

## **Fraud Triangle and Ethical Leadership Perspectives on Detecting and Preventing Academic Research Misconduct**

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### **Introduction and Background**

Academic misconduct is most often researched in the context of student cheating. At most universities efforts to address the almost epidemic nature of student misconduct are ongoing (Hamlin, Barczyk, Powell, and Frost, 2013). However, academic misconduct is not limited to university students. Faculty also have fabricated their research data or committed plagiarism in their published works. While there are many potential types of ethical violations committed by faculty, such as unethical behaviors related to student abuses, preferential grading, and sexual harassment (Braxton, Proper, and Bayer, 2011), the academic misconduct addressed in this paper is specified by Jordan (2013) as research misconduct which she defines as “technically and morally culpable behaviors, such as the fabrication, falsification, or plagiarism perpetrated by individuals or institutions where systematic, generalizable knowledge is produced or disseminated” (Jordan, 2013, p. 252).

The Association of Certified Fraud Examiners (ACFE) defines occupational fraud as “the use of one’s occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization’s resources or assets” (ACFE, 2014). Since research misconduct is committed with intent by faculty for either direct (e.g., increased compensation or receipt of grant monies) or indirect (e.g., increased status and reputation) enrichment and since such behavior results in a misuse of the institutions resources (e.g., money and supporting infrastructures), we suggest that faculty research misconduct should be addressed as a form of occupational fraud (which is also often referred to as white collar crime). Plagiarism and the fabrication of data have been related to occupation fraud or white collar crime in prior research (e.g., Keeling, Underhaile, and Wall, 2007; Teh and Paul, 2013; Elliott, Marquis, and Neal, 2013).

Beginning in 2001, institutions seeking federal funding must use the definition of fabrication, falsification, and plagiarism (FFP; Resnik, Neal, Raymond, and Kissling, 2015). While research FFP may not be as extensive as student misconduct, its prevalence demands that higher education leaders take individual and collective action in an effort to curb these types of behaviors.

The Office of Research Integrity (ORI) focuses on preventing misconduct and promoting research integrity through education programs, but the Public Health Services does the direct investigations. The ORI had the following increasing case summaries where administrative actions were imposed (but not pending) due to findings of research misconduct:

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<u>Year</u>	<u>Number of Cases</u>
2015	14
2014	13
2013	7
2012	3
2011	1
2010	1
2009	1
2008 and older	3

(Source: Office of Research Integrity, Case Summaries, n.d.)

The European University Institute has a “Code of Ethics in Academic Research” which lists eleven research acts and gives examples of minor and major violations. The eleven acts are plagiarism, piracy, abuse of intellectual property rights, abuse of research resources, defamation, misinterpretation, personation, fabrication and fraud, sabotage, professional misconduct, and denying access to information or material (European University Institute 2013).

### **Literature Review**

Bailey, Hasselback, and Karcher (2001) surveyed 663 accounting professors who had published in the top thirty ranked accounting journals. Their survey included questions regarding the fabrication of data, the disregard of unfavorable statistical results, the concealing of adverse results, the false reporting of completed procedures, and the intentional false reporting of results. These researchers reported the following incidence of accounting research dishonesty:

*Our findings indicate that falsification has occurred among the most successful and prolific accounting researchers. The estimated percentage of seriously tainted articles in the top thirty accounting journals, based on self-reporting, is about 3.7 percent, while respondents on average believe that about twenty-one percent of the literature is tainted* (Bailey et al., 2001, p. 35).

Using a sample of 546 researchers who had published in the top journals in their field from 1990 through 2011, Bailey (2014) investigated the relationship between the personality variable of primary psychopathy, ethical attitudes towards research misconduct, and research productivity. Primary psychopathy was measured with a validated scale; attitudes towards research misconduct were measured with five-point ratings of eleven questions related to unethical acts by journal reviewers, journal editors, and researchers; and research productivity was measured by publication count. His results indicate “...that primary psychopathy acts through its effect on unethical attitudes to increase an individual’s publication count” (Bailey, 2014, p. 1320). Therefore, Bailey’s findings suggest that psychopathy is one of the drivers of FFP.

### ***Prevalence of Research Misconduct***

Fang, Steen, and Casadevall (2012) found that the percentage of retracted scientific articles as a result of misconduct has increased ten times since 1975, with the U.S. leading the way in the three areas of fraud and suspected fraud, plagiarism, and duplicate publication. They found that the U.S., Germany, Japan, and China had three-fourth’s of the retractions due to fraud and suspected fraud.

The prevalence of FFP was highlighted in a study by January, Meyerson, Reddy, Docherty, and Klonoff (2014). Their results, obtained from a sample of 374 clinical psychology graduate students, indicated that thirty-two percent of them “reported knowledge of unethical faculty behavior” (January et al., 2014, p. 1). Of the 116 students who specified faculty misconduct, sexual misconduct had the highest incidence (22.4%), while plagiarism and data fabrication had the second highest incidence (20.7%) (January, et al., 2014). Writing in *Nature*, Braxton (2012) reported that his co-authored research (Braxton et al., 2011)

indicated that a large sample of surveyed professors placed the misappropriation of student work (plagiarism in the form of outright theft) at the top of their list of egregious faculty behaviors.

A report in the journal *Nature* indicated that retractions in scientific journals have increased about 1,200 percent during the past decade, while the number of published articles has increased by only about forty-four percent. About one-half of the retractions were for misconduct (Jha, 2012). Fang, Steen, and Casadevall (2012) found that 57.4 percent of 2,047 retracted biomedical and life-science research articles were due to misconduct and only 21.3 percent was due to error.

Jong Foo and Xin Tan (2014) recently found that the number and frequency of fraudulent publications being retracted by journals are not subsiding even with greater awareness by the academic community. By studying five researchers who had at least fifteen fraudulent retracted publications, they found that the retraction period was between thirty-two and forty-nine months (compared to twelve to twenty-six months for finding workplace fraud) (ACFE, 2014). They found a significant correlation between research misconduct and the likelihood of the dishonest researcher involving different authors for isolated fraudulent publications.

