 4. Airline 5. Banking 6. Biotechnology 7. Computer/Technology 8. Consumer products 9. Defense 10. Education 11. Energy 12. Food, beverage, or tobacco 13. Health care 14. Investment banking 15. Legal 16. Manufacturing 17. Marketing/Business 18. Pharmaceuticals 19. Real Estate 20. Retail 21. Securities and Commodities 22. Service 23. Telecommunications 24. Transportation 888. Unknown/Not reported 25. Other (specify) 26. Multiple categories (list under IND_OTH)

IND_OTH		11b) From what industry was the sample drawn? Specify other:
If the sample consists of corporations, please answer the following questions:		
COMPSIZE		12) Average number of employees in sample companies (if UOA is firm and information is not given, record 888)
COMPPROF		13) Average profit of companies in sample (not given = 888)
COMPSALES		14) Average annual sales of companies in sample (not given = 888)
IV. <u>Methods and Procedures</u>		
RANDOM		1) Was the sample randomly selected? 1. Yes 0. No 888. Unclear or not reported
SAMPPROC		2) Sampling procedures 1. Random probability sample 2. Stratified random sample 3. Matched-pairs 4. Snowball sampling 5. Convenience sample (drawn from individuals to which researchers have easy access) 6. Secondary data analysis (without specification of sampling procedures) 7. Other (specify)
SAMPPR_OTH		2b) Sampling procedures—specify other:
SURVEY		3) Survey design 1. Mail 2. Phone 3. Face-to-face Interview 4. Other (specify) 777. Not applicable (not a survey)
SURVEY_OTH		3b) Survey design—specify other:

CROSSSEC		4) Is the research design cross-sectional or longitudinal? 1. Cross-sectional 2. Longitudinal 3. Both
BIAS		5) Did the authors assess the differences between survey respondents' and non-respondents' background characteristics? 1. Yes 0. No 777. Not applicable (not a survey)
BIAS_YES		5b) If yes, were significant differences found between responders' and nonresponders' background characteristics? 1. Yes 0. No 777. Not applicable
BIAS_ADD		5c) If yes, what did the authors do to address these differences?
RESPRATE		6) Response rate to survey (777 if not a survey)
ATTRITION		7) If longitudinal, rate of attrition (put 777 if not a longitudinal panel survey)
SIGLEVEL		8) Level of statistical significance used (usually .05)
CONTROL		9) Nature of control group 1. Randomly assigned—no treatment 2. Randomly assigned—alternative treatment 3. Natural—no treatment 4. Natural—alternative treatment 5. Time-series—pre/post 6. Propensity-score matching/Matched pairs 7. No control group
PRETEST		10) Did the authors assess pre-test differences between tx/control groups? 1. Yes 0. No
PRTST_DIFF		10b) If so, were differences found between groups? 1. Yes 0. No

PRTST_ADD		10c) If yes, what did the researchers do to address these differences?

V. Description of Independent Variable

TREATMENT		1) What form did the treatment take?[iii] 1. Class/training on compliance with standards or procedures 2. Law 3. Official sanction/Fine (e.g., conviction, prosecution, prison) OR punishment avoidance (e.g., acquittal) 4. Regulatory Policy (e.g., inspections, agency resources) 5. Corporate policy (e.g., procedures, employee participation) 6. Corporate structure (e.g., corporate governance initiative, percent outside members on board) 7. Compliance program (e.g., internal monitoring) 8. Membership in external professional organization 9. Consultant participation (e.g., accounting firm or others) 10. Unionization/Employee Committees 11. Workers' benefits (e.g., workers' compensation) 12. Organizational climate (e.g., supervisory support or punishment by the company) 13. Informal sanctions (e.g., bad publicity) 14. Other (specify) 15. Multiple treatments involved
TREAT_DES		1b) Brief description of treatment:
TREAT_BIN		1c) Was the independent variable binary or continuous? 1. Binary 2. Continuous
TREATCON_DES		2) Description of continuous independent variable measurement:

