

Academic malaise among future Muslim accountants: role of piety

Future Muslim accountants

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Abstract

Purpose – This paper aims to examine two specific research issues among future members of the Malaysian accountancy profession. First, it explores the extent of committed academic dishonesty (AD) among accounting students in two institutions of higher learning in which Islamic orientation and emphasis are observably different. Second, it investigates whether pious accounting students are dishonesty-resistant, premising the investigation on the maintained assumption based on the Islamic religious scriptures that piety should be placed at the forefront of the crusade against academic malaise particularly AD.

Design/methodology/approach – Using a questionnaire survey to measure both AD and piety, the usable responses were analyzed using mean score and independent sample *t*-tests.

Findings – The results indicate that AD practices are within the safe and non-disturbing limit. The results on piety which form the crux of the research suggest that findings are sensitive to different piety measurement, indicating the need for a refined piety proxy in future Islamic piety research.

Originality/value – Notwithstanding the small sample based on only two universities, the results provide a critical basis for reality check and policy input on issues relating to AD and piety for all stakeholders, particularly in designing the relevant and necessary trainings and relevant policy formulation in addressing integrity issues in accounting education.

Keywords Islam, Accounting education, Taqwa, Academic fraud

Paper type Research paper

1. Introduction and research issue

Academic environment is arguably not impervious to misconducts. Academic misconduct or academic dishonesty (herein “AD”) covers myriads of acts considered as crime in academia. It constitutes multitudes of egregious violations of academic integrity the towering pillars of which include both ethics and morality (Bruhn *et al.*, 2002; Suhaiza and Salwa–Hana, 2016). These two towering pillars are conceptually ingrained in many (if not all) religious beliefs including that of the world’s second largest religion – Islam. In the specific context of Islam, AD is unreservedly at odds with the religion’s credo of the intellectual pedigree which strictly demands its followers (the Muslims) to possess attainable piety level. Piety or *taqwa* as it is known in the Islamic context principally refers to the act of Allah (God) fearing regardless of time and space (Majdi and Al–Sayed, 1995). The imperative of *taqwa* is explained in various places of the sources of Islamic knowledge (i.e. the *Quran* and *Hadith*), systematically outlining the maintained religious expectation that piety should rightfully insulate Muslims from engaging in any misconducts challenging the Islamic tenets, which primarily include AD.

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In the academic realm, students' unethical behavior has been identified in the accounting education and ethics literature as directly related to AD (Chan *et al.*, 2014; Guo, 2011; Koh *et al.*, 2011). In a much broader sense, ethics is the cornerstone of integrity which constitute a crucial element that systematically shape a particular profession's reputation, relevance and survival, particularly accounting and auditing which profession predominantly imbued with public trust. Therefore, exploring issues related to AD and the intertwined role of religious belief in mitigating AD in the specific context of Islam among future accountants and auditors effectively provides mirror of the profession's profiles in the future.

Accordingly, this research reports empirical results derived from a larger research on AD among future members of the Malaysian accountancy profession. The results are centered on two specific research issues of first, AD practices among accounting students in two institutions of higher learning which Islamic religious orientation and emphasis are observably different. Second, it attempts to answer the question of whether pious accounting students are dishonesty resistant, which investigation premised on the maintained assumption based on the Islamic religious scriptures that *taqwa* should be placed at the forefront of the crusade against academic malaise particularly AD. This effectively provides appropriate platform investigating the role of practicing Islam (i.e. piety) in constraining AD practices among Muslim accounting students.

Examining AD practices in the context of Malaysia and Islam is important because of at least two specific reasons. First, Malaysia is contextually unique, recognized as among progressive and moderate Muslim nation in the Islamic world whereby the practice of Islam and hence its piety development is located within the secular framework of its constitution (Mohamed–Osman, 2017). Noticeably, secularism and Islam progress smoothly in parallel ever since the country's formation (Tong and Turner, 2008). The country is also populated by a unique composition of multi-racial, multi-religious society with diverse historical background and cultures (Suhaiza, 2015). Given these unique institutional backdrops, it would be interesting to see how Muslims in Malaysia struggle to practice and maintain their piety in such a non-pure (i.e. secular) Islamic environment, particularly with regards to Muslim accounting students in the context of their AD practices.

