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Correlates of academic misconduct and CSR proclivity of students

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Abstract

Purpose – The purpose of this paper is to examine the effect of the fraud triangle, Machiavellianism, academic misconduct and corporate social responsibility (CSR) proclivity of students.
Design/methodology/approach – The present study surveyed 471 university students. The study was cross-sectional and employed structural equation modelling in statistical modelling.
Findings – The study provides evidence that perceived opportunity to cheat in examinations is the single most important factor accounting for significant variations in rationalization and academic misconduct. Similarly, low Machiavellians significantly get inclined to CSR ideals. The fraud triangle alone accounts for 36 per cent of the variations in academic misconduct, hence the error variance is 64 per cent of academic misconduct itself. This error variance increases to 78 per cent when a combination of perceived opportunity, rationalization, Machiavellianism is considered. Moreover, both Machiavellianism and academic misconduct account for 17 per cent of variations in students' proclivity to CSR ideals.
Research limitations/implications – Results imply that creating a setting that significantly increases a student's anticipated negative affect from academic misconduct, or effectively impedes rationalization ex ante, might prevent some students from academic misconduct in the first place and then they will become good African corporate citizens. Nevertheless, although the unit of analysis was students, these were from a single university – something akin to a case study. The quantitative results should therefore be interpreted with this shortcoming in mind.
Originality/value – This paper contributes to the search for predictors of academic misconduct in the African setting and as a corollary, for a theory explaining academic misconduct. Those students perceiving opportunity to cheat in examinations are also able to rationalize and hence engage in academic misconduct. This rationalization is enhanced or reduced through Machiavellianism.

Keywords University, CSR, SEM, Academic misconduct, Fraud triangle, Machiavellianism
Paper type Research paper

I. Introduction and motivation

Academic misconduct continues to be disconcerting worldwide (Desruisseaux, 1999; *Wall Street Journal*, 2005; de Bruin and Rudnick, 2007; Al-Qaisy, 2008). In Uganda, a certain university (hereafter described as University X) reported 247 student's

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examination malpractices from January 2010 to June 2011. Although not enough research has been done to try and identify variables affecting students' academic misconduct (Caruana *et al.*, 2001; Chapman and Lupton, 2004), there are two possible constructs that might explain it: the fraud triangle and Machiavellianism. In turn, Machiavellianism and academic misconduct might explain corporate social responsibility (CSR) proclivity of those students; whose essence (CSR) is doing good to do well (Moura-Leite and Padgett, 2011). While academic misconduct can be any type of cheating that occurs in relation to a formal academic exercise, it might be expected that students high on Machiavellianism engage in academic misconduct because Machiavellianism has been predicted to affect someone's predisposition to cheating behaviour (Shafer and Simmons, 2008). Thus, the overall objective of this study is to establish the relationship between perceived opportunity, perceived pressure and rationalization, Machiavellianism, academic misconduct and university students' proclivity to CSR.

Academic misconduct involves acts of cheating and plagiarism (Roig and DeTommaso, 1995; Pino and Smith, 2003). Machiavellianism (Christie and Geis, 1970) measures the extent to which manipulative tactics are used and endorsed (Zimny *et al.*, 2008). CSR is the continuing commitment by a business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large (Moir, 2001). Although in terms of CSR's theoretical orientation some researchers have shifted from explicitly normative and ethics-oriented arguments to implicitly normative and performance-oriented managerial studies (Moura-Leite and Padgett, 2011; Nkundabanyanga and Okwee, 2011), academic misconduct – an ethical issue – cannot be underestimated because today's students are tomorrow's employees (Caruana *et al.*, 2001). Once employed in whatever capacities, these employees collectively shape organizational behaviour. Yet, components of CSR (Carroll, 1979) represent the kinds of behaviours and ethical norms that society expects business to follow (Moura-Leite and Padgett, 2011). Moreover, it has been argued that academic cheating undermines the merit basis of society, integrity and fairness at all levels (Cole, 1998). This implies that those who play by the rules are at a disadvantage; more than a grade for a class is at stake and the distribution of such resources as social rewards which are assumed to be fairly earned in a competitive society is affected (Vowell and Chen, 2004). In general, Cole's (1998) assertion means that academic misconduct is a broad social concern that might lead to weak social performance and/or social responsibility perhaps consequently eroding respect, trust and sense of community by injecting falsehood. This means that competition becomes meaningless.

No doubt, some studies have been made in the area of academic misconduct (Eve and Bromley, 1991; Bradford *et al.*, 1986; Grasmick and Tittle, 1993; Santor *et al.*, 2000; Hrabak *et al.*, 2004; Stone *et al.*, 2009). Nevertheless, there are reasons that limit the value of previous findings, most of which are US-based, to the Ugandan setting. First, Chapman and Lupton (2004) show that the little research into academic misconduct has focused on the factors of general environment and situational variables. Al-Qaisy (2008), notes several researches that report four categories representing common factors for academic misconduct: individual characteristics, peer group influences, instructor influences and institutional policies and it is not clear which of those is more significant for the case of Uganda. Second, student behaviour is reportedly influenced by both cultural differences and institutional differences regarding policies and student population (Lim and See, 2001). For example, according to Eland *et al.* (2009), whereas in the US

system of education there are multiple models and complex interacting systems, in the non-US systems, the education system is hierarchical or centralized. Similarly, the US system is flexible; students make many individual choices and my change academic plan. This is not the case in non-US systems where there is inflexibility; students must choose a fixed plan of study and not deviate from it. We argue that inflexibility introduces the culture of succeeding in a predetermined plan at all costs. Moreover, Munene *et al.* (2005a) noted that Africans find embeddedness, hierarchy and mastery justified and even desirable but noted behaviour compatible with intellectual autonomy, affective autonomy, egalitarianism and harmony less legitimate and even undesirable; which is the reverse of their western countries counterparts. The location of a culture along these dimensions is relevant to cheating behaviour. We argue that for instance, plagiarism does not lead to intellectual autonomy which implies that for instance US students may less predisposed to plagiarism than their African counterparts. Similarly, mastery goal orientation (the extent to which a student is focused on developing competence) is negatively associated with academic misconduct (Jordan, 2001; Rettinger *et al.*, 2004), while performance goal orientation (the extent to which a student is focused on demonstrating competence) is often positively associated with cheating (Anderman and Midgley, 2004; Murdock *et al.*, 2004). The opposite cultures (western vs African) could imply that the methods of cheating in the USA might be different from those employed by Ugandan students and so too are the motivations.