Fake reviews are becoming a problem for editors and journals as authors submit fake e-mail addresses for potential peer reviewers. Papers by authors in China, India, Iran, and Turkey have been retracted for fake reviews (Oransky, 2012). Papers also are being retracted for citation manipulation (Oransky 2014).

### **Selected Examples of Research Misconduct**

Marc Hauser, a professor at Harvard University from 1992-2011, was fired in 2011. In 2014, the U.S. Health and Human Services found this previously distinguished professor of psychology guilty of falsifying both data and methodologies that supported research grants (Marc Hauser Engaged, 2014).

At the University of Nevada at Las Vegas, English Professor Mustapha Marrouchi, was accused of multiple plagiarisms over his twenty-four year career (Schmidt, 2014).

*“In some cases, he is accused of improperly claiming as his own [work] entire essays by other writers in which he changed just a few words”* (Schmidt, 2014, para. 4).

This accused serial plagiarist was fired in December 2014.

Haruko Obokata, a research scientist who had been credited with groundbreaking stem cell research, was accused of fabricating data and plagiarism. In a news conference, Obokato:

*“...admit[ted] to mistakes, but not ill intent”* (McNeill, 2014, para. 3).

One of Obokato’s co-authors, Yoshiki Sasai, subsequently committed suicide (Huckabee, 2014).

The Bernie Madoff of academic and scientific fraudsters is Japanese anesthesiologist Yoshitaka Fujii with at least 183 retractions according to Retraction Watch (n.d., “Retraction record”). Of 249 known papers published by this researcher over a nineteen year period, at least 126 contained falsified data. As is typical for workplace fraud, the misconduct was not discovered by internal means but by a consulting anesthetist (Akst, 2012).

The previous one-time leader, anesthesiologist German Joachim Boldt, had around ninety retractions (Retraction Watch, n.d., “Bolt’s data”). Named Professor Extraordinary by the University Hospital of Glessen in 1993, this prominent and charismatic fraudster came under criminal investigation for his forgeries as a result of a tip from a reader who said his data was too perfect to be believed. Editor Steven Shafer said Boldt was incredibly prolific, submitting around one manuscript per month (Wise, 2013; Blake, 2011).

Susannah Dickinson, an Assistant Professor in the School of Architecture at the University of Arizona, called a new teaching talent, received a formal admonishment for plagiarism, but she was not dismissed. Her plagiarism was uncovered through a complaint by a former graduate student. Dickinson previously

had served as the student's thesis advisor. The university found that Dickinson presented as her own work, without attribution, text lifted directly from the student's thesis (DeSantis, 2014; Alaimo, 2014).

Vanessa Ryan, an Assistant Professor of English at Brown University, failed to give attribution to a number of passages used in her published book. While the inquiry report indicated that she had committed a breach of ethics, it was determined that her failures to cite were probably due to sloppy research methods. She was subsequently promoted to Associate Dean of English, after which thirteen of the tenured professors at Brown University protested (Dublin, 2014).

An instructive example of FFP is Dutch social psychologist Diederik A. Stapel, who fabricated at least fifty-three articles published in such leading journals as *Science* and faked data used in ten dissertations of Ph.D. students. He would "collect" the data for his students and then not share the details with them (Borsboom and Wagenmakers, 2013). In Stapel's (2012/2014) autobiography, entitled *Ontsporing* (meaning Derailment), he indicated, just like the typical fraudster, that he initially changed small amounts of data, but he graduated to fabricating complete data sets. "I'd spent years slowly, carefully, deliberately, and with great precision, digging my own grave. I'd started with a teaspoon and ended with a hundred-horsepower backhoe" (Stapel, 2012/2014, p. 26). His deceptions went undetected for years.

James E. Hunton is another recent example of the academic dishonesty of a successful researcher. At the end of 2012, Hunton resigned from his position at Bentley University. Hunton, a prolific and top ranked accounting scholar (*Accounting Research Rankings*, 2013), was accused of the fabrication of research data (Healy, 2012). In 2013, *The Accounting Review* (TAR), a prestigious peer reviewed publication of the American Accounting Association (AAA), issued a retraction for a 2010 article co-authored with Anna Gold (Hunton and Gold, 2010). The retraction (AAA, 2013, p. 357) stated that "the authors confirmed a misstatement in the article and were unable to provide supporting information requested by the editor and publisher." This retraction was one of the few retractions of a published article ever issued by TAR which has been published since 1926—the last, and perhaps the only other, TAR retraction was issued in 1964 (AAA, 1964).

Initially dismissed by Bentley administrators as having been a simple error (Healy, 2012), an extensive investigation (Bentley, n.d.) concluded that Dr. Hunton had fabricated the research data used in at least two of his published works (the second questioned work was published in *Contemporary Accounting Research*) and that the circumstances surrounding the fabrication and investigation (including evasive actions taken by Hunton to supposedly cover up the fraud) cast doubt on the veracity of his previous research. According to Judith A. Malone, the ethics officer at Bentley, the university:

*"...must consider the possibility that these are not the only two papers for which the data was fabricated by Hunton. He published approximately fifty papers while at Bentley, and there is reason to believe that many of those papers involved data that were provided by Dr. Hunton alone..."* (Bentley, n.d., p. 5).

