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The Psychology and Sociology of Fraud: Integrating the Behavioral Sciences Component Into Fraud and Forensic Accounting Curricula

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The most incomprehensible fact about the universe is that it is comprehensible.
—Albert Einstein, Physics Nobel Laureate

The most comprehensible fact about human behavior is that it is incomprehensible.
—David Fisher, Professor of Cosmochemistry, University of Miami

INTRODUCTION

The 2008 *Report to the Nation* issued by the Association of Certified Fraud Examiners indicated that U.S. organizations lose almost 7 percent of their revenue to fraud, and that the Gross Domestic Product (GDP)-based annual fraud estimate for the United States alone was $994 billion (ACFE, 2008). Of course, we all now recognize that the scourge of fraud is a global phenomenon that extends far beyond the borders of the U.S. However, the study of white collar crime has hitherto been relatively sparse because ''few areas of criminological investigation are plagued [with such] intractable controversies [including] conceptual ambiguities, distinctions, and taxonomies'' (Shover 1998). Nevertheless, future business professionals, and especially accounting majors, must have a keen understanding of the new 21st century era of governance and accountability spawned by the post-Enron/WorldCom environment. In this regard, colleges and universities must do their part by encouraging business, criminology, and law faculty to carry out much-needed research in this important area and teach courses in fraud and forensic accounting (FFA). Because any organization can be plagued by fraud, organizations should strive to understand the behavioral root causes of fraud—who commits fraud and why—and thus, proactively manage their fraud risk exposure. Indeed, these are the fundamental premises underlying the model FFA curriculum developed by and implemented at West Virginia University (2007).[1] In this paper, I will make the case for looking seriously to the behavioral sciences—

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[1] The West Virginia University model FFA curriculum had its genesis in a $614,000 project grant from the National Institute of Justice led by Professors Richard Riley and Bonnie Morris from the WVU Accounting Department and co-investigator, Professor Max Houck. Broad-based counsel was provided by a Technical Working Group (TWG) of which, the author of this paper, Dr. Sridhar Ramamoorti, was a member. (See http://www.ncjrs.gov/pdffiles1/nij/grants/217589.pdf)

psychology, sociology, criminology, and anthropology—to support the interdisciplinary field of fraud examination and forensic accounting in theory development and in practice, and in fraud prevention, deterrence, and detection.

Fraud involves intentional acts and is perpetrated by human beings using deception, trickery, and cunning that can be broadly classified as comprising two types of misrepresentation: *suggestio falsi* (suggestion of falsehood) or *suppressio veri* (suppression of truth).[2] As Ramamoorti and Olsen (2007) have argued: "Fraud is a human endeavor, involving deception, purposeful intent, intensity of desire, risk of apprehension, violation of trust, rationalization, etc. So, it is important to understand the psychological factors that might influence the behavior of fraud perpetrators. The rationale for drawing on behavioral science insights is evident from the intuition that one needs to 'think like a crook to catch a crook.' Many business professionals, especially those in the financial arena, tend to discount behavioral explanations. But as the incidence of fraud continues to grow, placing the spotlight on behavioral factors may be an important approach not only to fraud detection but to deterrence as well." In other words, when discussing the topic of fraud, we must inevitably bring in the human factor.

Consider the scathing criticism from five decades ago of Carl Devine (1960), now widely acknowledged as a pioneer of the "behavioral accounting research" paradigm: "Let us now turn to that part of accounting which is related directly to the psychological reactions of those who consume accounting output or are caught in its threads of control. On balance it seems fair to conclude that accountants seem to have waded through their relationships to the intricate psychological network of human activity with a heavy-handed crudity that is beyond belief. Some degree of crudity may be excused in a new discipline, but failure to recognize that much of what passes as accounting theory is hopelessly entwined with unsupported behavior assumptions is unforgivable." It is now evident that too many in the marketplace have been consumers of "creative accounting output" and have certainly been "caught in its threads of control" leaving them financially poorer. We need to understand, from a behavioral science standpoint, the motivations of these "criminals with clean fingernails" who can easily "steal without a gun" (Pavlo and Weinberg 2007; De Angelis 2000).