Our study therefore is particularly significant because simple as it may appear, academic misconduct affects the smooth running of society regardless of any rationalizations, and it is a harmful activity in a competitive educational environment (Vowell and Chen, 2004). Individuals involved in this misconduct might lose their moral direction; fail to recognize ethics as a value (Zambian Economist, 2010). Similarly, those who play by the rules are at a disadvantage (Vowell and Chen, 2004) and some researchers have begun to prove links between academic misconduct and cheating at work (Nonis and Swift, 2001). Thus, whereas correlates of academic misconduct in developed nations can be found in literature, this paper contributes to the search for predictors of academic misconduct in the African setting and advances the search for a theory explaining academic misconduct.

The rest of the paper is organized as follows: Section II is literature review, section III is methodology, the penultimate section is analysis and discussion and the final section V is concluding remarks.

II. Literature review

Introduction

While a number of theories (see, Vowell and Chen, 2004 for a comparative test of four sociological explanations – strain theory, planned behaviour, differential association theory, social bond theory and self-control theory – have been used to predict academic misconduct, in extending the work of Hayes *et al.* (2006), we employ the fraud triangle Cressey, 1973) – perceived opportunity, perceived pressure and rationalization – as correlates to academic misconduct. Whilst researching his doctoral thesis in the 1950s, renowned criminologist Donald R. Cressey came up with a hypothesis to explain why people commit fraud (Illuminations, 2009). His fraud triangle suggests that for exam cheating to occur there must be three elements: perceived pressure, perceived opportunity and rationalization. Increases in the components of the triangle result in a higher likelihood of cheating occurring. We also incorporate Machiavellianism because it also predicted to influence character. Moreover, most students are expected

to join the corporate world soon after graduation and so it is significant to include their proclivity to CSR.

Perceived opportunity and academic misconduct

In the business world fraud perpetrators must have a perceived opportunity or they will not commit fraud (Albrecht *et al.*, 2010). Opportunity is the ability to commit fraud. Because fraudsters do not wish to be caught, they must also believe that their activities will not be detected. When applied to a university environment, this assertion suggests that where examinations are improperly secured and examination officials/invigilators are casual about proctoring exams, assignments and examinations are repeated frequently from semester to semester students will perceive opportunity to cheat. Similarly, where examiners/invigilators avoid using university disciplinary procedures to avoid additional time requirements (and because cheaters are not punished adequately when reported) by simply giving those suspected of cheating a lower or failing grade or simply ignoring the act, students may perceive opportunity to engage in academic misconduct. Moreover, management's meddling in the disciplinary process (the lecturers are not accorded academic freedom and respect and sometimes their observations and decisions are reversed by management for fear of being sued) might allow the students to seize the opportunity to cheat.

Thus, perceived opportunity lends itself to internal controls. A student perceives an opportunity to cheat when he or she identifies a method to cheat. For example, passive forms of dealing with plagiarism on university campuses, like University X has policies that address academic misconduct coined 'joining instructions'. However, the mere existence of an academic code of conduct does not ensure that students will read it, let alone understand it and abide by it (Bombaro, 2007). Such passive forms of dealing with academic misconduct can prove ineffective and therefore provide opportunity for students to engage in academic misconduct (Bombaro, 2007). Whereas Bolin (2004), found that attitude towards academic misconduct mediated the relationship between self control and academic misconduct and also between perceived opportunity and academic dishonesty, his results provide a reasonable basis for the assumption that perceived opportunity and academic misconduct are related. Indeed deviant behaviour has been associated with perceived opportunity (Grasmick and Tittle, 1993). However, Eve and Bromley (1991) found only a weak relationship between internal controls and cheating among a sample of graduate students. This earlier finding indicates that the relation between perceived opportunity and academic misconduct is ambivalent. We therefore extend this debate by hypothesizing as follows:

H1. Perceived opportunity and academic misconduct are related.

Perceived pressure and academic misconduct

Perceived pressure can be referred to as incentive or a "need" felt by the person who commits fraud. Bradford *et al.* (1986) research showed that perceived peer pressure and conformity disposition accounts for more of the variance in self-reported misconduct than in self-reported peer involvement. Santor *et al.* (2000) found that although all measures of peer pressure, conformity and popularity were inter-correlated, peer pressure and peer conformity were stronger predictors of risk behaviours than measures assessing popularity or general conformity. Their findings suggest that peer pressure is a potentially greater risk factor for academic misconduct.

Later, Hrabak *et al.* (2004) found that the strongest predictor of academic misconduct towards cheating was perception of peer group pressure. In business, Albrecht *et al.* (2010) has found that every fraud perpetrator faces some kind of perceived pressure (e.g. a financial need). For universities, the present evidence suggests that student values could also have changed. Succeeding at any cost may have become a cherished value and increased competition for enrolment/opting in high demand disciplines (like accounting) might have prompted students to cheat to improve their grades, not just to avoid failure. Indeed according to Zambian Economist (2010) there is an increased pressure from the community on students to perform better in academics regardless of their abilities and academic history. Accordingly we hypothesize as follows:

H2. Perceived pressure is positively related to academic misconduct.