Based on their investigation, Dr. Hunton's co-authors on the two papers were not implicated in the fraud. Hunton's standard operating procedure was for him to personally obtain the data and then, based on alleged confidentiality agreements, only provide his co-authors with a summary of the information (Bentley, n.d.). Following the exposure of Hunton's fabrication of data in the paper published in TAR, the AAA initiated an investigation of other papers authored or co-authored by Hunton. On June 25, 2015, the AAA made the following announcement:

*"The American Accounting Association has retracted twenty-five articles, and one section of one article, from its journal collection based on: the pattern of misconduct identified in the investigation summary, "Report of Judith A. Malone, Bentley University Ethics Officer, Concerning Dr. James E. Hunton (2014);" the October 2014 supplement to that report; and the coauthors' inability to provide data or other information supporting the existence of primary data, or to confirm that their studies*

*were conducted as described in the published articles. Consistent with the findings in the Bentley University investigation summary, the Association review team found no evidence that Dr. Hunton's coauthors were aware of or complicit in Dr. Hunton's actions" (AAA Publication News, 2015).*

In order to proactively address the integrity of its future publications, the AAA in 2013 established a Publications Ethics Task Force which has developed standards related to both plagiarism and the fabrication of data. The December 2014 drafts of the AAA plagiarism (AAA, 2014b) and authorship policies (AAA, 2014a), indicate that in the future all AAA journals will inform authors that their submission will be reviewed using anti-plagiarism software and that authors must be:

*"...transparent about the design, implementation, data analysis, and results of each study" [and that]...all co-authors are responsible for the integrity of the research" (AAA, 2014a, p. 1).*

### **Ramifications of Research Misconduct**

Research misconduct is damaging on a number of levels. For example, the stealing of ideas and the fraudulent receiving of rewards (both financial and non-financial) can be considered forms of white collar crime (Elliott, Marquis, and Neal, 2013). Faculty members serve as student role models (AACSB, 2004; Braxton et al., 2011; Braxton, 2013). Therefore, they should lead by example. The exposure of academic misconduct can be disruptive to faculty relations (cf. Dublin, 2014), including having devastating effects on both the researcher and co-researchers (cf. Huckabee, 2014), and may adversely impact the reputation of the college or university where the faculty is employed. Also, the incidence of research misconduct can negatively affect the perceived validity of all research. In a *Chronicle of Higher Education* article on potential policy changes at the National Science Foundation, Paul Baskin stated that researchers have been plagued in recent years with growing doubts about the reliability of their findings, with some analyses suggesting that most findings published in scientific journals are as likely to be false as true. In addition to overt financial conflict of interest, the problem has been attributed to factors that encourage haste, including career pressure to publish and win grants. (Baskin, 2014, para. nine)

Surprisingly, little research has been directed at the incidence of accounting FFP, and Jones, Spraakman, and Sanchez-Rodriguez (2014) indicate that the prevalence of this problem calls for more research. The many recent example of FFP should be a wake-up-call for the academic profession.

### **Organization of Paper**

Before steps can be taken to solve a problem, the roots of the problem must be understood. In this paper we posit that the fraud triangle model provides a framework that can be useful in explaining the drivers of FFP. Moreover, targeting the drivers of FFP may provide higher educational leaders with a focused approach to minimizing this problem.

This paper proceeds as follows. In the first section a limited review is provided of literature related to previous use of the fraud triangle model in the investigation of various forms of white-collar crime. This general explanation of the model is followed by a review of literature directly or indirectly related to the applicability of the fraud triangle model to research misconduct. In the second section, literature related to leadership aspects of research misconduct are reviewed. This section includes ethical leadership in academia and tone-at-the-top—an aspect of higher education leadership that is posited as related to ethical behaviors and thus FFP behaviors. The paper concludes with suggestions for initiatives that higher education leaders can take to actively address research misconduct. Recommendations for future research are also provided.

### **Fraud Triangle**

The fraud triangle model has been primarily utilized in the investigation of frauds involving economic activities. Consequently, most of the literature on this model is related to frauds in business organizations

external to higher education institutions. Nevertheless, the fraud triangle model also has been used to describe other forms of white-collar crime, and we argue that the model is also applicable to the white-collar crimes of FFP. In the following section a selected review is provided of recent literature on the fraud triangle. In the subsequent section, fraud triangle literature related to academia is presented.

### ***Background***

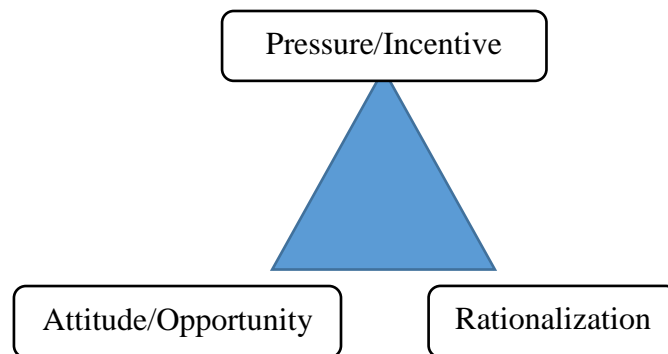
The fraud triangle was derived (ACFE, n.d.) from the seminal work by Donald L. Cressey (1953/1973) who investigated the psychology of 133 embezzlers incarcerated in one of three prison facilities: two state and one federal. From data obtained in interviews with these inmates, he found three common elements: 1) pressure related to a non-shareable financial problem; 2) opportunity related to the embezzler occupying a position of trust while having the technical skills and general knowledge needed to perpetuate the fraud; and 3) rationalization in the form of:

*...the application of certain key verbalizations to his conduct [that] enables the trusted person to 'adjust' his conceptions of himself as a trusted person with his conceptions of himself as a user of entrusted funds for solving a non-sharable problem...* (Cressey, 1953/1973, p. 94).

Cressey (1953/1973, p. 139) indicated that “the three elements make up the conditions under which trust violation occurs, and the term ‘cause’ may be applied to their conjuncture since trust violation is dependent upon that conjuncture.” More simply stated, the Association of Certified Fraud Examiners (ACFE) denotes that all three fraud triangle “...factors must be present at the same time in order for an ordinary person to commit fraud” (ACFE, n.d., p. 1).

In response to the many financial scandals that were revealed in the late 1990s and early 2000s, the fraud triangle was incorporated by the American Institute of Certified Public Accountants (AICPA, 2002) into its Statement on Auditing Standards No. 99 (SAS 99), Consideration of Fraud in Financial Statement Audits (without giving attribution to Cressey). The AICPA basic fraud triangle model is presented in Figure 1.<sup>1</sup>

**Figure 1: The Fraud Triangle**



(Adapted from *The Guide To Investigating Business Fraud* [AICPA, 2009])

This fraud model has since been an integral part of the standards for field work used by auditors in accessing risk factors related to material financial statement misstatements resulting from fraud (AICPA, 2009). In investigating white-collar crime, elements of the fraud triangle have been found useful:

*“...as one way to determine the ‘why’ of an incident. This concept provides the drivers that allow a fraudulent event to occur...”* (AICPA, 2009, p. 2).