More recently, other knowledgeable commentators from practice, including supposedly "reformed fraudsters," have called for integrating the behavioral sciences component into FFA curricula. For instance, convicted felon Samuel Antar, of "Crazy Eddie" notoriety, makes the following insidious remarks on his website (http://www.whitecollarfraud.com): "You are not getting courses in criminality or psychology. You are not getting courses in what motivates people like me to commit the crimes that I committed that are going to possibly destroy your careers. They are going to cause investors to lose hundreds of millions of dollars."[3] Similarly, Joseph Wells, the founder and chairman of the Association of Certified Fraud Examiners (ACFE), has wryly observed: "As a group ... the majority of CPAs

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2 See the research by Grazioli et al. (2006) for a very interesting development of a cognitive psychology approach to detecting financial statement fraud deception tactics such as masking, dazzling, decoying, re-packaging, mimicking, and double play.

3 Students are not getting courses in critical thinking either. For instance, Ruggiero (1995) noted such a desperate need in his preface to the first edition of a book on critical thinking, "because we live in an age of manipulation. Armies of hucksters and demagogues stand ready with the rich resources of psychology to play upon our emotions and subconscious needs to persuade us that superficial is profound, harmful is beneficial, evil is virtuous. And feelings are especially vulnerable to such manipulation ... in virtually every important area of modern life—law, medicine, government, education, science, business, and community affairs—we are beset with serious problems and complex issues that demand careful gathering and weighing of facts and informed opinions, thoughtful consideration of various conclusions or actions, and judicious selection of the best conclusion or most appropriate action."

are still ignorant about fraud ... for the last 80 years, untrained accounting graduates have been drafted to wage war against sophisticated liars and thieves. And as multi-billion dollar accounting failures have shown, it hasn't been much of a fight'' (Wells 2004).

This paper is organized as follows: I will first provide definitions of psychology, sociology, and criminology to form the basis for subsequent discussion of the relevance of these behavioral science disciplines to the study of white collar crime. Next, examples of constructs from these disciplines will be used to highlight theories and explanatory variables that may be useful in understanding the sociology and psychology of the fraudster (e.g., lying and misrepresentation, social engineering, the science of persuasion, industrial psychopaths, heuristics and biases in decision making). This is followed by a similar application of these constructs to auditors, boards of directors and oversight bodies, structures, and processes. Concluding remarks are then offered, along with the Appendix, which contains behaviorally inspired solutions to the fraud problem, its prevention, deterrence, and detection.[4] The behavioral sciences are also relevant to fraud investigation and remediation efforts, but I have treated these as being beyond the scope of this preliminary overview paper.

DEFINITIONS OF PSYCHOLOGY AND CRIMINOLOGY

Psychology is the study of the nature, functions, and phenomena of behavior and mental experience; simply put, it is the science of human behavior[5] (Colman 2003). In general, psychology seeks to understand, explain, predict, and control individual and group behavior. Specifically, personality psychology studies individuals; social psychology looks at group behavior; cross-cultural psychology (anthropology) analyzes the impact of culture and context on behavior; and abnormal/personality/forensic psychology, sociology, and psychiatry focus on deviant behavior (including for instance, industrial psychopaths). Criminological psychology studies psychological problems associated with criminal behavior, criminal investigation, and the treatment of criminals (Colman 2003).

Criminology can be defined as the study of crime, the causes of crime (etiology), crime typology, the meaning of crime in terms of law, rates, or incidence of crime, and community reaction to crime. It is a branch of sociology, and also draws heavily from law (enforcement) literature. Strictly defined, it comprises four kinds of study: *descriptive* (*viz*., lawbreaking frequencies, contexts, and perpetrators, as well as consequences), *explanatory* (focusing on particular breaches, or accounting for differing frequencies), *penological* (studying effects on offenders such as reform, deterrence, rehabilitation, or incapacitation), and *nomological*

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[4] Much of this paper borrows heavily from a presentation I have made numerous times to campus and professional audiences titled ''The Psychology of White Collar Crime.'' Sutherland (1949) coined the term ''white collar crime'' and described it as a crime that is ''committed by a person of respectability and high social status in the course of his occupation''; despite its flawed logical status, the phrase has demonstrated surprisingly strong staying power. White collar crime variously refers to the crime perpetrator's social status, criminal behavior in an occupational role, as well as crime committed by organizations or by individuals acting in organizational capacities (see also, Geis and Meier 1977). In this paper, I have used the terms white collar crime and fraud interchangeably.