Rationalization and academic misconduct

Rationalization involves a person reconciling his/her behaviour with the commonly accepted notions of decency and trust. According to Albrecht *et al.* (2004, 2010), fraud perpetrators must have some way to rationalize their actions as acceptable. In Universities, this rationalization manifests itself, thus: students may claim to be unclear about what behaviours constitute academic dishonesty and students might believe that what they learn is not relevant to their future career goals. So, rationalization allows a student to justify cheating by creating a reason for cheating that is more compelling than honesty or integrity. According to available literature (Vowell and Chen, 2004; Stone *et al.*, 2009; Bolin, 2004; Hrabak *et al.*, 2004), common student justifications include: cheating hurts no one; no one ever gets caught; friends come first or he/she needed my help; I only cheat in courses that are not important to my option; everyone does it; I could lose my scholarship (or my parents will kill me) if I do not do well. Yet lecturers are training students for a profession in which individuals often work alone and the evidence that work is performed is often only the attestation of the individual. Accountants for example, are held to a high standard of integrity and the public seems to believe that entry into this profession should be based on an individual's high level of personal integrity. It has been proposed that this expectation for integrity must be integrated into the students' personal morality through repeated ethical training in all accounting classes, for example, and it is believed that each accounting lecturer should stress the importance of individual integrity and discuss how many of the rationalizations are, in fact, untrue. This proposal is premised on the fact that rationalization includes a belief on the part of the cheater that what they are doing is not actually unethical. Thus:

H3. Perceived rationality and academic misconduct are related.

Machiavellianism and academic dishonesty

Machiavellianism relates to a willingness to influence others for the sake of personal achievement. The study by Kashy and DePaulo (1996) indicated that personality correlates of lying included manipulativeness and concern with impression management. Indeed Whitley's (1998) extensive identification of predictors of academic dishonesty includes an expectation for success. Moreover, inflated levels of self-esteem have been associated with some socially undesirable personal behaviour and may be implicated in personal dishonesty (Baumeister *et al.*, 2003). McHoskey *et al.* (1998) demonstrated that Machiavellianism is associated with both primary and secondary psychopathy.

In particular, the characteristics of irresponsibility, lack of realistic long-term goals, poor behavioural controls and impulsivity associated with secondary pyschopathy might contribute to dishonesty. At the cultural level, Kasser and Ryan (1993) identify the importance of financial success as one manifestation of Machiavellianism and American college students increasingly identify financial success as a major priority in their lives (Gose, 1998). However, in Uganda participation and good performance in examinations is a prerequisite for inclusion in the advantaged class and students manipulative schemes are intended to acquire qualifications that prove their successful participation. Ugandan students who cheat exams are more interested in good grades and qualifications than with the process of learning and acquiring academic skills. Thus:

H4. Machiavellianism is related to academic misconduct.

Machiavellianism and CSR

Entrepreneurship is often associated with Machiavellian tendencies that can lead to the plain exploitation of others and ethical compromise. According to a caution by King and Roberts (1992), entrepreneurs can be master manipulators who are quick to take advantage of others unless they are restrained by adequate accountability. The profile suggests that entrepreneurs are less likely to be guided by high ethical standards than others who are less imbued with Machiavellianistic inclinations (Morris *et al.*, 2002). This is consistent with Longenecker *et al.* (1988) speculation that entrepreneurs are more inclined towards egoism (i.e. viewing an act as moral if it promotes the individual's best long-term interests) and are thus less ethical in their behaviour. Shafer and Simmons (2008) investigated the effects of attitudes towards the perceived importance of corporate ethics and social responsibility and Machiavellianism on Hong Kong tax professionals' willingness to participate in aggressive tax avoidance schemes of corporate clients. Their results suggested that high Machiavellians are more likely to endorse the traditional stockholder view of corporate responsibility (which holds that corporations have little responsibility beyond maximizing their profits), and less likely to support the stakeholder view (which recognizes corporate responsibilities to a broader range of potential stakeholders). Further, they found that the stockholder view (but not the stakeholder view) of corporate responsibility mediates the relationship between Machiavellianism and ethical/social responsibility judgement. In their study, Machiavellians also had significant direct effects on ethical and social responsibility judgements. We argue that the future of CSR might depend on how future generations view it; making students' perceptions regarding CSR, an important theme; with the underlying notion that, as future managers, consumers and members of society, current students will define the future of CSR and we would like to believe that students' Machiavellianism affect their CSR inclinations. Therefore:

H5. Machiavellianism is related to CSR.

Machiavellianism and rationalization

Philosophy literature defines rationalization as, "the mental process of justifying conduct by adducing false motives", or more broadly defined to include "justification for our opinions and theories as well as for our conduct" (Sloane, 1944, p. 12). In social psychology, it is defined as, "a post-behavioural process through which a problematic behaviour becomes less problematic for the person who has displayed it". (Fointiat, 1998, p. 471). A rationalization must be believable to the "rationalizer" (Kunda, 1990).

If individuals are able to think of an effective rationalization, their bad behaviour can be heightened (Bandura *et al.*, 1996; Milgram, 1974). Thus a key element distinguishing rationalization from any other type of explanation for behaviour is the need to self-justify (Bandura, 1991, 1999). If individuals view a behaviour as unethical or contrary to their or society's beliefs, a decision to behave unethically is more likely to be associated with rationalization. Literature has identified seven categories of rationalization:

(1) moral justification;

(2) advantageous comparison;

(3) euphemistic labelling;

(4) minimize, ignore, or misconstrue consequences of the act;

(5) denial of the victim;

(6) displacing responsibility; and

(7) diffuse responsibility (Murphy and Dacin, 2011).

The above discussion, however, indicates that rationalization is often evaluated *ex post*. It can be more useful if an attempt is made to examine the cause of rationalization behaviour (ex ante?). That is, suppose we established the character of individuals that are more predisposed to rationalizing their behaviour, would it be more insightful? According to *Webster* (1996) predisposed means "inclined or influenced beforehand; made susceptible". Predispositions can be in the form of a character trait. Traits can be stable and theoretically more predictive. One such character trait is Machiavellianism. High Machiavellis tend to be more opportunistic and act in a manner consistent with the economic theory of self-interest (Gunnthorsdottir *et al.*, 2002). They are more predisposed than low Machs to cheat given rational arguments in favour of it when the probability of detection is low (Cooper and Peterson, 1981). Thus it is reasonable to expect high Machs to be more likely to rationalize than low Machs. Hence in this study it is hypothesized that:

H6. Machiavellianism is related to rationalizing behaviour of students.