<sup>1</sup> Similarly, the GAO released the Standards for Internal Control in the Federal Government in September 2014. The manual uses the three Cressey fraud elements without giving attribution to Cressey.

While SAS 99's explanations of the fraud triangle are focused on financial fraud, the following selected excerpts from the SAS 99 risk factors can be related to the white-collar crime of research misconduct:

- Pressures/Incentives: Excessive pressure exists for management to meet the requirements or expectations of third parties...; [and] there is excessive pressure on management or operating personnel to meet financial targets set up by those charged with governance or management, including sales or profitability incentive goals.
- Opportunities: There is ineffective monitoring of management...[and,] inadequate monitoring of controls, including automated controls and controls over interim financial reporting...
- Attitudes/Rationalizations: Ineffective communication, implementation, support, or enforcement of the entity's values or ethical standards by management or the communication of inappropriate values or ethical standards (AICPA, 2002, AU Section 316.85, pp. 1749-1751).

PwC's 2009 Global Economic Crime Survey found that sixty-eight percent of fraud was caused by incentives and pressures, eighteen percent by opportunities, and fourteen percent by attitudes/rationalizations. The two top factors that contributed toward increased incentive/pressure to commit fraud were: 1) financial targets are more difficult to achieve (forty-seven percent); and 2) fear of losing job (thirty-seven percent) (PwC, 2009). These financial factors translate directly to professors, especially because of the current administrative obsession with faculty obtaining research in the few top-tier journals and the exclusion of practitioner-type articles.

The etiology of academic fraud, however, includes many factors, some of which were described by Diederik Stapel in *Ontsporing*:

*"...[a] desire to achieve something, naked ambition, laziness, nihilism, a lust for power, status anxiety, the urge to find solutions, the need to feel whole, pressure to "publish or perish," arrogance, emotional flakiness, loneliness, disappointment, low attention span, addiction to answers, etc. etc. etc., but none of these constructs had sufficient explanatory power to reveal why I'd done what I had" (Stapel, 2012/2014, p. 162).*

Soltani (2014) suggested that the elements of the fraud triangle along with an unethical climate were evidenced as fraud drivers in corporate scandals (e.g., Enron and Vivendi) that took place in both the United States and Europe around the beginning of the twenty-first century. Svanberg and Ohman (2013) investigated the relationship between audit quality and the fraud triangle element of pressure. They concluded that pressures to make the budget were related to the unethical act of auditors underreporting engagement time.

Professor Diederik Stapel explained a similar pressure element on professors to *New York Times* reporter Yudhijit Bhattacharjee (2013) as follows:

*"...There are scarce resources, you need grants, you need money, there is competition. Normal people go to the edge to get that money. Science is of course about discovery, about digging to discover the truth. But it is also communication, persuasion, marketing. I am a salesman. I am on the road. People are on the road with their talks. With the same talks. It's like a circus" (Bhattacharjee, 2013).*

According to Alok Jha (2012),

*"...increasing competition for shrinking government budgets for research and the disproportionately large reward for publishing in the best journals have exacerbated the temptation to fudge results or ignore inconvenient data."*

James DuBois et al., (2013) found in 120 cases of FFP that financial incentives, oversight failures, and seniority correlated more seriously with academic misconduct.

Dellaportas (2013) interviewed ten inmates incarcerated for fraud. All of these inmates perpetuated their frauds while working as professional accountants. Incentives for fraud included both financial and non-financial motives along with personal issues. Their positions of trust gave them the opportunity to commit fraud. As indicated by Cressey (1953/1973), their crimes were precipitated by a non-shareable crisis. Similar to the findings by Cressey (1953/1973), the offenders used various rationalizations to defend their fraud, refused to admit a criminal intent, and refused to see themselves as criminals. In summary, Dellaportas (2013) indicated that:

*“...the findings suggest[ed] that all three elements of the fraud triangle were present in the fraudulent acts undertaken. The offenders were driven by financial pressures such as failed investments and non-financial pressures that included greed, revenge, and avoidance of failure. The power of knowledge and absence of proper business administration created opportunities to commit fraud that were rationalized with justifications that included altruism, a perception that no-one is hurt, and the moneys will be repaid”* (Dellaportas, 2013, p. 36).

In the academic world Diederik Stapel indicated that not only pressures/incentives are the cause of academic misconduct, but also the lack of regulations. He stated that:

*“I wanted too much, too fast. In a system where there are few checks and balances, where people work alone, I took the wrong turn. I want to emphasize that the mistakes that I made were not born out of selfish ends”* (Cavanaugh, 2011).

Notice his rationalization in the last sentence.

Stapel asserts that there is an absence of scientific control structure, so how can a researcher resist the temptation (e.g., opportunity). In *Ontsporing* Stapel relates how he faked his research. He basically was the typical hard working, trusted employee who is a fraudster, and there is no segregation of duties:

*Nobody checked my work; everyone trusted me. I did everything myself. Everything. I thought up the idea, I did the experiment, and I evaluated the results. I was judge, jury, and executioner. I did everything myself to create great things and score lots of major publications. I did it all myself, with a big cookie jar right next to me. No mom, no lock, not even a lid. And full. I worked day after day, with the cookie jar full of goodies sitting, open, right there with me—and nobody watching. I could take whatever I wanted. One cookie. Nobody noticed. One piece of candy. Mmmm, nice. Another one. That’s enough for now. Another one. I should stop, but I can’t. Just one* (Stapel, 2012/2014, p. 124).

The Levelt Committee that investigated his fraudulent work said that social psychology needed to clean up its act as an academic discipline along with other academic disciplines (Borsboom and Wagenmakers, 2013). Stapel was able to operate for so long because he was the “Lord of the Data” (like James Hunton). He was the only one to see the experimental evidence that had been fabricated (Bentley, n.d.).