Second, as education is a key factor influencing the future of the accounting profession (Bampton and Cowton, 2013), accounting students' academic integrity level primarily represents a reflection of the profession's future integrity profiles. More importantly, examining the role of Islamic piety in shaping such integrity level among Malaysian Muslim accounting students is increasingly warranted in view of the limited literature focusing specifically on the intertwined issues of *taqwa* and AD in the unique setting of Malaysia.

The empirical results are effectively informative at variety of levels. First, the average AD scores at the aggregate and individual AD levels for the sample is observably low with calculated means comfortably well below the scale average. While these statistics indicate the presence of AD among future members of the accountancy profession in Malaysia, the findings are however arguably non-alarming. Further analysis reveals that the most frequently committed AD was plagiarism with such academic crime was prevalent among students in a university with low level of religious orientation, female, seniors, academically weak and more importantly, low religious observance. The second stream of the empirical results provide preliminary evidence that students with high piety level measured using *ibadah* (worship)-based religiosity inventory (IBRI) reported low AD scores. Whilst this does not infer direct causal relationship, it however suggests that Allah fearing individuals arising from high religious observance are to a certain extent, dishonesty resistant. Overall, the results provide a strong basis for reality check and policy input for all stakeholders in the accounting education eco-system including (but not limited to) the universities and the

accounting profession particularly in designing relevant and necessary trainings and public policy formulation in addressing integrity issues in accounting academic.

The significance and hence the contributions of this research are at least twofold. First, it constitutes the first research attempt at providing fresh evidence of AD practices among accounting students which respective university's Islamic orientation and emphasis are observably different. The use of IBRI further allows the manipulation of different levels of Islamic piety observance in examining the role of piety in constraining AD practices among the students. Second, the research output is expected to provide vital and relevant policy inputs to relevant stakeholders in accounting academic, specifically on the need and imperative of designing and introducing appropriate programs or courses on ethics and morality which carries emphasis on piety building.

The remainder of this paper is structured as follows. Section 2 proceeds to review related literature on AD and *taqwa*. This is followed by research method in Section 3, the empirical results and discussions in Section 4, and Section 5 concludes the paper and includes some recommendations and suggested future research.

2. Literature review

2.1 Academic dishonesty

(Dis)honesty is a multifaceted concept (Kindsiko *et al.*, 2013; Vadi and Vissak, 2013) such that its definition in the academic context is rather controversial (Imran *et al.*, 2016). For instance, the concept and definition of plagiarism is noted to be highly subjective, resulted in difficulties in generating conclusive and comparable empirical results (Ashworth *et al.*, 1997; Lyndsay, 2003). The AD is commonly referred to as any activities against academic integrity which consequence entails unfair advantage to the perpetrator, resulting in a misrepresentation of the student's actual ability and knowledge possession (King *et al.*, 2009). Accumulating prior studies have focused on myriads of AD activities covering plagiarism (Devlin and Gray, 2007; Koh *et al.*, 2011; Newton *et al.*, 2014), free-riding (Burdett, 2003; Leuthold, 1993), homework sharing (Cronan *et al.*, 2015) and cheating (Jones, 2011; Smith *et al.*, 2012; Underwood and Szabo, 2003). These empirical works generally explored the nature of AD, causes and consequences (Jurdi *et al.*, 2011; McCabe *et al.*, 2001; Newton *et al.*, 2014; Roberts and McInnerney, 2007).

Numerous literature studies provide different definitions to various AD activities which include plagiarism and cheating. The former refers to the use of third parties' soft properties covering anything in the form of written and/or oral expression without giving due credit through appropriate citation or referencing (Ercegovac and Richardson, 2004; Martin, 2012; Sutherland-Smith, 2005). The latter on the other hand relates to student's actions that violate the explicit rules or commonly accepted norms for academic activities including examinations or assignments (Abu-Bakar *et al.*, 2010; Aiken, 1991; Cizek, 2004). Considering these two common AD practices, the extant literature indicates the perennial nature of AD as it becomes a global phenomenon culminating on its occurrence in almost all academic levels, practiced by students regardless of their age, race and gender (Caldwell, 2010; Hallak and Poisson, 2007; Hughes and McCabe, 2006a, 2006b) or even religiosity levels (Huelsman *et al.*, 2006; Jurdi *et al.*, 2011; Rawwas *et al.*, 2006; Storch and Storch, 2001).