III. Methodology

Philosophical assumptions

A research topic is said to determine the decision whether to utilize a quantitative, qualitative or combined qualitative-quantitative research approach (De Vos *et al.*, 2005). Burns and Grove (2009) define quantitative research as a formal, objective, systematic process in which numerical data are used to obtain information about the world. This approach is grounded in the philosophy of logical positivism and it therefore focuses on finding the truth through the objective measurement of reality (Burns and Grove, 2009). According to Fortune and Reid (1993) quoted in De Vos *et al.* (2005) quantitative studies focus on specific questions throughout the investigation and specific variables are measured. These variables are quantified by means of rating scales or frequency counts. Standardized procedures, for example, the completion of the same questionnaire by all the participants, are utilized to collect data. In this way, the researcher takes on the role of "an objective observer" with limited involvement in the study phenomena (Fortune and Reid, 1993, quoted in De Vos *et al.*, 2005). As a result of the sensitivity associated with studying academic misconduct, most of the studies done in this regard are quantitative in nature, with self-reporting surveys the most common

method used (Hilbert, 1988; Lim and See, 2001; McCabe, 2009; McCabe and Treviño, 1997; Newstead *et al.*, 1996). Following these precedents we used a quantitative research approach for this study. The quantitative research approach was further justified by the fact that in view of the sensitive nature of the topic, we required answers to specific questions, quantification of variables, a large number of participants, objectivity in collection and analysis of data and a standardized method of data collection. In referring to the research design as the "blue print" according to which a study is planned, Burns and Grove (2009) mention that its purpose is to provide control over the study to maximize the validity of the findings. Non-experimental research designs, for example, descriptive and correlational designs, should be utilized in student research where phenomena are studied in their natural environment without any manipulation of the variables (Burns and Grove, 2009). According to Brink (2006) the purpose of non-experimental research is to describe phenomena, and to examine and describe relationships among the variables.

Population, sample and characteristics

The population was University X undergraduate and postgraduate students who numbered about 12,000. A convenience sample of 500 undergraduate and postgraduate students was utilized for this study. The rationale for utilizing a non-random sampling technique was to protect the anonymity of the respondents since all forms of random sampling involve the utilization of a list or framework with names from which respondents are selected. Questionnaires were administered in class. Given the sensitive nature of the questions, respondents were repeatedly told, orally and in writing, that their responses would be anonymous and confidential. Consent would be assumed on completion of the questionnaire. This technique has been used successfully in similar studies (see e.g. Chapman and Lupton, 2004; de Bruin and Rudnick, 2007). For sample selection, there are no definitive prescriptions about the adequate size of a sample for a study, but larger samples are often used in quantitative studies (Brink, 2006). Based on Stoker's table (1985), quoted in De Vos *et al.* (2005), we took a sample of 500 students. In all, 471 respondents returned usable questionnaires. In all, 309 or about 66 per cent of the respondents were bachelors' degree students; 81 or about 17 per cent of the respondents were diploma students and 81 or about 17 per cent of the respondents were postgraduate students. Similarly, 266 (or about 56 per cent), 63 (or about 13 per cent) and 142 (or about 31 per cent) of the respondents were in their first year, second year and third year of study, respectively. Moreover, 68 (or about 14 per cent) of the respondents were below 20 years, 336 (or about 71 per cent) were between 20 and 25 years of age and 67 (or about 14 per cent) were above 25 years of age. Regarding gender, 267 (about 57 per cent) were female and 204 (or about 43 per cent) were male.

Measurement of variables

A Likert-scale questionnaire, designed to measure the opinion or attitude of a respondent (Burns and Grove, 2007), was utilized to obtain self-reported information on academic misconduct, measured using the scales developed by Nazir and Aslam (2010) and Jensen *et al.* (2002) and modified to include scales unique to University X. According to Jensen *et al.* (2002) and Roig and DeTommaso (1995), academic misconduct may be defined as students' attempt to present others' academic work as their own. It includes behaviours such as cheating on exams, copying other students' homework and assignments and plagiarism. Similarly, we measured perceived

opportunity, perceived pressure and rationalization as predictors of academic misconduct using the conceptualization of the fraud triangle. In doing this we adopted the measures developed by Jensen *et al.* (2002) and modified them to include scales unique to University X. Scales developed by Christie and Geis (1970) measured Machiavellianism. For example, one of the scales was "When you ask someone to do something for you, it is best to give the real reason for wanting it rather than giving reasons that might carry more weight". CSR was measured consistent with Carroll's (1991) ethical responsibilities.

Data collection method

A survey was adopted as the most appropriate method of data collection and previous research supports the reliability and validity of the self-report measures (Brush and Vanderwerf, 1992; Lechner *et al.* (2006). This approach consists of a selection of key information providers by virtue of their position, knowledge and information available (McEvily and Marcus, 2005). Data collection took place during scheduled classes during the month of September 2011. We explained the purpose of the research and the research procedure. The respondents were informed that their participation is voluntary and they were assured that their anonymity would be protected. All the respondents' questions were addressed and we requested respect for the privacy of respondents in completing their questionnaires. Time was granted to complete the questionnaire and the completed questionnaires was posted into a sealed box.

Reliability and validity

Validity of an instrument signifies that it accurately measures the concept in question; reliability reflects the consistency of the instrument in measuring the concept it is supposed to measure (De Vos *et al.*, 2005). Various measures were taken to ensure the reliability, as well as the content and face validity of the questionnaire. For example, the selection of items for inclusion in the questionnaire was based on previous studies done on this topic as well as the objectives set for this study and a pilot study was conducted to validate and refine the questionnaire. In the pilot testing, we pre-tested the questionnaire with a small, representative group of respondents and relevant alterations made to the instrument. In addition we report the reliability statistics using Cronbach's α coefficient (perceived opportunity $\alpha = 0.624$, rationalization $\alpha = 0.701$, perceived pressure $\alpha = 0.672$, Machiavellianism $\alpha = 0.715$, academic misconduct $\alpha = 0.837$ and CSR $\alpha = 0.804$).