[5] To understand better the term ''science'' in behavioral science, I quote from the AAA Behavioral Science in the Accounting Curriculum Committee: ''The differences between the deliberate research activities of the behavioral scientist and the casual observations and conclusions of the sophisticated layman are mainly matters of procedure or method. They have to do with how clearly and precisely a person formulates his concepts, how carefully and systematically he makes and records observations, and how rigorously he reasons from data to conclusions. The objective of behavioral science is to understand, explain and predict human behavior; that is to establish generalizations about human behavior that are supported by empirical evidence collected in an impersonal way by procedures that are completely open to review and replication and capable of verification by other interested scholars'' (see Ashton 1982).

(law enforcement itself, including questions such as the kinds of conduct that should be prohibited by the law) (Gregory 2004).

BEHAVIORAL ROOT CAUSES OF FRAUD

Behavioral scientists have failed thus far to identify a well-defined and well-understood psychological characteristic or a set of characteristics that are diagnostic about fraud perpetrator propensity. At the same time, to say that ''greed and dishonesty''—a commonly heard refrain—can account for all that went on during the ''irrational exuberance'' of the 1990s and the early 2000s or earlier eras would be overly simplistic.[6] After all, most people in the business world are fully law abiding market participants—they do not necessarily resort to fraud to achieve their stretch goals. From a criminology perspective, white collar crime, like other crime, can best be explained by three factors: a supply of motivated offenders, the availability of suitable targets, and the absence of capable guardians—control systems or someone ''to mind the store'' so to speak (Cohen and Felson 1979).[7] This is consistent with the general explanation of (white collar) crime as choice, positing that variation in crime is produced by variation in opportunities and in motivation (Shover and Bryant 1993). Criminal opportunities are presented by those vulnerable environments and opportunistically interpretable scenarios that individuals and groups see as offering attractive potential for criminal reward with little apparent risk of detection or penalty. The aggregate rate of white collar crime varies directly with the supply of criminal opportunities and with the supply of individuals and organizations predisposed or motivated to exploit them; the rate and incidence of crime varies inversely with the intensity and severity of rule enforcement (Shover 1998).[8]

In general, fluctuations in business cycles, and criminogenic cultures that conflict with accepted social, ethical, and legal norms of behavior, are correlated with increases in the rate of white collar crime. For instance, when there is a widespread belief that ''everyone is getting rich'' many come to believe that to pass up any opportunity is to miss the boat. Similarly, after noting the illegitimate earnings management misdeeds of companies such as Enron, Nortel, and Cisco, Fuller and Jensen (2002) have commented ruefully, ''Companies do not grow in a constant fashion with each quarter's results better than last. In the long run conforming to pressures to satisfy the market's desire for impossible predictability and unwise growth leads to the destruction of corporate value, shortened careers, humiliation, and damaged companies.'' Along the way, it also leads otherwise honest executives to turn to the dark side. They lie, cheat, and steal in order to relieve the immense pressure to meet analyst expectations of unattainable performance, just to keep their jobs and, thus, for self-preservation. It should be noted that other countries, cultures, and languages provide a context that allows fraud to flourish in perhaps different stripes, shapes, and forms. This is why it is necessary to bring in perspectives from economic/cultural anthropology to understand how white collar crime might manifest itself in other contexts.

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6 Cf. The fictitious character, Gordon Gekko, played by actor Michael Douglas in the 1987 movie *Wall Street* dramatically says ''Greed is good.'' The movie portrays corporate raiders of the 1980s era, and by illustrating the frenzied pace of mergers and acquisitions, made the theoretically justified but practically dubious idea of aligning the interests of managers and stockholders through the granting of stock options to executives, a part of popular culture.