The accumulating AD literature has also identified various negative consequences of AD, affecting almost all stakeholders in the academic and employment eco-system. To the perpetrator(s) for instance, successful committed AD will cause them to have either little or no skills and knowledge essential for their future working and professional life (Teixeira and Rocha, 2010). In addition, committed AD during undergraduate period will also provide indirect motivation to the perpetrators to

engage in other unethical behaviors in the future, particularly in their future workplace (Grimes, 2004; Nonis and Swift, 2001; Whitley, 1998), as well as in graduate and professional schools (Baldwin *et al.*, 1996), thereby jeopardizing the pursuit of developing ethical leaders and citizens in the future (King and Mayhew, 2002).

The AD will also adversely impact the educators and the academic processes as it systematically causes the conferment of an unfair advantage to the perpetrator (s) over other students whilst decreases the accuracy and validity of assessments (Whitley, 1998) and the intended inferences based on the student's performance (Cizek, 2004; Jurdi *et al.*, 2011). This will subsequently undermine educator's efforts to properly appraise and attend to imparities in students' grasp of knowledge (Crown and Spiller, 1998). The academic institution will also be affected as increasing AD practices will unnecessarily consume the institution's valuable resources in controlling such malaise, which could otherwise be used for other productive purposes (Teixeira and Rocha, 2010). Besides, publicly reported AD practices will systematically erode public confidence and respect towards such academic institutions (Whitley, 1998).

Overall, AD contributes towards the inefficiency of the educational system in view that it creates noises in the academic assessments, reduces the student's learning motivation and lowers public's respect and confidence towards the institution if such AD practices were publicly reported.

2.2 Religion, religiosity and academic dishonesty

The term religion and religiosity have been heterogeneously defined in the literature depending on the diverse subscribed perspectives. Adopting the cultural perspective, Geertz (1993), for instance, refers religion to a cultural system of behaviors and practices connecting humanity to the supernatural. Harrison (2006) summarizes various definitions of religion into three basic distinctive characteristics of:

- (1) intellectual: religion as belief about a specific object;
- (2) affective: regards religion as faith and the emotions accompanying it; and
- (3) functional: focuses on the function of the religion.

Commonly used interchangeably with the term "faith" in the literature (Kant, 2001), such diverse definitions could be narrowly summarized to principally represent an individual's beliefs system commonly expressed through sets of ritual activities particularly prayers, the purpose of which is to provide meaning to one's life experience through reference to a divine power.

Unlike religion's diverse definitions, religiosity which predominantly refers to "piety" or "religious orientation" in the linguistic context has been defined rather homogenously in the literature. It primarily refers to "the personal practice of religion" (Allport and Ross, 1967, p. 432), a person's degree of religious commitment (Koenig *et al.*, 1997) or "a strong belief in moral principles and doctrines which in turn affects daily ethical behaviors" (Devonish *et al.*, 2009, p. 169). These definitions primarily direct religiosity to the measurement of an individual's intensity of practicing his/her chosen religion. The extant literature indicates plethora of dimensions in measuring religiosity which common measures include intrinsic-extrinsic (Allport and Ross, 1967), means-ends-quest (Batson *et al.*, 1993) and organizational-non-organizational (Storch and Storch, 2001) dichotomy. These piety measurements were designed based on the critical assumption that religion plays significant roles in influencing how an individual think and behave in different scenarios (Saroglou and Muñoz-García, 2008) including individual's ethical attitudes and awareness (Conroy and

Emerson, 2004), moral beliefs, convictions (Devonish *et al.*, 2009; Kurpis *et al.*, 2008) and identity (Bernardi *et al.*, 2011).

The religion–ethical/moral link is premised on the fact that religion serves as a conduit between human beings and the transcendental (i.e. God) and that religion provides basis for evaluating and justifying human’s moral (in)actions (Bernardi *et al.*, 2011; Kurpis *et al.*, 2008; Weaver and Agle, 2002). Additionally, religion further strengthens adherents’ moral discipline (James *et al.*, 2011) as fear of religious punishment motivates pious individuals to follow religious guidelines on morality and therefore avoiding unethical behaviors (Kara *et al.*, 2016). It is in this context that prior studies have examined the role of piety on various settings of corporate and academic. The former includes piety implications on leadership effectiveness (Zandi *et al.*, 2015), corporate decision making related to risk exposure (Hilary and Hui, 2009), tax avoidance likelihood (Boone *et al.*, 2013), equity financing cost (El-Ghoul *et al.*, 2012) and firm’s financial reporting quality (Du *et al.*, 2015; Kanagaretnam *et al.*, 2015; Montenegro, 2017; Wan-Ismail *et al.*, 2015).