In his own words, Stapel states how he would start at the end and work backward:

*“...I would make a careful list of all the results and effects I needed to create...Neat tables with the results I expected based on extensive reading, theorizing, and thinking. Next I started to enter the data, column by column, row by row. I tried to imagine how the participants’ answers to my questionnaire would look. What were some reasonable answers that might be expected: 3, 4, 6, 7, 8, 4, 5, 3, 5, 6, 7, 8, 5, 4, 3, 3, 2? When I’d input all the data, I ran some quick preliminary analyses. Often these didn’t show what I was expecting, so I went back to the matrix of data to change a few things: 4, 6, 7, 5, 4, 7, 8, 2, 4, 4, 6, 5, 6, 7, 8, 5, 4. And so on, until the analyses came up with the results I was looking for”* (Stapel, 2012/2014, p. 127).



Psychological pathways to fraud were examined by Murphy and Dacin (2011). The incentives/pressures, opportunity, and attitude/rationalization of the fraud triangle were hypothesized by the authors as leading to various cognitions which the authors constructed into a four step framework. In step 1, an individual becomes aware that a potential act is fraudulent. Since an ethical decision is involved, this first step is critical. The authors suggested that an individual who is unaware that an act is fraudulent may take the act without considering its morality. In considering if an act is, or is not, fraudulent, character traits along with both situational factors and social dynamics, including organizational climate, are important. In step 2, the affect-laden step, the individual has an intuition about the ethical nature of the act. That is, he or she will have a 'gut feeling' as to whether or not the act is ethical (Murphy and Dacin, 2011). Murphy and Dacin (2011) explained this second step as follows:

*"If the intuition is unclear or conflicting, then individuals go to a rational and effortful reasoning stage"* (Murphy and Dacin, 2011, p. 607).

In step 3, the individual uses the slower cognition of reasoning which can include a cost-benefit type analysis. Finally, in step 4, the individual commits the fraud and attempts to minimize his or her guilt by following one of four methods: tolerating, confessing, cleansing, or rationalizing (Murphy and Dacin, 2011).

The selected three AICPA (2009) financial statement risk factors, which also are elements of the fraud triangle, can be restated from the perspective of faculty research misconduct to include: 1) pressures/incentives (cf. Svanberg and Ohman, 2013) exerted by accreditation organizations, by the administration, by the tenure process, and by both financial and non-financial rewards (cf. Buckholz, 2012) associated with promotion and the securing of grants; 2) opportunities to commit plagiarism or the fabrication of data are facilitated by faculty members holding a position of trust (cf. Peltier-Rivest et al., 2012), not being monitored, and a general lack of institutional controls over research misconduct; and 3) rationalizations that may be related to ineffective communication of ethical values—an unethical environment (cf. Soltani, 2014)—and to attempts to rationalize a lack of intent to commit a crime (cf. Dellaportas, 2013; e.g., McNeill, 2014).

### ***Academia-Specific***

In an academic context, several studies have directly or indirectly addressed fraud triangle elements, academic research misconduct deterrences, or white-collar crime elements related to the fraud triangle: pressures (Keeling et al., 2007), rationalizations (MacGregor and Stuebs, 2012), deterrences (Teh and Paull, 2013), and white-collar crime elements (Elliott et al., 2013). Keeling et al., (2007) suggested that institutional pressures:

*"...such as faculty promotion and tenure criteria that privilege research over teaching and close engagement with students...result in unbalanced verticality..."* (Keeling et al., 2007, p. 30).

While this writing was directed at the structure of higher education institutions instead of at the drivers of the unethical conduct of faculty, this position does point out institutional pressures that we suggest also drive research misconduct. That is, pressures in academia perhaps promote both a vertical structure and research misconduct.

The rationalizations by college students for academic misconduct were studied by MacGregor and Stuebs (2012). They concluded that:

*"...a student's sense of fairness, a lack of clarity in instruction and a perceived magnitude of advantage influence the student's ability to imagine cheating, willingness to use resources that may violate rules, and willingness to pursue all available resources"* (MacGregor and Stuebs, 2012, p. 285).

From a FFP perspective, their results suggests that similar faculty rationalizations for plagiarism or the fabrication/ falsification of data also may include a sense of being unfairly treated, a lack of clarity in understanding what constitutes plagiarism, and reasoning regarding the perceived net benefits to be obtained.

The rationalization element is demonstrated by University of Vermont medical researcher Eric Poehlman who falsified at least fifteen federal grants and at least ten articles. One of the first U.S. researchers to receive prison time, Poehlman was sentenced to one year and one day in a federal prison. Poehlman rationalized his fraud with the following words:

*“I believed that because the research questions I had framed were legitimate and worthy of study, it was okay to misrepresent ‘minor’ pieces of data to increase the odds that the grant would be awarded” (Kintisch, 2006).*

Judges could send stronger messages to researchers by applying the normal fraud sentencing guidelines to academic fraudsters.

The ways in which universities can deal with student plagiarism were addressed by Teh and Paull (2013). They suggested that faculty and students continue to differently perceive the importance of academic honesty. Methods suggested for universities to bridge this attitude gap included conducting plagiarism education for both students and faculty, the use of plagiarism detecting software, transparency in anti-plagiarism policies, and instructional approaches that include assessments that deter plagiarism (Teh and Paull, 2013). The deterrence measures of plagiarism education for faculty plagiarism, the implementation and enforcement of transparent anti-plagiarism policies, and the use of anti-plagiarism tools are applicable to FFP as well. The Office of Research Integrity has an excellent website about anti-plagiarism software and scientific images.

Elliott et al., (2013) suggested that the antecedents of faculty ethical misconduct are similar to those found for white-collar crime. In an academic context, the authors stated the following fraud drivers:

- The faculty member believes he or she can get away with it.
- The controls of the university are so lax that everyone is tempted to “steal” ideas.
- Penalties are rarely imposed for plagiarism.
- Plagiarism is usually caught by accident rather than by design.
- Faculty members do not serve jail time or receive harsh prison sentences for plagiarism (Elliott et al., 2013, p. 92).