7 More recent research by Weisburd et al. (1995) finds that some convicted white collar criminals see such crime as a good bet as a revealed preference from their surprisingly high rate of recidivism, or repeat criminal offenses.

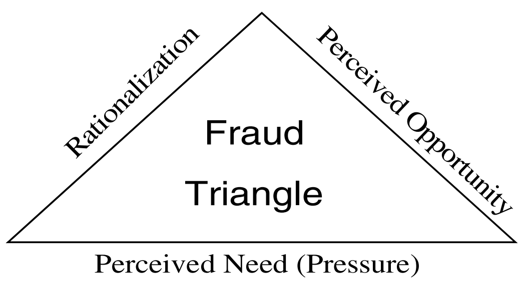
8 Shover (1998) laments that ''[d]espite its axiomatic status in crime-as-choice theory, the hypothesized inverse relationship between variation in use of sanctions and the rate of white-collar crime has received little attention from investigators.''

Starting with Cressey (1973), the sociology and criminology literature describes fraud perpetrators as ''trust violators.'' In other words, trust violators are people you would not normally suspect of committing fraud. Specifically, Cressey (1973) explains, ''Trusted persons become trust violators when they conceive of themselves as having a financial problem which is non-shareable, are aware this problem can be secretly resolved by violation of the position of financial trust, and are able to apply to their own conduct in the situation verbalizations which enable them to adjust their conceptions of themselves as trusted persons with their conceptions of themselves as users of the entrusted funds or property'' (see also, Albrecht et al. 1984). Specifically, trust violators and fraud perpetrators must be able to justify their actions to themselves and others as a psychological coping mechanism to deal with the inevitable ''cognitive dissonance'' (that is, a lack of congruence between their own perception of being honest and the deceptive nature of their action or behavior[9]). This explanation led to the inclusion of ''rationalization'' as one of the elements in the conceptual framework provided by the ''Fraud Triangle'' that is discussed next (see Wells 2004).

THE FRAUD TRIANGLE RE-INTERPRETED

An important conceptual framework in understanding fraud is the so-called ''fraud triangle,'' loosely based on what policemen and detectives have referred to as ''means, motives, and opportunity.'' Widely disseminated by the Association of Certified Fraud Examiners (ACFE), the fraud triangle has three elements, *viz.*, *Perceived Incentives/Pressures*, *Perceived Opportunities*, and *Rationalization of Fraudulent Behavior* (see Figure 1). Not surprisingly, all three elements of the fraud triangle are influenced by the fraud perpetrators' psychology. After all, personal incentives and perceived pressure drive human behavior, and the need to rationalize wrongdoing as being somehow defensible is very much psychologically rooted in the notion of cognitive dissonance. To some extent, even the assessment of opportunity—including the relatively low likelihood of being caught—depends on the perpetrator's personal, behavioral calculus. Accordingly, when trying to understand the root causes of fraud, it behooves us to seek psychological answers and explanations, not just logical ones. White collar criminals need excuses, and here's a typical list:

FIGURE 1
The Fraud Triangle: Opportunity, Pressure, and Rationalization



[9] Cf. The theory of ''cognitive dissonance''—a psychologically distressing state motivating the individual to distort one or both cognitions to restore consistency—was first proposed by Stanford University social psychologist, Leon Festinger (1957). Conditions under which dissonance as discrepancy between attitudes and actions produces attitude change: actions must have consequences perceived to be negative, the actor must feel personally responsible, and arousal must be both experienced and linked to the dissonance (Joule and Beauvois 1998).

- Everyone's getting rich, so why shouldn't I?
- Taking money is just a temporary "borrowing," it will be returned when the gambling/betting winnings materialize.
- I deserve these "perks" as reasonable compensation, and the company can certainly afford it.
- This is a victimless crime, if anything, and I am not hurting anyone; in fact what I am doing is for a good cause!
- It is not really a serious matter.