In the academic context, the extant literature indicates sizeable number of prior research examining among others the influence of piety on student’s attitude towards ethics (Kum-Lung and Teck-Chai, 2010; Albaum and Peterson, 2006), student’s moral reasoning (Baumsteiger *et al.*, 2013) and AD practices in terms of either student’s engagement propensity, acceptance, sensitiveness or intention (Jurdi *et al.*, 2011; Nelson *et al.*, 2017; Hongwei *et al.*, 2017; Rawwas *et al.*, 2006) or student’s actual AD practices (Bruggeman and Hart, 1996; Burton *et al.*, 2011; Woodbine and Amirthalingam, 2013a&b). Table I summarizes these prior studies.

These accumulating piety–AD/ethics empirical research provide somewhat inconclusive results. Huelsman *et al.* (2006) for instance found that whilst religiosity and AD were not significantly related, which result is consistent with Fisher *et al.* (1998), further analyses by gender indicate that such statistical association was significant for women only. Another related research by Storch and Storch (2001) however provided evidence that regardless of gender, religiosity was associated with lower AD. Using a natural experiment in studying the relations among student cheating, motivation, religiosity, and attitudes toward cheating, Rettinger and Jordan (2005) found that religiosity correlates with reduced reported AD. This result however contradicts other research (Bernardi *et al.*, 2011; Kara *et al.*, 2016; Shariff and Norenzayan, 2011) which found no influence of piety on various AD and ethics proxies. Hongwei *et al.* (2017) explain that such inconclusive findings might be attributed to either different religious configuration, different religious intensity measurement or the disparity between belief and actual religious practices.

2.3 Islam, taqwa (piety) and academic dishonesty

Literally means peace and submission (Mawdudi, 1992), the religion of Islam warrants its followers to worship Allah as the only God (*Quran*, 112:1) and submit to Allah in everything (Baydoun and Willet, 1997). Bearing witness to the existence and oneness of Allah and subsequently submit oneself to Allah is linguistically termed as *Tawheed* (unity of God) (Faruqi, 1992). As the one and only God, Allah the almighty is the Creator (*Quran*, 6:12–14) who created humans for the sole purpose of worshipping Him (*Quran*, 51:56). Such purpose of obeying and worshipping Allah is primarily to build up one’s *taqwa* (piety) as Allah said in the glorious *Quran* (the book of Allah):

O Mankind! Submit yourself to your Lord (Allah), Who created you and those who were before you so that you may become Muttaqun (*Quran*, 2:21).

Table I.
Prior research on the
influence of
religiosity on AD/
ethics

No.	Source	Data, setting and AD type	Religiosity measure (s)	Ethics/AD measure (s)	Findings
1	Bruggeman and Hart (1996)	Data: 221 High school students Setting: US AD: Cheating and lying	(Christianity) Attendance of either a religious or a secular (public) school	Defining Issues Test (Ethical Sensitivity) to measure moral reasoning level (P-score)	Religious and secular school students did not differ in moral reasoning level, and the groups evidenced similar levels of cheating and lying
2	Tse and Au (1997)	Data: 598 undergraduate students Setting: New Zealand AD: Various	(General) Dichotomous (Yes/No) on religious belief	16 statements representing ethical scenarios (1 to 5 scale)	Sex, year of study, parents' occupation, religiosity and household income of the students have NO significant impact on the students' ethical position
3	Fisher <i>et al.</i> (1998)	Data: 152 Seventh-day Adventist youth, grades 6 through 12 Setting: US AD: Cheating in Test	(Christianity) 6 items covering religious belief and behavior	Cheating in Test (Yes/No)	No religious impact on cheating
4	Perrin (2000)	Data: 130 college students Setting: US AD: Honesty in grade	(Christianity) 7-item religiosity survey	(Dis)honesty about wrong grading (Yes/No)	Students reported attended church and other religious activities, believe in life after death, and consider themselves born again Christians were more likely to be honest
5	Storch and Storch (2001)	Data: 244 college students Setting: US AD: Various	(General) Duke Religion Index	9 items assessing AD (1 to 5 scale)	Regardless of sex, High Non-organizational and Intrinsic religiosity was associated with lower reported rates of AD
6	Brown and Choong (2003)	Data: 483 Business Students Setting: US AD: Various	(Christianity) Attendance of either a Public or Private Catholic University	16 items (engagement, perceptions, reasons for engagement) (1 to 6 scale)	High Organizational women and men reporting similar rates of AD Similar level of AD across both institutions i.e. no religious effect