These white-collar drivers of academic dishonesty can be interpreted as related to the fraud triangle elements of incentives, pressures, opportunities and attitude/rationalization. Institution of a whistleblowing mechanism, such as a hotline or suggestion boxes, would reduce several of these drivers.

### **Ethical Leadership**

From a leadership perspective, step 1 of the Murphy and Dacin (2011) framework offers opportunities for leaders to take steps to prevent, or at least mitigate, fraud. According to these researchers, at step 1:

*“interventions regarding this decision point...must deal with how awareness can be altered” (Murphy and Dacin, 2011, p. 614).*

This phase of cognition suggests that organizations, including higher education can perhaps lessen unethical conduct by instituting mandatory ethics training programs. In addition, Murphy and Dacin (2011) indicated that:

*“...new employees look for signals indicating socially acceptable behavior within the organization. The climate encourages fraudulent behavior as normal and acceptable, so new employees commit fraud without thinking” (Murphy and Dacin, 2011, p. 613).*

Thus, organizational leaders can perhaps prevent or mitigate fraud by improving the ethical climate they communicate—their tone-at-the-top, which is defined by the AICPA (2009) as the tone of:

*“...leadership personnel who set an example through actions and communications. The tone-at-the-top (or control environment) is the message disseminating from the very top of the organization to the bottom”* (AICPA, 2009, p. 322).

We argue that the prevalence of faculty misconduct calls for ethical leadership to favorably impact the three elements of the fraud triangle. In order for faculty to fulfill their moral duty (cf. Kant, 1785/1964) of producing honest products for their many stakeholders (e.g., students, university, colleagues, profession, academy, general public, science, and grant providers), the unethical conducts of FFP must be treated as unacceptable behavior. Just as forensic accountants and both external and internal auditors must be highly skeptical, administrators, editors, and reviewers must assume that faculty will engage in FFP. Skepticism by administrators may be more difficult than in the accounting profession because administrators are rewarded by having productive faculty members.

While policies, enforcement mechanisms, and procedures can be implemented to address the three elements of the fraud triangle, and are necessary components of the targeting research misconduct (Hamlin et al., 2013), such leadership initiatives also must be accompanied by the implementation of an ethical culture. The ethical tone-at-the-top of higher education institutions is posited as a primary driver of ethical faculty behavior.

The higher education leaders charged with the responsibility for establishing an ethical tone-at-the-top are identified by Kurre, Ladd, Foster, Monahan, and Romano (2012) as university presidents. On the other hand, the Report of the Ethics Education Task Force of the Association to Advance Collegiate Schools of Business (AACSB, 2004) emphasized the role played by deans in establishing an ethical culture in business schools.

*“Another way students learn about ethical behaviors is through the ethical culture they observe in their respective business schools. Students cannot be expected to internalize the importance of ethics and values unless business schools demonstrate a commitment within their own organizations. This means that business school deans need to think of themselves as ethical leaders who communicate regularly about ethics and values; who model ethical conduct; and hold community members—faculty, staff, and students—accountable for their actions. Academic policies should clearly be an integral part of the school’s culture, and not simply a stack of documents in the file drawer”* (AACSB, 2004, p. 12).

Nevertheless, Northouse (2013) stated that:

*“...ethics is central to leadership because of the nature of the process of influence, the need to engage followers in accomplishing mutual goals, and the impact leaders have on the organization’s values...Because of their influence, leaders play a role in establishing the ethical climate of their organizations”* (Northouse, 2013, p. 428).

Accordingly, since all leaders have influence on the ethical environment of their organizations, we suggest that all higher education leaders (e.g., presidents, deans, department chairs, and administrators such as provosts) are responsible for establishing an ethical climate—the ethical tone-at-the-top.

Larry Ladd, Director of Higher Education Practice at the international CPA firm of Grant Thornton, LLP states that:

*“...ethical behavior comes from a strong culture of ethics where standards are clear, appropriate programs are in place, and both standards and programs are reinforced by the examples of the institution’s leadership”* (Kurre et al., 2012, p. 246).

And Elliott et al. (2013) stated that:

*“academic leaders need strategies to promote ethical conduct...Plagiarism and fraud among faculty members in higher education is a concern that must be addressed by the academic community” (Elliott et al., 2013, p. 91).*

Each of the three elements of the fraud triangle can be proactively addressed by higher education leaders. For example, incentives may perhaps be offset by severe punishments, opportunities can be lessened by the strengthening of controls to include social audits, and the pressures of the tenure process can be recognized and perhaps minimized by workload concessions and the offering of differing tenure tracks (Elliott et al., 2013). Kurre et al., (2012, pp. 247–248) indicated that higher education leaders can promote an ethical culture with “formal policies and procedures, monitoring, communication, leadership, consistency, and accountability.” Addressing ethical leadership, Elliot et al., (2013) stated that:

*“...the [tone-at- the-top] dictates what is acceptable at all levels in the organization” (Elliot et al., 2013, p. 93).*

The challenge to all higher education leaders is to develop an ethical culture where all forms of academic misconduct are not tolerated—not tolerated by neither faculty or administrators, nor by students.

Students should be encouraged to report faculty misconduct by using intituition provided hotlines or suggestion boxes. Using a web-based survey, Jones and Spraakman (2014) studied the circumstances under which a student would report the academic misconduct of faculty. Of the 2,261 undergraduate accounting students contacted, 501 responded. Unexpectedly, these researchers found that student whistleblowing behavior was not driven by a cost-benefit analysis.

*“In the case of faculty member misconduct, anger, and perceptions of unfairness play a greater role than the more rational cost-benefit process...” (Jones and Spraakman, 2014, p. 645).*

Nevertheless, they found that:

*“...most students are not likely to report faculty misconduct” (Jones and Spraakman, 2014, p. 659).*

The authors suggested that student reticence to report the unethical conduct of a faculty member was related to a perception that the university administration will not take any action on their complaint and/or that the student will encounter retribution (Jones and Spraakman, 2014). Therefore, higher education leaders need to develop an ethical culture where it is perceived by students and other potential whistleblowers (e.g., faculty and administrators) that ethics complaints will, without any form of retribution, be fairly investigated and adjudicated.