Statistical modelling

In statistical modelling, this study estimated the models of perceived opportunity, perceived internal pressure, perceived external pressure, rationalization, Machiavellianism, academic misconduct and CSR in line with our objectives by employing SEM. This study used SEM because it addresses the issue of measurement error, and simultaneously estimates a system of structural equations. SEM is a comprehensive statistical approach to testing hypotheses about relations among observed and latent variables (Hoyle, 1995). According to Rigdon (1998) it is also a methodology for representing, estimating and testing a theoretical network of (mostly) linear relations between variables and according to MacCallum and Austin (2000) tests hypothesized patterns of directional and non-directional relationships among a set of observed (measured) and unobserved (latent) variables. SEM therefore helps in understanding the patterns of correlational/covariance among a set of variables and

according to Kline (2011) explains as much variance as possible with the model specified. We used the estimation procedure in AMOS 18 (Arbuckle, 2009) to construct the models.

The measurement and structural models were estimated sequentially to reduce interpretational confounding and to limit complexity (Anderson and Gerbing, 1988). The overall fit of our models were tested using the following fit criteria: the χ^2-test which is an absolute test of model fit requires that the model is rejected if the p-value is <0.05; root mean square error of approximation (RMSEA) should be <0.06 and Tucker-Lewis Index (TLI) values of 0.95 or higher (Hu and Bentler, 1999). Others like Kim (2007) and Yang (2006) recommend goodness of fit (GFI) >0.90, adjusted goodness of fit index (AGFI) >0.85, TLI >0.95, CFI >0.90, RMSEA <0.08 as acceptable goodness-of-fit indices.

Ethical considerations

This study was done in accordance with the fundamental ethical principles governing research as noted by Mouton (2001). Babbie (2007) points out that even though respondents participate voluntarily in a research project, they should not be harmed physically or emotionally. Emotional harm can occur when respondents have to reveal sensitive private information that can cause embarrassment and make them feel uncomfortable. While we obtained permission to carry out the study in a given university, for purposes of reporting the results, this has been kept anonymous. According to Mouton (2001), the right to privacy includes the respondent's right to refuse to participate in the research. In this study the respondents' right to privacy was respected by explaining to them that participation is voluntary and completion of the questionnaire is optional. Measures were taken to ensure anonymity and confidentiality to all respondents in this study. This was ensured by the anonymous completion of questionnaires; and collection of all the questionnaires by posting them into a sealed box (Mouton, 2001). According to Burns and Grove (2007), written consent may be waived when the consent form, as the only link between the respondent and his or her response, can harm the respondent because of the potential break in confidentiality it represents. For this reason and since it was impossible to maintain complete anonymity with written consent, informed consent was assumed on completion of the questionnaire (Mouton, 2001).

IV. Results and discussion

The analysis is based on the objectives and hypotheses below.

Objectives:

(1) to examine the students' perceived opportunity, pressure and rationalization in relation to cheating examinations;

(2) to examine the nature of academic misconduct by students at University X;

(3) to assess the students' inclination to CSR; and

(4) assess the students' proclivity to Machiavellianism.

Hypotheses:

(1) perceived opportunity is related to academic misconduct;

(2) perceived pressure is positively related to academic misconduct;

(3) rationalization is positively related to academic misconduct;

(4) Machiavellianism is related to academic misconduct;

(5) Machiavellianism is related to CSR; and

(6) Machiavellianism is related to rationalization.

Perceived opportunity, pressure and rationalization

The first objective which was to examine the students' perceived opportunity, pressure and rationalization in relation to cheating examinations was achieved by confirmatory factor analysis. This analysis established the scores of observed variables caused by perceived opportunity, pressure and rationalization in line with the fraud triangle.

Regarding perceived opportunity, University X's students' perception of opportunity to cheat is defined by four variables. Perceived opportunity to cheat causes the scores observed on: "plagiarism and cheating on tests occur frequently at this university (PO1)", "I have personally observed another student cheating on a test many times at this university (PO2)", "In this University some students caught cheating are not punished (PO9)" and "You can successfully deny that you cheated exams at a disciplinary hearing (PO12)". This model fitted acceptably well in the population of interest. In particular RMSEA = 0.087, GFI = 0.990, AGFI = 0.952, TLI = 0.931 indicated acceptable fit and the NFI of 0.971 indicated a strong convergent validity. Accordingly University X students perceive it as an opportunity to cheat when they know that plagiarism and cheating in tests occur at the University, they have observed other students cheat, students caught cheating are not punished and it is possible to deny that you cheated. A particular intriguing result is that PO1 and PO2 (with multiple regressions of 0.66 and 0.59, respectively) overwhelmingly, define perceived opportunity to cheat in University X. These results are consistent with the notion that perceived opportunity lends itself to internal controls. Students in University X perceive opportunity to cheat with passive forms of dealing with plagiarism or dealing with exam malpractices.

As regards perceived pressure, confirmatory factor analysis revealed that the variables for perceived pressure to cheat exams from the perspective of the internal environment of the student are: "they pile us with many tests in one or two days (PP41)", "the exam period is always short (PP42)", "little time is always given for revision (PP43)" and lecturers here ask very hard questions (PP46)". This model fitted acceptably well in the population of interest (χ^2-value of 1.161 was non-significant ($p = 0.560$), RMSEA = 0.001, GFI = 0.999, AGFI = 0.994, TLI = 1.013, NFI = 0.994). Therefore piling students with many tests in one or two days, shorter examination period, less time for revision given to students and asking difficult questions; taken together explain the students' perception of internal pressure to cheat in exams. Noteworthy pressures emanate from congesting many tests in shorter periods, in addition to shorter exam periods. These two pressures account for more variance in internal pressure to cheat exams. On the other hand four observed variables explain the latent variable, perceived pressure of the student to cheat arising from the environment external to the students' learning environment. Results indicate that the pressure on students is mainly from high expectations from people in close contact with students. The people with whom students at University X are in close contact expect these students to perform well. There is also a general feeling that failing exams is degrading. It also appears that high paying jobs are perceived to be pegged to high academic performers. These results are consistent with reports from the Zambian Economist (2010). The four-factor model of perceived external pressure returned and