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No.	Source	Data, setting and AD type	Religiosity measure (s)	Ethics/AD measure (s)	Findings
7	Conroy and Emerson (2004)	Data: 850 students from private, religiously affiliated and public secular university) Setting: US AD: Various	(Christianity) Church attendance	25 ethical vignettes (ethical perceptions) to 7 scale)	Religiosity is a significant predictor to 7/8 of ethical scenarios Completion of ethics or religion classes was a significant predictor of ethical attitudes in only 2/25 vignettes Church-going (religiosity) associated marginally with higher cheating
8	Vowell and Chen (2004)	Data: 674 undergraduates. Setting: US AD: Cheating	(Christianity) Church attendance	4 cheating items (0 to 7 scale)	Higher religiosity correlates with reduced reports of cheating in all courses
9	Rettinger and Jordan (2005)	Data: 150 Business and liberal arts college students Setting: US AD: Cheating	(Judaism) Student Religiosity Questionnaire	17 items on cheating behavior inventories (Yes/No)	Participants' religious orientation was not related to their tendency to cheat in any way
10	Williamson and Assadi (2005)	AD: Cheating Data: 65 undergraduate students Setting: US AD: Cheating	(General) A revision of Allport's Religious Orientation Scale, 14 items covering both intrinsic and extrinsic religiosity	5 items test in natural setting	Students of secular university were somewhat more sensitive to AD practices than those in Japanese religious university Religiosity and AD were not significantly related and this association was significant for women but not men
11	Rawwas <i>et al.</i> (2006)	Data: 361 Marketing students. Setting: Japan AD: Ethical beliefs	Attendance in Japanese religious and secular university (General) Scores on Santa Clara Strength of Religious Faith Questionnaire (Possible Score of 10 to 40)	4 situations involving various forms of cheating (1 to 5 scale)	Culture and religiosity influence the perceptions of business ethics
12	Huelsman <i>et al.</i> (2006)	Data: 70 US undergraduate students. Setting: US AD: Various	Scores on Santa Clara Strength of Religious Faith Questionnaire (Possible Score of 1 to 7 scale)	Academic Practices Survey-AD frequency (Possible Score of 4 to 120)	
13	Rashid and Ibrahim (2008)	Data: 767 Business studies students Setting: Malaysia AD: Various	11 religiosity items (1 to 7 scale)	7 ethical scenarios (1 to 7 scale)	

Table I.

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No.	Source	Data, setting and AD type	Religiosity measure (s)	Ethics/AD measure (s)	Findings
14	Bloodgood <i>et al.</i> (2008)	Data: 230 upper level, undergraduate business students Setting: US AD: Cheating	(Christianity) Religious service attendance (1 to 5 scale)	Word search assignment	Frequent worship services attendees were less likely to cheat Low religiosity demonstrated less cheating if they had taken a business ethics course Highly intelligent displayed significantly less cheating if they were also highly religious No evidence of the direct effect of religiosity on the perceived importance of ethics Greater religiosity individuals were more likely to identify ethical problems
15	Kurpis <i>et al.</i> (2008)	Data: 242 business undergraduate students at a small private, religiously affiliated University. Setting: US AD: Various	(General) A single-item measure, 'Importance of religious beliefs in your life?' (1 to 9 scale)	Behavioral intentions, 4 Business-related scenarios. (1 to 9 scale)	
16	Devonish <i>et al.</i> (2009)	Data: 231 undergraduate students Setting: Barbados AD: Various	(General) Religious Affiliation (Yes/No)	AD Intention based on 17 items of 6 unethical business practices (1 to 7 scale)	Religiosity, gender, type of degree and number of courses taken containing ethics significantly impacted on the intentions to engage in unethical behavior 'Very religious' possessed significantly higher Ethicality scores Religiosity did not moderate the relationship between nationality and business-related ethicality No evidence of religious feelings affecting AD
17	Peterson <i>et al.</i> (2010)	Data: 6300 business students from 120 colleges and universities. Setting: 36 countries AD: Various	(General) A single-item, 'very, somewhat or not very religious' (1 to 3 scale)	19 ethical items (1 to 6 scale)	
18	Jurdi <i>et al.</i> (2011)	Data: 321 Undergraduate students Setting: Canada AD: Various	(General) Degree of Religious feelings/ the importance of religion in their life (1 to 5 scale)	3 types of dishonest behaviors (frequencies) (1 to 5 scale)	