As indicated above, Elliot et al., (2013) and Kurre et al., (2012) pointed out the important role played in academia by an institution’s ethical culture; and Jones et al., (2014) indicated that whistleblowing by students of faculty misconduct was often hindered by a perception of administrative unfairness. Leaders in the education entity (whether the leader is the president of the university, a school dean, or a department head) must demonstrate an ethical tone and enforce ethics training and ethical policies that work to limit the fraud triangle elements of opportunity, incentives, and rationalizations.

### **Tone-at-the-top or Control Environment**

The tone-at-the-top can have an important impact on both the opportunity and incentive/pressure elements, and to some the extent rationalization element. The ethical environment set by organization leaders has been the topic of a number of studies. Goolamally and Ahmad (2014) investigated sustainable leadership factors evidenced in primary and secondary school principals. They concluded that:

*“...in order for school leadership to be excellent, the principal must be in possession of an excellent character” (Goolamally and Ahmad, 2014, p. 122).*

And the five attributes of an effective principal includes having integrity (Goolamally and Ahmad, 2014). The implications of the results were that the tone-at-the-top of principals who lead with integrity will inspire emulation, trust, and loyalty.

Amernic and Craig (2013) studied the ethical tone communicated by Rupert Murdoch to his subordinates prior to the telephone hacking scandal at News of the World. A content analysis of Murdoch's letter to stockholders issued in 2010 (the scandal came to light in 2011) indicated a tone that condoned unethical behavior. An investigative committee of the U.K. Parliament also found Murdoch guilty of communicating an unethical culture (Amernic and Craig, 2013).

In an exploratory study, Campbell and Goritz (2014) used qualitative interviews with fourteen experts to investigate the antecedents of corrupt organizations. Their tone-at-the-top related findings suggested that managers in a corrupt organization communicate a war mentality which indicates that the ends justify the means. Such:

*"...organizations perceive themselves to fight in a war instead of facing ordinary competition within their market" [and this] "...wartime [attitude]...degrades values such as fairness and sustainability"* (Campbell and Goritz, 2014, p. 307).

Jondle et al., (2014) indicated that the ethical culture of an organization provides employees with direction, and that in the effective leadership construct:

*"...leaders should...lead by example and 'expect ethical conduct from all employees.' Furthermore, "...leadership drives the building and sustaining of an ethical culture through [tone-at-the-top]"* (Jondle et al., 2014, pp. 39-40).

The effects of strong and weak ethical leadership (the tone-at-the-top) on the recording by CPAs of an unsupported material expense was studied by Arel et al., (2009). They found that the effects of an ethically weak leader were mitigated by strong internal controls. This finding tends to support the importance in academia of research being monitored and of policies and procedures regarding research misconduct being implemented and strongly enforced.

King (2013) equates an unethical tone-at-the-top with aggressive financial reporting. Using three accounting fraud scandals as examples, he illustrated how unethical leadership drove the use of unacceptable accounting practices. He argued that investors deserve to be made aware of the tone-at-the-top of business organizations and that certain financial analyst should be required to supply this transparency (King, 2013). The implications for academia are that policies, procedures (including monitoring), and enforcement should be transparent. Perhaps transparency of leadership initiatives can prevent the negative aspects of a fraud triangle focus, which Morales (2014) described as:

*"...a climate of suspicion..."* (Morales, 2014, p. 192).

### **Editors and Reviewers**

Editors and reviewers also must become proactive in the fight against FFP. The 10,000 member, nonprofit organization Committee on Publication Ethics (COPE) has issued clear guidelines for journals to safeguard the research record in their Code of Conduct for Editors (COPE, 2015). The guidelines provide six author guidelines from other organizations and five best practices for journals from other sources.

COPE guidelines provide these suggestions to encourage appropriate authorship attribution and to discourage guest and ghost authorship:

- Requiring statements of each individual's contribution to the research and publication
- Use of checklists to prevent ghost authorship
- Requiring all authors to sign an authorship declaration

- Including all authors in communications (e.g., acknowledging receipt of a submission), not just the corresponding author
- Clearly specifying authorship criteria in the Instructions to Authors

The COPE guidelines suggest that reviewers should address ethical aspects such as (COPE, 2015):

- Has the author published this research before?
- Has the author plagiarized another publication?
- Is the research ethical and have the appropriate approvals/consent been obtained?
- Is there any indication that the data have been fabricated or inappropriately manipulated?
- Have the authors declared all relevant competing interests?

### **Recommendations and Future Research**

Little research has been conducted in the areas FFP misconduct and the applicability of the fraud triangle to academia. However, the three fraud triangle elements of pressures/incentives, opportunity, and attitude/rationalizations offer a useful tool for both the prevention and detection of research misconduct and for developing leadership initiatives that can address this prevalent problem. James DuBois et al., (2013) found that FFP was caused by thinking errors, poor coping with research pressures, and inadequate oversight.

While targeting the three elements of the fraud triangle with rules, policies, and procedures is necessary, this approach may not be sufficient. The literature indicates that ethical behavior also is driven by the ethical culture in an organization—an ethical culture communicated by all leaders. Therefore, we suggest that higher education leaders must develop, implement, and enforce rigorous research standards and procedures while at the same time striving to develop a perceived ethical climate that discourages all unethical conduct, including FFP misconduct.

As with white-collar fraud, deterrence is far better than mere detection. The knowledge of severe penalties should help deter academic misconduct. For example, Japanese Waseda University stripped Haruko Obokata, hailed as a symbol of science women, of her doctorate because she could not provide a revision of her stem cell dissertation. Riken Institute and other laboratories have been unable to create STAP cells (turning adult cells into embryonic cells), and Obokata left the Institute in December 2014. Another STAP researcher committed suicide on August 5, 2014, and Riken Institute spent about \$14.5 million on the stem cell research and aftermath. In August 2015, she sued the Japanese PBS for violating her human rights (Knoepfler, 2015a).