AUTHRTY		3) What "authority" implemented the treatment/ was perceived to be implementing the treatment?? 1. Researcher 2. Manager/Company policy 3. Regulatory Agency 4. External professional organization 5. Consultants (e.g., accounting firms) 6. Police/FBI (or other law enforcement agency) 7. Co-workers 8. Self-imposed 9. Not applicable (Non-experimental) 10. Other (specify) 11. Multiple authorities involved (specify under AUTH_OTH)
AUTH_OTH		3b) What "authority" implemented the treatment? Specify other:
IV_SOURCE		4) What data sources were used to measure the independent variables? (Select all that apply) 1. Official data 2. Self-report data (e.g., surveys or interviews) 3. Observations/site visits of places or environments 4. Other (specify)
IVSRCE_OTH		4b) What data sources were used to measure the independent variables? Specify other:
CONTROLS		5) Did the authors control for potentially spurious variables? 1. Yes 0. No
VI. Dependent Variable Descriptors		
OUTCM_ACT		1) Did the outcome describe *actual* behavior (e.g., arrests) or *intentions* (e.g., hypothetical situations)? 1. Actual behavior 2. Intentions/Opinions about behavior 3. Both
OUTCM_DSC		1b) Brief description of outcome[iv]:

OUTCMDTA		2) What type of data was used to measure the outcome covered on this coding sheet? 1. Official data 2. Self-report data (e.g., surveys or interviews) 3. Observations/site visits of places or environments 4. Other (specify)
OUTDTA_OTH		2b) What type of data was used to measure the outcome covered on this coding sheet? Specify other:
OUTMSRE		3)How was the DV measured? 1. Scale 2. Composite 3. Raw number of violations 4. Dichotomous measure 5. Other (specify)—e.g., dollar amounts
OUTMSRE_OTH		3b) How was the DV measured? Specify other:
OUTMSRE_DES		4)Description of continuous outcome measure:
ILL_UNETH		5) Is the DV measured using illegal or unethical behavior?[v] 1. Illegal (e.g., can be sanctioned by law enforcement or regulatory sanctions, or is subject to auditing) 2. Unethical (morally ambiguous but not subject to sanctions) 3. Both 4. Other (specify): (Unclear whether sanctionable/only related to company policies) 888. Unknown/Not reported
ILLUNETH_OTH		5b) Is the DV measured using illegal or unethical behavior? Specify other:
COMP_SOC		6)Does the behavior affect the company or society, according to Akers' (1977) list? 1. Company 2. Society 3. Both 4. Not specified on Aker's list/Other (specify)

COMP_SOC_OTH		6b)Does the behavior affect the company or society, according to Akers' (1977) list? Specify other:
VII. Effect Size Data[vi]		
ATT_PROB		1) Was attrition a problem for this outcome? 1. Yes 0. No 777. Not Applicable (not a panel survey) 888. Not reported/unknown
ATT_CASES		2) If attrition was a problem, how many cases were lost?
ATT_REAS		3) If attrition was a problem, why were cases lost?
RAWDIFF		4) Raw difference favors (i.e. shows more success for): 1. Treatment group (or post period) 2. Control group (or pre period) 3. Neither (exactly equal) 888. Unknown 777. Not applicable
SIGDIFF		5) Did a test of statistical significance indicate statistically significant differences between either the control and treatment groups or the pre and post tested treatment group? 1. Yes 0. No 888. Unknown 777. Not applicable
STANDES		6) Was a standardized effect size reported? 1. Yes 0. No
ES		7) If yes, what was the effect size
ES_PAGE		8) If yes, page number where effect size data is found
NOES		9) If no, is there data available to calculate an effect size? 1. Yes 0. No

NOES_DATA		10) Type of data effect size can be calculated from:[vii] 1. Means and standard deviations 2. *t*-value or *z*-value 3. *F*-value 4. Chi-square (df=1) 5. Frequencies or proportions (dichotomous) 6. Frequencies or proportions (polychotomous) 7. Pre and post 8. Standardized regression coefficients 9. Unstandardized regression coefficients 10. Correlations (Pearson's *r*) 11. Other (specify)
NOES_OTH		10b) Type of data effect size can be calculated from—specify other:
NOES_REG		10c) If the data presented is an *unstandardized* regression coefficient, what type of regression was used? 1. OLS 2. Logistic 3. Tobit 4. Poisson 5. Other (specify) 6. Ordered logit
NOES_REG2		10d) If the data presented is an *unstandardized* regression coefficient, what type of regression was used? Specify other:
TX_N		11) Treatment group sample size[viii]
CON_N		11b) Control group sample size
TX_propN		12) Proportion of sample in treatment group (Tx/Tx+Control)
CON_propN		12b) Proportion of sample in control group (Con/Tx+Control)
TXMEAN		12) Treatment group mean (dependent variable)
CONMEAN		12b) Control group mean (dependent variable)
TXSD		13) Treatment group standard deviation (dependent variable)