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No.	Source	Data, setting and AD type	Religiosity measure (s)	Ethics/AD measure (s)	Findings
19	Shariff and Norenzayan (2011)	Data: 61 Undergraduate students Setting: US AD: Cheating	(General) 14 traits with 7 each for positive and negative views of God (1 to 7 scale)	Social psychology laboratory tool using computer-based "test"	Overall levels of religious devotion or belief in God did not directly predict cheating Viewing God as a more punishing, less loving figure was reliably associated with lower levels of cheating
20	Bernardi <i>et al.</i> (2011)	Data: 508 Undergraduate accounting students Setting: Albania, Ecuador, Ireland and the US. AD: Various ethical scenarios	(Christianity) Attendance of either a religious or a secular (public) school	4 business scenarios Test (Ethical Sensitivity) to measure moral reasoning level (P-score)	No differences in ethics orientation that associated with either grade- or-high-school education
21	Burton <i>et al.</i> (2011)	Data: 236 business school students Setting: US AD: Cheating in test	(General) Frequency of participation in religious activities. (1 to 6 scale)	Frequency with which they engaged in 7 items of tests cheating (1 to 5 scale)	Students who were more religious and participated more in religious activities were significantly less likely to engage in unethical test taking practices
22	Quah <i>et al.</i> (2012)	Data: Diploma and Degree students from private college and public University Setting: Malaysia AD: Various ethical scenarios	(General) Religious orientation (intrinsic and extrinsic) (1 to 7 scale)	Attitude towards plagiarism (1 to 7 scale)	Religious orientation was found to have no moderating effect on the relationship between [ethical idealism, ethical relativism and Machiavellianism] and students' attitude towards plagiarism
23	Woodbine and Amirthalingam (2013a)	Data: Masters of Accounting Students Setting: Australia AD: Cheating	(General) Commitment to religion/belief system (1 to 7 scale)	Views on test cheating (1 to 7 scale)	The level of a student's religious commitment is clearly seen to influence ethical judgment when behavior is being evaluated
24	Woodbine and Amirthalingam (2013b)	Data: Masters of Accounting Students Setting: Australia AD: Cheating	(General) Commitment to religion/belief system (1 to 7 scale)	Views on Ethics quiz cheating (1 to 7 scale)	Gender, residency status and religion appear to have no significant influence on ethical behavior

Table I.

Table I.

No.	Source	Data, setting and AD type	Religiosity measure (s)	Ethics/AD measure (s)	Findings
25	Chen and Tang (2013)	Data: 359 of psychology and business students Setting: US AD: Various ethical scenarios	(General) Religious orientation scale (intrinsic and extrinsic) (1 to 5 scale)	4 unethical behavior intentions (probability) (1 to 5 scale)	Intrinsic religiosity indirectly curbed unethical intentions through the absence of Machiavellianism. Both extrinsic-social and extrinsic-personal directly, while extrinsic-social indirectly, exacerbated unethical intentions The overall findings demonstrated that respondents who were more religious were more likely to engage in citizenship behavior
26	Khalid <i>et al.</i> (2013)	Data: 237 undergraduates (accounting and business) Setting: Malaysia AD: organizational citizenship behavior	(General) Religious orientation scale (20 items) (intrinsic and extrinsic) (1 to 5 scale)	14 items on citizenship behavior (1 to 5 scale)	The degree of religiosity is statistically significant but explains only a negligible percentage of the variance in business ethicality Cheating practices similar with non-religious institutions
27	Cooper and Pullig (2013)	Data: 385 undergraduate business majors Setting: US AD: Various ethical scenarios	(Christian Orthodox) Religious orientation scale (14 items) (intrinsic and extrinsic) (1 to 5 scale)	6 ethical scenarios (1 to 7 scale)	
28	Bath <i>et al.</i> (2014)	Data: 512 Liberal arts students at college with strong church affiliation Setting: US AD: Cheating	(Christian) Religious requirement of the college	7 items of cheating practices and attitude towards cheating (1 to 5 scale)	
29	Mustapha <i>et al.</i> (2016)	Data: 221 undergraduate students Setting: Malaysia AD: Cheating	(Islam) 2 religiosity dimensions (1 to 5 scale)	Cheating intention 3 ethical vignettes (1 to 5 scale)	Perceived behavior control and Islamic Religiosity did not impact the intention to cheat
30	Kara <i>et al.</i> (2016)	Data: Business Students Setting: Turkey AD: Ethical sensitivity	(General) cognitive and behavioral religiosity (4 items) (1 to 7 scale)	Multidimensional Ethics Scale 8 ethical scenarios (1 to 7 scale)	More religious students have higher ethical sensitivity