Although the fraud triangle is a powerful conceptual tool, there are other factors such as the basic greed and acquisitiveness, a "revenge motive" to make the organization pay for perceived inequities, or a "catch me if you can" attitude that some white collar criminals exhibit, and these personality characteristics do not easily fit within the fraud triangle framework. Similarly, the white collar criminal's assessment of the organization's attitude toward fraud even if the perpetrator is identified (e.g., organizational inertia and reluctance to take any action, turning a blind eye, being content with a slap on the wrist, poor track record in vigorously prosecuting fraud) gets factored into the bahavioral calculus but is not obvious as a separate descriptive category. Hence, to discourage would-be fraudsters, ACFE Founder Joseph Wells advises, "Let them know you're watching!"

White collar crime is notoriously difficult to prosecute because the offenders are well connected and often are first-time offenders. Such fraud perpetrators take extreme care to conceal their activities, destroy evidence, and disrupt the audit trail. Indeed, Braithwaite (1991) has argued that white collar crime is a defining issue in criminology as it puts into sharp relief the "differentials of power and influence" as well as the dynamics of inequality in wealth, power, status, and personal reputation. Thus, even the common expression "where there's smoke, there's fire" may not quite apply, because the fraud perpetrator may introduce a smoke screen or otherwise stamp out the smoke, leaving no tell-tale evidence of fire. We should instead heed the quip used by scientists engaged in the search for extraterrestrial life: "Absence of evidence is not evidence of absence." For all these reasons, many corporate and economic crimes are not prosecuted despite their significant financial consequences, and white collar crime remains a largely unmanaged risk in organizations.

When undertaking prosecution of white collar crime cases, it is important to consider the "other fraud triangle" consisting of the vertices of "the act, the concealment, and the conversion" to ferret out and reconstruct how the fraudulent act was committed, what actions were taken by the fraudster to hide the audit trail or conceal his/her tracks, and eventually how s/he (as well as potential others) unlawfully benefited from the act.

CRIMINOLOGY, SOCIOLOGY, PSYCHOLOGY, AND THE FRAUDSTER

Sorting people into types based on distinguishing characteristics or behavioral dispositions is a common social process. The rationale in criminology behind (white collar) crime typologies is the potential to facilitate crime prevention or correctional efforts[10] for which success naturally depends on accurately identifying and addressing the specific problems

[10] Gibbons (2002) notes: "In order to be useful in causal inquiry or correctional intervention, typologies must meet several requirements. First, a typology must be sufficiently detailed and clear so that offenders can be reliably assigned to its categories. A second requirement is that the typology identify mutually exclusive types, so that actual offenders fall into only one slot. A third criterion is parsimony, that is, a relative limit in the number of types. Finally, typologies must be empirically congruent; that is, the typological description should closely fit the individuals in a given type, and the population under scrutiny should largely fall within the typology without a residual category of unclassified cases ... typological schemes in criminology often fail to meet these four criteria."

underlying different kinds of lawbreaking behavior (Gibbons 1965). For instance, Mr. Thomas Golden of PricewaterhouseCoopers, an experienced forensic accountant, believes that financial reporting fraud perpetrators fit one of two profiles: ''greater good oriented'' or ''scheming, self-centered'' types. Those who fit the greater good oriented profile are ''otherwise honest individuals who misrepresent the numbers by rationalizing that what they are doing is best for the company.'' The scheming, self-centered types are ''individuals who exhibit a rampant disregard for the truth, are well aware of what they are doing and who are attempting to attain goals dishonestly.''[11] Given the challenges in devising accurate white collar crime typologies, it is likely that we will see an effort to distinguish types of white collar crime, i.e., crime patterns, rather than white collar criminal taxonomies. For instance, Shapiro (1980) advocates a search for behavioral patterns in characterizing different types of white collar crime such as fraud, self-dealing, and regulatory offenses. In subsequent writings, Shapiro (1990) suggests it is high time that we looked beyond ''perpetrators' wardrobe and social characteristics'' to ''the *modus operandi* of their misdeeds and the ways in which they establish and exploit trust.'' As noted earlier, the concept of ''abuse of trust'' is a centerpiece of Cressey's (1973) characterization of white collar criminals as trust violators. A trust crime refers to the ''exploitation of a fiduciary position by an agent responsible for custody, discretion, information, or property rights'' (Shover 1998).[12] Two ways in which we can use behavioral science to understand the *modus operandi* of trust violators are now briefly described: the science of persuasion (Cialdini 2001, 2007; Hogan and Speakman 2006) and social engineering (Hinson 2008; Mitnick and Simon 2002).