Interestingly, one of the STAP teams was from Brigham and Women's Harvard Medical School, and the lab of Charles Vacanti reportedly originated the idea. Yet little attention was directed to these researchers in the United States. In fact, senior STAP author Charles Vacanti and Koji Kojima released a STAP protocol on September 3, 2014, that supposedly had a better chance to work. But two *Nature* papers debunked the STAP cells research in September 2015 (Knoepfler, 2015b). Some wonder why reaction to the scandal was so silent in the United States. Vacanti did resign as chair of anesthesiology at Brigham and Women's, and he went on sabbatical in September 2014 (Begley, 2015).

Another punishment example is Scott Reuben, formerly at Baystate Medical Center in Springfield, MA. He was sentenced to six months in prison and three years of probation. He was ordered to pay a fine of \$5,000 and \$362,000 in restitution. He pled guilty to falsifying and fabricating research studies involving the painkiller celecoxib. He entered into a \$73,512 clinical research grant with Pfizer, but he fabricated the research results (AAOS, 2014). How many universities require professors to sign conflict of interest statements? Do the university internal auditors conduct conflict of interests audits? How many universities have hotlines or even suggestion boxes? How many universities require professors to annually take an ethics' course or workshop? Is self-plagiarism or textual recycling considered to be academic misconduct?

The literature suggests that some of the actions that education leaders can take to reduce research misconduct include providing faculty with education on research misconduct, monitoring of faculty research, working to minimize the pressures of tenure and promotion, emphasizing the “hall of shame” aspect of *Retraction Watch*, and increasing or improving the communication of ethical values (e.g., a continuous perception of an ethical tone-at-the-top which promotes an ethical culture). The literature also indicates that FFP should be addressed with transparent policies and procedures, that infractions should be severely punished (e.g., Toyko’s Waseda University), and that higher education leaders should clearly and regularly communicate that research misconduct is not acceptable behavior and will not be tolerated.

Some of the red flags suggested by the Institute of Internal Auditors’ Practice Guide for employees may be useful for skeptical administrators (IIA, 2009):

- Professor acts unusually irritable
- Professor suddenly starts spending lavishly
- Consistently exceeds publishing goals
- Problems or delays in providing requested information re publications
- Professor living beyond their means
- Conveys dissatisfaction to other peers
- Unusually close association with editors
- Severe personal financial losses
- Addiction to drugs, alcohol, gambling
- Change in personal circumstances (e.g., divorce)
- Consistently rationalizes poor performance
- Perceives beating the system

(Adapted from *Practice Guide: Internal Auditing and Fraud*. IIA [2009, pp. 8-9]).

Grantors, both private and federal, have some recourse where grant money is a factor. Universities that have promoted and tenured faculty based upon FFP have been financially damaged and may have some recourse. However, most universities wrongly try to avoid the adverse publicity of a lawsuit. Perhaps they should set a precedent of suing for fraudulently obtaining wages (e.g., similar to an embezzler or thief). Other professors could bring a class action lawsuit against the fraudster for their lost merit pay because most merit pay today is based upon publications.

Higher education leaders also should consider adopting, at the institutional level, plagiarism and authorship policies similar to those adopted by the American Accounting Association and/or the European University Institute (EUI). The EUI suggests that:

*“...academic departments should ensure that all researchers undertake appropriate training in research design, methodology, regulatory and ethics approvals and consents, equipment use, confidentiality, data management, record keeping, data protection and publication, the appropriate use of licensed research resources and respect for the intellectual property rights of third parties”* (European University Institute, 2013).

We believe faculty should be required to take an annual ethics course, like some states require of employees, which includes FFP specific guidance. Private universities also should institute annual faculty FFP specific continuing education.

We suggest that all authors on a paper, not just the lead author, should be equally responsible for the integrity of the published work; this requirement necessitates that all authors be provided with unfettered access to the underlying research data that supports their co-authored publication. Therefore, we advocate that transparency is needed, not only in ethical processes and procedures at the institutional level, but also

at the research team level where individual authors are required to verify and vouch for the veracity and integrity of their co-authored scholarly products.

While “after the fact” a person’s intent is difficult to ascertain, at least some research misconduct is probably accidental. For example, some plagiarism may result from sloppy research procedures (cf. Vanessa Ryan), such as not including quotation marks when note-taking and/or inadequate paraphrasing. Therefore, the literature suggestions for addressing research misconduct include the service aspect of ethical leadership (Northouse, 2013) aimed at helping faculty avoid the severe consequences of academic misconduct. Leadership actions could include mandating plagiarism education and encouraging faculty to make pre-submission use of anti-plagiarism software.

Future research might focus on investigating the prevalence of FFP, including faculty perceptions of the integrity of their leaders. Since little research has addressed the applicability to academic misconduct of the fraud triangle elements, future ethics research about faculty members should consider using this framework. Future research also might investigate present leadership initiatives (or the lack thereof) being used to address the problems of faculty plagiarism and the falsification of data. That is, what is currently being done, if anything? The limited amount of prior research regarding the drivers of FFP also calls for exploratory research. Using qualitative research methodologies, researchers might solicit information regarding what both faculty members and education leaders think about FFP. For example, do they see research misconduct as a major problem, and if so, what do they suggest should be done about it? Should a return on integrity (ROI) be developed? What have universities and other stakeholders done when faced with high-profile FFP?

Just as catching a white-collar criminal is difficult, spotting a FFP professor is not easy. Although there are no silver bullets, the examples of James E. Hunton and D. Stapel contained two red flag type elements that warrant additional research:

- A professor refuses to share data
- Research that fails to meet the “common sense” test

The following fraud triangle related traits of academics, which are not necessarily indicative of academic misconduct, may warrant additional research as potential red flags:

- Co-authors are always PhD students (opportunity related)
- Research article right before tenure deadline (pressure/incentive related)
- Researcher with financial or time-limiting problem(s) (pressure/incentive related)
- Gambler, drug user, or engaging in an illicit affair (pressure/incentive related)



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