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No.	Source	Data, setting and AD type	Religiosity measure (s)	Ethics/AD measure (s)	Findings
31	Tang (2016)	Data: 791 business students Setting: US AD: Various ethical scenarios	(Christian) 8 items intrinsic religiosity (1 to 5 scale)	Ethical decision making intention	Recall of the Ten Commandments is positively related to making ethical decisions, but negatively related to making money
32	Nelson et al. (2017)	Data: 256 undergraduate business school students. Setting: US AD: Cheating	(General) 4 items religious participation (1 to 4 scale) 2 items spirituality (1 to 5 scale) (General) Religious identity; Affirmation of importance (1 to 5 scale); Religious services attendance (1 to 3 scale)	12 items on Attitude towards cheating 10 items on Cheating behavior (1 to 5 scale) 9 items on cheating (1 to 4 scale)	Religiosity but not spirituality (intrinsic religiosity) is a predictor of students' attitudes toward cheating and cheating behavior
33	Hongwei et al. (2017)	Data: 2,430 college students Setting: US AD: Cheating	(General) Religious identity; Affirmation of importance (1 to 5 scale); Religious services attendance (1 to 3 scale)		Religious service attendance is positively associated with academic honesty among college students. Students attended religious services more frequently are less likely to engage in AD
34	Hummel et al. (2017)	Data: 1773 bachelor's and 501 master's students Setting: Switzerland AD: Moral Judgement	(General) Self-assessment of religiosity levels (1 to 9 scale)	C-Score of Moral Judgement Competence (MJC) based on 2 moral dilemmas	A weakly positive and significant relationship exists between religiosity and MJC, indicating that religiosity serves as a reliable orientation for assessing moral dilemma situations

Table I.

The word *Muttaqun* literally refers to pious individuals whom are Allah-conscious/fearing, whom Allah considers to be the best among mankind in His sight. Allah said:

Lo! the noblest of you, in the sight of God—Almighty is the most devout/pious (Quran, 49:13).

According to Siddiqui (1997), *taqwa* is derived from the Arabic root word “w-q-y”, linguistically defined as “to protect and preserve” oneself from possible “danger or attack” and that the *Qur’an* uses this word in the moral context by encouraging human beings to be vigilant against moral peril. The importance of piety in Islam could be seen in the emphasis put by Allah in explaining the imperative of *ibadah* (worship) in the *Qur’an*, as the word “taqwa” appears over 100 times (Ohlander, 2005) and more than 250 times in the *Qur’an* if its derivatives are considered (Esposito, 2003). Obedient to Allah at all times is also considered as the best provisions for the hereafter (life after death) and greatest means for achieving salvation as Allah said:

O you who have believed! Be pious and say the truth. He will direct you to do righteous good deeds and will forgive you your sins. And whosoever obeys Allah and His Messenger, he has indeed achieved a great achievement (Quran, 33: 70-71).

In building up *taqwa*, *ibadah* in Islam is not limited to prayers *per se* as worship should circumvents the entire cycle of Muslim’s life. Generally, certain *ibadah* are classified as personal and individual in nature while some others are more socially and communally related (Mohd-Asri, 2007). For instance, whilst *salat* (prayers), *siyam* (fasting) and *Hajj* and *umrah* (pilgrimage) are primarily personal *ibadah*, *zakat* (Islamic tax), *sadaqah* (donations), *waqf* (endowment), maintaining good social relations with family and neighbors, upholding strong business ethics are social and communal in nature. Both types of *ibadah* are conceptually the necessary conditions for the development of piety conditional upon it was done with sincerity for the sake of pleasing Allah (*Quran*, 39:2-3). As Muslims live every moment of their life in the service of Allah, the performed *ibadah* should rightfully shapes up their piety, systematically molding their lives towards becoming a better person and portrays exemplary acts as role models in their family and society.