SCIENCE OF PERSUASION

Psychologist Cialdini (2001, 2007) describes how hard-wired tendencies of human beings are cleverly exploited in influencing and persuading others. It is important to understand that when the influencer's intent is not honorable, the result is not persuasion but manipulation (Lakhani 2005). This is why the ''science of persuasion'' represents an important key to understanding how trust violators go about their business of manipulating others. For instance, what the convicted felon Sam Antar refers to on his website as ''the art of spinning'' involves swindlers' tactics such as ''selling people hope,'' ''making excuses as long as one can,'' or ''attacking the messenger to detract scrutiny of one's own actions'' that exploit human gullibility in an extreme fashion.

SOCIAL ENGINEERING

Social engineering involves systematic manipulation of others through trickery and cunning. Social engineers ''toy with your trust'' and are masters of the craft of gaining and using their ''influence'' through persuasive requests. It is only through deep familiarity with the methods and techniques adopted by social engineers that we can put up an adequate defense to pierce the ''veil of deception.'' ''Social engineering uses influence and persuasion to deceive people by convincing them that the social engineer is someone he is not, or by manipulation. As a result, the social engineer is able to take advantage of people to obtain information with or without the use of technology'' (Mitnick and Simon 2002). Hinson

[11] Mr. Thomas Golden's characterization of financial reporting fraud perpetrator profiles are taken from Ballou et al. (2006). For descriptive convenience, the constructive labels ''greater good oriented'' and ''scheming, self-centered'' types have been furnished by this paper's author.

[12] In Genesis, Chapter 27, of *The Bible*, there is a narrative of how Jacob impersonates his elder brother, Esau, to trick his blind father into giving Jacob the inheritance that is Esau's birthright. This is a classic trust crime relating to fraudulent usurping of a sibling's property rights (mentioned in De Angelis [2000]).

(2008) notes, that instead of trying to break into computer networks and systems that are protected by technical security control measures, social engineers prefer to compromise the people who configure, use, and manage them. They cheat and lie their way past those who are naïve and/or unaware of the threat. Generally speaking, people are easier to deceive than computers, so social engineering remains a threat for all organizations, even those that have excellent technical security controls. In other words, people represent the weakest link in the systems security chain.

Yet another angle from which to appreciate the relevance of the behavioral sciences is to look at the emerging literature on industrial psychopaths. I turn to this next.

INDUSTRIAL PSYCHOPATHS

Some ‘‘con artists’’ might score high enough to be classified as ‘‘industrial/organizational psychopaths.’’ Psychopathology refers to the science of diseases of the human mind. A psychopathic personality is characterized by a mental pathology with the following traits:

1. amoral and antisocial behavior,
2. inability to form meaningful personal relationships, and
3. extreme egocentricity and absence of empathy.

Several toxic elements of such personalities come to one's attention: An oversized ego frequently characterized by greed and self-aggrandizement, an obsession with material possessions, and ‘‘using’’ human beings to further one's own selfish goals (*cf.*, German philosopher Kant's view to always treat another human being as an end in themselves, but never as a means to an end).