CONSD		14) Control group standard deviation (dependent variable)
SUCCTX_N_a		15a) *n* of treatment group with successful outcome
SUCCCON_N_c		15b) *n* of control group with successful outcome
FAILTX_N_b		16a) *n* of treatment group with unsuccessful outcome
FAILTX_N_d		16b) *n* of control group with unsuccessful outcome
PROPTX_SUCCa		17) Proportion of treatment group with successful outcome
PROPCON_SUCCc		18) Proportion of control group with successful outcome
TVALUE		19) *t*-value (for independent/dependent-samples means comparisons only)
TVALUE_P		19b) *t*-test *p* value
ZVALUE		20) *z*-value
ZVALUE_P		20b) *z*-test *p* value
FVALUE		21) *F*-value
FVALUE_P		21b) *F*-test *p* value
CHISQ		22) Chi-square value (df=1)
CHISQ_P		22b) Chi-square *p* value
SD_X		23) Standard deviation of the independent variable

SD_Y		24) Standard Deviation of the dependent variable (note: for dichotomous dependent variables, this can be calculated using the formula $\sqrt{p(1-p)}$)
UNSTNDRGS		25) Unstandardized regression coefficient
STNDRGSS		26) Standardized regression coefficient
PRSONR		27) Pearson's *r*
OTHDATA		28) Type of data effect size can be calculated from: (specify other—actual data)
VIII. <u>Conclusions made by the author</u>		
CNCLS_IMM		1) Did the assessment find evidence for the effectiveness of the treatment? (e.g., significant statistical test in the hypothesized direction) 0. No 1. Yes 2. Not tested
CNCLS_REL		2) Did the author(s) conclude there a relationship between the corporate crime prevention technique and a reduction in illegal corporate activities/violations, regardless of significant finding? 0. No 1. Yes 2. Can't tell/Author did not discuss
CNCLS_ADD		3)Additional notes about conclusions:
UNIQUESAMPLE		4) Was this sample used in this study used in another article included in this meta-analysis? If yes, list other study IDs that use this sample.
CALC_ESd		29) Calculated effect size—mean difference
CALC_ESr		30) Calculated effect size—correlation
CALC_ODDS		31) Calculated effect size—Odds ratio

CALCES_LOGR		32) Calculated effect size (Logistic *r*)
CALCES_PROBD		33) Calculated effect size (Probit *d*)
CALCES_PROBR		34) Calculated effect size (Probit *r*)
CALC_ES_P		35) Calculated effect size—proportion(direct method)
CALC_ES_L		36) Calculated effect size—proportion(logit method)
CALC_UNBIAS_d		37) UNBIASED effect size—mean difference
CALC_UNBIAS_r		38) UNBIASED effect size—correlation
CALC_UNBIAS_OR		37) UNBIASED effect size—odds ratio
INVVRNCE		38) Calculated inverse variance weight
pooledSD		39) calculated pooled SD
STNDER		40) Calculated standard error
LowCI		41) Calculated lower bounds of Confidence Interval
hiCI		42) Calculated higher bounds of Confidence Interval
ES_notes		43) Notes on ES calculations

DECISION RULES AND NOTES ABOUT VARIABLES

[i] If book or unclear, code from author bio

[ii] For our purposes, we will include studies that examine criminal and regulatory violations by corporations or their employees. The majority of corporate offenses are handled be regulatory agencies, like the EPA & OSHA. Thus, a focus on strictly criminal behaviors would limit this study and miss a great deal of corporate misconduct. According

to Clinard and Yeager (1980), corporate crime is "any act committed by corporations that is punished by the state, regardless of whether it is punished under administrative, civil, or criminal law" (p. 16). **This offense-based definition encompasses a wide range of behaviors such as antitrust offenses, intentionally polluting the environment, unsafe labor practices, and tax and securities violations.**