a non-significant χ^2-value of 0.882 ($p = 0.643$), RMSEA = 0.001, GFI = 0.999, AGFI = 0.995, TLI = 1.017 an NFI of 0.996. Thus perceived external pressure causes the scores observed on: "we need higher CGPAs to secure better jobs (PP44)", "people around me expect me to perform very well (PP45)", "carrying (failing) a paper is degrading (PP47)" and "I need a high-paying job (PP49)". The greatest pressure arises from PP45 with an R^2-value of 0.65. These results confirm that the academic misconduct of University X students conforms to embeddedness (e.g. social order) by seeking meaningful life largely through social relationships, through identifying with a group in which they are embedded and participating in its shared way of life (Munene *et al.*, 2005b).

When rationalization was considered, findings revealed a five-factor model. This model returned a non-significant χ^2–value of 10.392 ($p = 0.065$), RMSEA = 0.048, GFI = 0.992, AGFI = 0.975, TLI = 0.967 and the NFI of 0.970 that indicated a strong convergent validity. According to the model, rationalization causes the scores observed on: "cheating in an exam/test hurts no one (R30)" "For me friends come first so I help them (R32)", "As long as someone needs help in cheating you give it (R33)", "I only cheat in courses that are not important to my option (R34)" and "everyone cheats exams (R35)". These results are consistent with prior studies (Stone *et al.*, 2009; Vowell and Chen, 2004; Bolin, 2004; Hrabak *et al.*, 2004). The biggest factor accounting for much of the variance in students' rationalizations is helping someone in need. This means that students do not care as long as someone needs help to pass exams. Helping others appears to be more compelling than honesty or integrity. On face value, it appears University X students are high on the egalitarian culture which emphasizes transcendence of selfish interests (Munene *et al.*, 2005b) and their rationalizing behaviour might be rooted in this culture.

Regarding the second objective, results of the confirmatory factor analysis revealed that academic misconduct causes the scores observed on: "helped someone else to cheat on a test (AM17)", "copied from another student during a test (AM18)", "handed in work done by someone else (AM20)" and "cheated on a test in any way (AM22)". The four-factor model of academic misconduct returned very good fit indices: a non-significant χ^2-value of 1.343 ($p = 0.511$), RMSEA = 0.001, GFI = 0.999, AGFI = 0.993, TLI = 1.004 and NFI of 0.998. This is corroborated by the measurement portion of the model which was quite good. Except for AM20 whose R^2 is 0.27, the other R^2-values are higher than 0.50, indicating that the model is accounting for a large portion of the variance in the measured items (Bollen, 1989). Although handing in work done by someone appears to be one of the explanatory variables for academic misconduct, it does not compare favourably with the rest the other three. This means that academic misconduct largely happens in examination rooms.

About the third objective, results indicate that CSR is defined by: "being ethical and socially responsible is the most important thing a firm can do", "the ethics and social responsibility of a firm is essential to its long-term profitability" and "business ethics and social responsibility are critical to the survival of a business enterprise". The three-factor model of CSR returned very good fit indices: a non-significant χ^2-value of 1.961 ($p = 0.161$), RMSEA = 0.045, GFI = 0.997, AGFI = 0.983, TLI = 0.991 and NFI of 0.994. The results appear to suggest that University X students have a favourable attitude towards ethics and CSR. This is probably informed by the existing curricula at the University that includes business ethics as a course.

On the fourth objective, the four-factor model of Machiavellianism fitted well: a non-significant χ^2-value of 2.084 ($p = 0.353$), RMSEA = 0.009, GFI = 0.998,

AGFI = 0.989, TLI = 0.999 and NFI of 0.993. Results indicate that University X students are very low on the Machiavellian scale. Students' proclivity to Machiavellianism caused the scores observed on: "honesty is the best policy in all areas", "All in all, it is better to be humble and honest than important and dishonest", "when you want someone to do something for you, it is best to give the reason for wanting it than giving reasons that might carry more weight" and "it is wise to be good in all respects". Being humble and honest than important and dishonest appears to explain much of the variance in the students' Machiavellianism ($R^2 = 0.63$), thus offering support for stakeholder view (Shafer and Simmons, 2008).

Hypotheses testing

The results of testing *H1-H3* are shown in Figure 1. Results indicate that 0.411 is the estimated correlation between perceived external pressure and perceived internal pressure, 0.257 is the estimated correlation between perceived internal pressure and rationalization, −0.042 is the estimated correlation between perceived opportunity and perceived internal pressure. Similarly, −0.013 is the estimated correlation between perceived external pressure and rationalization**,** 0.521 is the estimated correlation between perceived opportunity and rationalization and, 0.074 is the estimated correlation between perceived opportunity and perceived external pressure. Figure 1 reveals that there is a significant regression between perceived opportunity and academic misconduct. One unit increase in perceived opportunity increases academic misconduct by 0.248 standard deviations. Similarly, the influence of rationalization on academic misconduct is positive. A one unit increase in rationalization increases academic misconduct by 0.631 standard deviations. However, both perceived pressures (internal and external) show weak and negative influence to academic misconduct. These results therefore provide support for *H1*, and *H3* but do not lend significant support for *H2*. Overall, a combination of perceived opportunity, perceived pressure and rationalization explains about 36 per cent of the variance in academic misconduct by University X students.