Dr. Paul Babiak observed at the 2000 Annual Meeting of the American Neuropsychiatric Association that: ‘‘Not all psychopaths end up in prison, and some of them exploit organizational chaos, and thrive in business.’’ He went on to comment that manipulation and self-serving dishonesty are hardly unknown in the business world, for some 15 percent of top executives have been known, on average, to misrepresent their education and about one-third of all resumes contain lies. Industrial psychopaths have been described as ‘‘social predators who charm, manipulate, and ruthlessly plow their way through life, leaving a broad trail of broken hearts, shattered expectations and empty wallets ... selfishly taking what they want and doing as they please without the slightest sense of guilt or regret’’ (Hare 1998). Further, Cleckley (1976) notes that ‘‘goodness, evil, love, horror, and humor have no actual meaning, no power to move the psychopath. He is furthermore lacking in the ability to see that others are moved. It is as though he were colour-blind, despite his sharp intelligence, to the emotional aspect of human existence.’’ Based on his limited research, Babiak (2000) described the following common pattern in the industrial psychopath's behavior:

- **Organizational entry:** Charming the interviewer; not a particularly difficult thing to do for expert manipulators.
- **Assessment:** Gauging utility of various members of organization during ‘‘honeymoon’’ period; begins to charm people in power and others of use to him/her; establishes a communication network.
- **Manipulation:** Psychopath spreads disinformation to enhance his/her image and disparage others; creates conflict among those who might pool negative information about himself/herself; uses full arsenal of social tools: rational persuasion, inspirational appeal, ingratiation, and coalition to accomplish devious goals.

- **Confrontation:** Psychopath abandons the "pawns" no longer useful to him/her and takes steps to "neutralize" the detractors whom s/he has failed to take in; raises doubts about the latter's competence or honesty.
- **Ascension:** Psychopath reaches upper echelons where he abandons his "patrons," those well up in the corporate hierarchy who have facilitated his rise to power (seen in one-third of the cases).

In summary, organizational entry, honeymoon period, manipulation, confrontation, and ascension appear to be the general routine followed by industrial psychopaths as they infiltrate and wreak havoc on corporations. Rather interestingly, Babiak and Hare (2006) have written a book in which they refer to industrial psychopaths as "snakes in suits."

SOCIOLOGY AND PSYCHOLOGY OF BOARD AND AUDITOR OVERSIGHT PROCESSES

The Sarbanes-Oxley Act has given the public company audit committee a very important role in the oversight of financial reporting matters. To discharge their newly defined monitoring and oversight function effectively, audit committees need a primer on the psychology of the fraud perpetrator(s) as well as insight about their own and the auditors' cognitive weaknesses and blindspots. One important behavioral insight is recognizing that high-level fraud is frequently a "team sport" and often involves collusion. Internal controls typically presume proper segregation of duties and, hence, are quite powerless against collusion and management override of controls. In fact, the COSO (1999) Fraud Study found that in 83 percent of the frauds examined, the CEO and the CFO had colluded. At the board level, the well-known *groupthink* bias ("many heads, one mind") should be guarded against. *Groupthink* discounts contrarian opinions or tends to sway the group into making a "feels good" decision, because maintaining group cohesiveness and solidarity is seen as more important than realistic appraisal of the facts at hand (Janis 1982). When there is an active tendency to ignore bad news due to either indifference or sheer laziness, board members may miss important signals of potential fraud. Jensen (1993) notes, "Board culture is an important component of board failure. The great emphasis on politeness and courtesy at the expense of truth and frankness in boardrooms is both a symptom and cause of failure in the control system. CEOs have the same insecurities and defense mechanisms as other human beings; few will accept, much less seek, the monitoring and criticism of an active and attentive board." Thus, it is easy to fault boards of directors for weak oversight, but we should also recognize that many of them may owe their position on the board to the CEO.

This is particularly so when the CEO also doubles up as chairman of the board. The trusted relationships that subsist between external auditors and their clients sometimes make auditors let their guard down. When encountering fraud scenarios, human tendencies can severely bias the auditors' judgments, *viz*., the *confirmation bias* (seeking confirmation of one's beliefs, e.g., the presumption that the audit client survived the audit firm's rigorous screening process and therefore must be trustworthy) and *selective perception* (seeing only what one wants to see, e.g., what one encounters during the audit is never attributed to fraud as there always could exist more innocuous non-error explanations for noted anomalies and exceptions). Such cognitive heuristics and biases have been documented extensively (see Kahneman et al. 1982) and limit auditors' ability to exercise an appropriate level of professional skepticism.