[iii] We are looking for variables that measure:

- Extralegal or legal interventions and that are policy-relevant (i.e., can be the subject of an intervention).
    - "General organizational climate" is not relevant unless this includes specific policies in the organization that affect compliance.
    - We are NOT interested in personality characteristics (e.g., morality) or a person's approval of the law, job, policy, etc.
- Things we ARE interested in include
    - Civil or criminal laws or sanctions (including civil cases)
    - Ethical or safety **policies** within the company
    - Internal compliance/monitoring programs
    - Market devices such as shaming (e.g., bad publicity)
    - Membership in external professional organizations that can sanction members
    - Internal/external audits
    - Corporate structure, including
        - Insider vs. outsider members on the board of directors (including gray and independent directors)
        - Public vs. private ownership
        - Whether CEO is head of the board of directors
    - People's perceptions of risks (e.g., of getting caught or being sanctioned either formally or informally)
- We are mainly interested in the **presence vs. absence** of such variables, not descriptions about these IVs or gradations/dosage of the treatment (e.g., we are not interested in the size of the auditing company).
    - If the independent variable is related to corporate compliance programs or something that seems to be of interest, include it only if you can dichotomize it and if there is not already a dichotomous variable of interest (e.g., company expenditures on compliance—could be dichotomized if companies report $0 versus non-zero values).
- When an intervention includes multiple components but only has one data point, just record one case and list all of the categories of the treatment variable under which it could fall, separate by commas.

[iv] Regarding measures of the dependent variable, we are not looking at overcompliance in and of itself.

- If overcompliance is measured, it can be used if compared to noncompliance (and should be combined with compliance if applicable).
- We ARE interested in severity measures (e.g., the amount of money lost, number of injuries) as well as compliance vs. noncompliance.

[v] An illegal act is one that has been formalized as a law or regulatory statute—i.e., you can be sued, cited, or arrested for it.

- Unethical practices are those that are not punishable under the law but are morally questionable.

[vi] Decision rules on including ESs:

- If two or more tables/models are presented on the same IV and same operationalization of the DV, include all **unique measures** of the variables of interest.
- Prioritizing the table/model that 1) includes more IVs of interest and 2) has the full (more final) model.
- If alternative modeling strategies (e.g., OLS as well as Poisson) are used and there is no significant difference between the two use the simpler model.
- After including all of the variables of interest from the final model, include any other (not already included) variables of interest from other models that may have been dropped from the final model.

[vii] Anytime an article has more than one model, NOES_DTA should only have one value and there needs to be another case. **There needs to be a new case anytime you have a new independent variable, dependent variable, or model (e.g., anytime you have data coming from a different place).**

- When both unstandardized and standardized coefficients, just record that you have standardized coefficients in NOES_DTA but record both in their appropriate places

- When both means and t-tests, just record that you have a t-test in NOES_DTA but record both in their appropriate places
- If you have a regression coefficient and descriptive statistics (means, SD), just record the regression in NOES_DTA but give all of the information in the appropriate place

[viii] For time-series, the baseline/pre-intervention numbers belong under the "control group." The post-test is the treatment group.

Appendix B: Sample Output from SPSS and Stata Macros

```
. use "U:\ssimpson\schell-rorie\What Works in CC Meta-Analysis\Published Documents
Coding\databases\asc\datafil
> es broken out by construct and UOA\individual_level_formal_sanctions_es_r.dta",
clear

. meanes esvar [weight=wvar]
(analytic weights assumed)


No. of obs  =       3                                 Homogeneity Analysis
Minimum obs =   -.432                                       Q =      49.66
Maximum obs =   0.042                                      df =          2
Weighted SD =   0.231                                       p =    0.00000
------------------------------------------------------------------------------
              |    Mean    -95%CI    +95%CI        SE          Z        P
--------------+---------------------------------------------------------------
Fixed effect  |-0.15437  -0.21868  -0.09007   0.03281  -4.70523  0.00000
Random effect |-0.11942  -0.44319   0.20435   0.16519  -0.72290  0.46974
------------------------------------------------------------------------------
Random effects variance component = 0.07850
estimated via noninterative method of moments
```