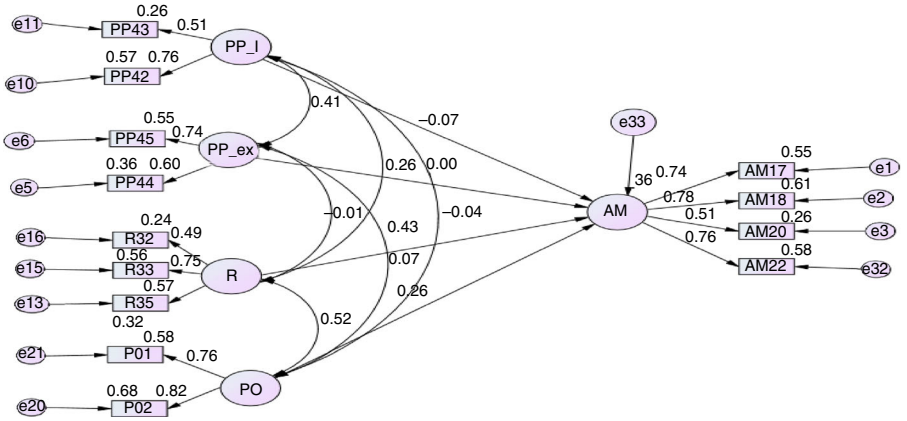


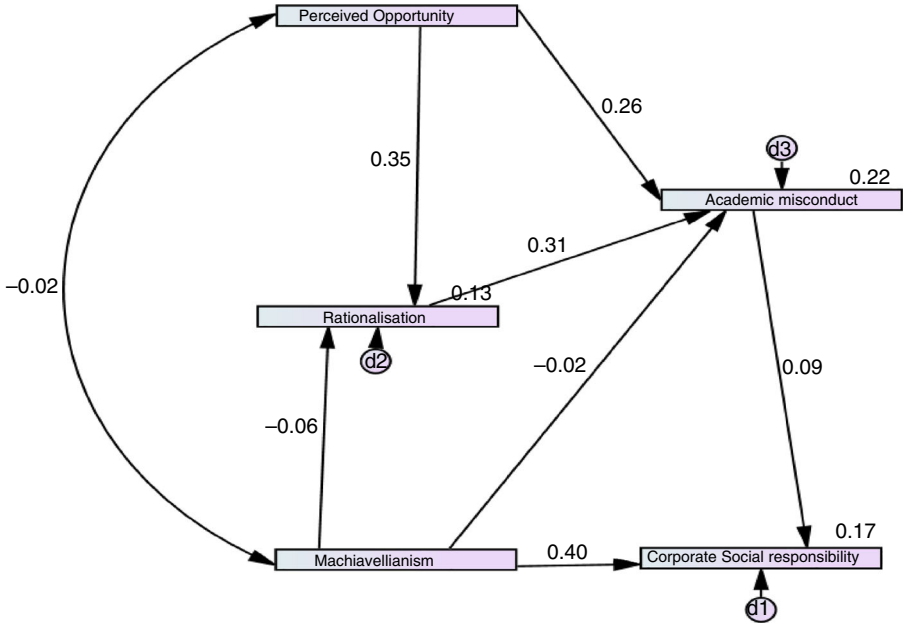
Figure 1.
The structural equations model for the relationships between perceived opportunity, perceived pressure and rationalization and their prediction for academic misconduct

Notes: SEM for percieved Oppurtunity (PO), Rationalization (R), Percieved External Pressure (PP_EX), Percieved Internal Pressure (PP_I) and Academic Misconduct (AM). $\chi^2 = 67.006$, df = 55, $p = 0.129$, RMR = 0.050, GFI = 0.979, AGFI = 0.965, TLI = 0.988, CFI = 0.991, NFI = 0.954, RMSEA = 0.022

Furthermore, it was hypothesized that Machiavellianism is related to rationalization and is also related to CSR. It was also hypothesized that academic misconduct is related to students' inclinations to CSR. Using SEM we tested for the hypothesized model. The resulting model showed an NFI 0.978 which indicated strong convergent validity. Although the χ^2-value of 6.114 was marginally significant at the 0.05 level (p-value is 0.047), the other fit indices (RMSEA = 0.066, TLI = 0.923, GFI = 0.995 and AGFI = 0.961) suggested that the model fitted the data acceptably in our population. Thus the results of testing for *H4-H6* in addition to *H1-H3*, in a single model are presented in Table I and Figure 2. Overall a combination of Machiavellianism, rationalization and perceived opportunity explains 22 per cent of the variance in academic misconduct by University X students. In turn, academic misconduct and

Hypothesis	β	p	Supported/not supported
H1: perceived opportunity is related to academic misconduct	0.256	0.001	Supported
H2: perceived pressure is positively related to academic misconduct	−0.745	0.456	Not supported
H3: rationalization is positively related to academic misconduct	0.313	0.001	Supported
H4: Machiavellianism is related to academic misconduct	−0.018	0.659	Not supported
H5: Machiavellianism is related to CSR	0.403	0.001	Supported
H6: Machiavellianism is related to rationalization	−0.058	0.181	Not supported
Serendipitous findings: academic misconduct is related to CSR	0.087	0.040	Supported
Perceived opportunity is related to rationalization	0.354	0.001	Supported

Table I. Summary results of testing hypotheses



Notes: $\chi^2 = 6.114$, df = 2, $p = 0.047$, RMSEA = 0.066, AGFI = 0.961, GFI = 0.995, NFI = 0.978, TLI = 0.923

Figure 2. SEM model – perceived opportunity, rationalization, Machiavellianism, corporate social responsibility and academic misconduct

Machiavellianism explain 17 per cent of the variations in CSR. Besides, perceived opportunity together with Machiavellianism explains about 13 per cent of the variance in rationalization. Table I indicates that there is a significant regression between Machiavellianism and CSR and that between CSR and academic misconduct. In the same way, there is a significant regression between CSR and Machiavellianism. As opposed to our previous thinking, the regression between Machiavellianism and rationality is insignificant and negative, that between Machiavellianism and academic misconduct is insignificant and negative. All this means that *H*5 is substantiated while *H4* and *H6* are rejected. It also means that we have serendipitously established a significant regression between academic misconduct and CSR.