CONCLUDING REMARKS

While corporate governance reform legislation such as the Sarbanes-Oxley Act of 2002 can help limit the opportunity for fraud, individual ethics and integrity cannot be legislated. As such, fraud deterrence and detection should focus on how to deal with the underlying interpersonal and behavioral dynamics—the psychology of fraud perpetrators as well as the psychology of those responsible for governance, including auditors, and their interactions. The fraud triangle—consisting of opportunity, pressure, and rationalization—is a useful conceptual framework to understand the root causes of fraud and their behavioral underpinnings. However, it is also important to look at the other fraud triangle that focuses on the act, the concealment, and the conversion (that benefits the white collar criminal directly or indirectly). Most important to note, it is *human beings* who commit crimes, sometimes as agents on behalf of their organizations, so we must attempt to understand their motivations and determine both the why and the how of white collar crime. For organizations, establishing anti-fraud programs and controls is critical. To do this, understanding of behavioral factors influencing fraud perpetration is key for establishing responsive fraud deterrence and detection mechanisms and proactively managing the risk of financial fraud. Interestingly, the significance of behavioral science insights increases even more when we move into the domain of fraud investigation[13] as well as remediation.

Nisbett and Ross (1980) observe: ''One of philosophy's oldest paradoxes is the apparent contradictions between the greatest triumphs and dramatic failures of the human mind. The same organism that routinely solves inferential problems too subtle and complex for the mightiest computers often makes errors in the simplest of judgments about everyday events. The errors, moreover, often seem traceable to violations of the same inferential rules that underlie people's most impressive successes.'' This is very similar to the colloquial observation that ''what we have today are technological giants but ethical infants'' (Ramamoorti and Weidenmier 2004).

Recent neuroscience research promises to shed further light on why we behave as we do, even in the highly subjective and personal domain of our morals and ethics. For several years now, anthropologists, psychologists, and evolutionary theorists have argued that our ethical and moral life evolved from nature (*cf.*, Hauser 2006). In the first book to describe how ethics may be a hardwired function of the human brain, distinguished neuroscientist, Donald Pfaff (2007) explains how specific brain circuits (and ''mirror neurons'') cause us to consider an action toward another as if it were happening to us, prompting us to treat others as we wish to be treated ourselves (''the Golden Rule''). He presents a convincing argument as to why humans across time and geography have such similar notions of good and bad, right and wrong, thus highlighting the cause-and-effect linkages among biology, psychology, and the humanities. So, 21st century advances in neuroscience are making human behavior a little bit more comprehensible after all (*cf.*, opening quotes to this paper). These developments bode well for the engagement of the behavioral sciences, including neuroscience, in understanding the ''criminal mind'' and will shed more light on the psychology of white collar crime.

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[13] For instance, consider the highly developed ability to interview suspected fraudsters—as a human-to-human battle of wits and emotional tracking, reading faces, body language, etc., for lie detection in real time can be very psychologically demanding. It is clearly more art than science and such interviewing ability improves with experience.

APPENDIX
BEHAVIORALLY ORIENTED SOLUTIONS TO THE FRAUD PROBLEM
(adapted from Ramamoorti and Olsen 2007)

Among behavioral approaches and solutions to the fraud risk factors mentioned are:

- Sound tone at the top, with management "walking the talk"; aligning incentive structures within the organization in such a way that does not encourage fraud perpetration; an active Board and audit committee overseeing management performance and activities (as well as the work by external and internal auditors).
- Nurturing a culture of integrity and ethics, supported by an organizational code of conduct, periodic ethics audits, and enforcement of noted violations of the code; maintaining an ethics and/or whistleblower hotline; explicitly rewarding good behavior.
- Routine background checks on new and experienced hires, as well as for making senior leadership appointments (Human Resources needs to be leading this effort).
- Swift, decisive action to respond to incidents of fraud so that employees and others are aware of the organization's serious commitment to dealing with fraud issues head-on.
- Fraud awareness training, perhaps delivered by internal audit professionals or outside consultants, including description of ethics hotlines and guidance on what to do when fraud is encountered; control self-assessments that consist of process risk owners performing risk and control mapping (and including fraud risk considerations in such exercises).

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