Our results mean that indeed the fraud triangle can be used to explain behaviour. In this study we employed perceived opportunity, rationality and perceived pressure to explain academic misconduct by students. Our results are consistent with Albrecht *et al.* (2010) who averred that fraud perpetrators must have a perceived opportunity or they will not commit fraud. Our results indicate that there are number of opportunities perceived by students at University X to engage in academic misconduct. This study has identified such opportunities to include failure to punish those caught cheating in examinations, observed cheating behaviours among fellow students and the ability of the students to deny that they cheated. The ability of the students to deny that they cheated in exams may point to a fact that the university lacks sufficient and effective mechanisms to adduce evidence in support of an examination cheating claim against students suspected of cheating. If students in exams can observe others cheating in examinations, this could point to a probable laxity in vigilance during examination time by invigilators. It could also mean that students sit near each other during examinations making it possible for them to cheat while at the same time making it impossible for the invigilator to observe the cheaters.

The results also mean that those students perceiving the opportunity to cheat in examinations also are able to rationalize and hence engage in academic misconduct. This rationalization is also enhanced or reduced by Machiavellianism. Going by our results, it seems that University X students are low Machiavellians which the negative coefficient between Machiavellianism and rationalization seems to imply. The fact that students perceive honesty to be the best policy in all areas, perceive humbleness and honesty to be important than importance and dishonesty, perceive wisdom in being good in all respects, explains why there is a negative regression between Machiavellianism and rationalization, though insignificant. These results mean that low Machiavellians are less opportunistic and act in a manner inconstant with the economic theory of egoism. That is why the standardized regression weight falls from 0.43 to 0.31 for rationalization and academic misconduct. This fall can be attributed to Machiavellianism (see Figure 2).

Although the regression between Machiavellianism is weak and negative, the negativity of this relationship is because, as has already been discussed, of low Machiavellianism among University X students. However, the negative standardized regression coefficient between Machiavellianism and rationalization, and that between Machiavellianism and academic misconduct; together could explain the reduction in the squared multiple regression of academic misconduct from 0.36 to 0.22, absence of perceived pressure notwithstanding.

One significant finding, though serendipitous, is that academic misconduct predicts CSR proclivity of students. Which means students' engagement in academic misconduct improves their inclination to CSR ideals. Recall that academic misconduct

is a result of perceived opportunity and rationalization and recall that rationalization is explained in large part by perceived opportunity. This means academic misconduct alone without perceived opportunity to engage in this deviant behaviour, may not be important for perceived CSR. The other reason for this apparent anomaly could be that University X students perceive academic misconduct as a way of getting better grades for better jobs; thereafter they would uphold CSR ideals. Nevertheless the low Machiavellianism inclination by University X students appears to account for much of the variance in CSR given its standardized regression weight of 0.40. This appears to suggest that indeed good people do good things.

Our results support the application of the fraud triangle as a relevant frame work for understanding why students engage themselves in academic misconduct. The fraud triangle suggests (empirically tested by this study) that perceived opportunity will normally lead to students inclinations to cheat examinations and so deviant behaviour is associated with perceived opportunity (Grasmick and Tittle, 1993). This study offers credence to Santor *et al.* (2000) who found that peer pressure and peer conformity were stronger predictors of deviant behaviours than measures of assessing popularity or general conformity. Going by the results, it seems that there is relatively low peer pressure to students as to engage in academic misconduct.

V. Concluding remarks

This study examined the effect of the fraud triangle, Machiavellianism, academic misconduct and CSR. The present study surveyed 471 students of University X. This study was motivated by undesirable consistent reports of students' examination malpractices. To address this problem, the study addressed four objectives. As a corollary, this study put forward and tested a total of six hypotheses. This section recapitulates the conclusions made from the study, makes recommendations and cites implications consistent with the study findings. Areas that need further attention within the realm of this study are suggested.

Results show good fitting models and Figure 2 shows the extent to which perceived opportunity, rationalization and Machiavellianism affect academic misconduct and also the extent to which CSR is affected by Machiavellianism and also consequently by academic misconduct. Our study provides unique evidence that perceived opportunity to cheat in examinations is the single most important factor accounting for significant variations in rationalization and academic misconduct. Similarly, low Machiavellians significantly get inclined to CSR ideals.

The management of universities should urgently tackle the problem of plagiarism as it was found to account for larger variations in perceived opportunity by students to cheat. Besides, since tests have been established to be the most cheated, it seems universities' management should be more vigilant in the administration of tests. The disciplinary process should be more robust as to deal with students' denials that they cheated. The nature of the evidence of cheating in examinations should be more water-tight so that a student caught cheating examinations is punished. This would serve as a stern example to other students that there is no room for cheating, first of all, and even if you managed to cheat in examinations but got caught, you would not get away with it. Of particular significance is the need to uphold ethics teaching at Universities since low Machiavellianism inclination by students at University X accounts for much of the positive variances in their CSR proclivity. Similarly, those conditions conducive for students to perceive opportunity to cheat should be purged. Particularly, any student proved to have engaged in academic misconduct should be

dismissed at once. As academic misconduct largely happens in the classroom or examination rooms, the conditions leading to this should be thoroughly investigated and dealt with. One possibility could be that University X does not have sufficient room space given the large number of students joining universities in Uganda.

Academically, our study contributes to the search for predictors of academic misconduct in the African setting and as a corollary, for a theory explaining academic misconduct, if perceived opportunity and rationalization are correlated as posited by Tavris and Aronson (2007) and our study, then it is even more significant to consider academic misconduct deterrence methods because once a student successfully cheats in an examination, s/he is unlikely to stop. Creating a setting that significantly increases a student's anticipated negative affect from academic misconduct, or effectively impedes rationalization ex ante, might prevent some students from academic misconduct in the first place and then they might become good African corporate citizens.

However, the results of this study should be interpreted with caution. First, there is scarce literature (on Africa) on academic misconduct conceptualization especially with regard to the behavioural perspective. Second, common methods bias and/or social desirability bias may have affected the validity of the findings given the self-reported measures. Lastly, although our unit of analysis was students, these were from a single university – something akin to a case study. The quantitative results should therefore be interpreted with this shortcoming in mind. Nevertheless the results are applicable to universities willing to devout their efforts in curbing academic misconduct. Future research should establish other explanatory variables for academic misconduct at Universities.

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