In the AD context, *muttaqun* students are expected to exercise vigilant against moral perils associated with academic activities because of at least two specific reasons. First, *taqwa* provides a person with the right tools to discern between right and wrong (Siddiqui, 1997) and secondly, Allah through His Prophet Muhammad (peace be upon him—PBUH) encourages *muttaquns* to avoid (in)actions which are forbidden and/or ambiguous in nature (Al-Almany, 2009). These effectively provide a codified framework upon which various prior empirical research examining the implications of Islamic piety on numerous AD proxies were based upon. The extant literature (as summarized in Table I) suggests that prior studies are notably focused on the non-Islamic context, particularly Christianity and Buddhism, with limited Islamic based research available. This reflects a large vacuum left for empirical research to be done in the specific area of *taqwa’s* impact on AD, specifically in the Malaysian context.

The only notable published Islamic-related research on AD was done by Abdul-Rashid (2014). Concentrating on plagiarism, it analyzes the nature of such AD from an Islamic perspective. Based upon various data sources, the study finds that despite Islam’s loathing, plagiarism trend is increasing and that responses to plagiarism vary across countries with mixture of tolerance and abhorrence. Taking the case of universities in Malaysia, the study identifies a conventional approach to plagiarism problem being a matter of morality and crime, necessitating the need to develop academic skills of writing and research. The

research however leaves empirical support to the success or failure of such approach to future research.

Another recent research by [Mustapha et al. \(2016\)](#) investigated the relationship between *taqwa* and cheating intention among Malaysian Muslim students. Measuring *taqwa* using two religiosity dimensions and examining its impact on students' cheating intention based on three ethical vignettes, the research fails to provide evidence that religiosity influence students' cheating intention. Overall, the current state of literature connecting *taqwa* to AD reflects a clear empirical gap characterizes by fragmented research efforts and inconclusive results, thereby reinforcing the need for current research.

3. Research method

Given the established objectives outlined earlier, this study adopts a quantitative research approach attributed to at least two reasons. First, the survey nature of this research effectively requires the collection of data from large number of accounting students, aiming to serve the generalizability requirement. Second, as the focus is on AD issues which constitute a well-known research subject as opposed to unclear situations and issues sparsely studied, quantitative approach is hence adopted. Therefore, the empirical phenomenon explored in this research is accounting students' AD practices and their *taqwa* levels.

Two separate Malaysian Universities (coded U-1 and U-2) were selected, providing different settings to be manipulated in the analysis. Whilst U-1 is a university with low religious orientation and emphasis, U-2 is however completely religiously oriented as evidenced in its official visions and missions which primarily aim at producing not only professionals in their respective profession but also *muttaquns* at the same time. Unlike its U-1 counterpart, U-2 also explicitly has the term "Islamic" in its name. As limited knowledge is available with regards to *taqwa*'s implication on AD practices among accounting students in Malaysia, selecting these universities therefore provide appropriate framework in obtaining preliminary evidence on accounting students' AD practices and piety levels in different universities with different religious orientation and emphasis. The questionnaires were distributed to all accounting students in early 2015 and after the necessary screening processes, 275 completed and usable questionnaires were used for the analysis.

The survey instrument was developed based on the research objectives. It consists of three separate sections representing demographic profile of respondents (section A), AD practices (section B) and IBRI (section C). Student's demographic profile covers items on gender, current education, year of study and academic performance as reflected by student's current cumulative grade point average (CGPA). Section B elicits students' actual AD practices covering four main AD types of plagiarism, free-ride, cheating and forgery. This is consistent with the recommendation by [Bampton and Cowton \(2013\)](#) that more ethics research should be done on behavior rather than attitude to minimize social desirability response bias. The scale used is from 1 (never) to 6 (frequent). Section C measures student's piety level based on their *ibadah* using the self-developed IBRI which is explained below.

3.1 Measuring *taqwa* (piety)

Piety measurement in this research is based on two religiosity proxies of university type and *taqwa* measurement based on IBRI. The former is a relatively crude piety measurement commonly applied in prior research ([Bernardi et al., 2011](#); [Brown and Choong, 2003](#); [Bruggeman and Hart, 1996](#); [Rawwas et al., 2006](#)). The latter is based on IBRI which consist of 14 items covering both the obligatory and voluntary *ibadah*, across both personal and communal in nature. The scale used is from 1 (never) to 6 (frequent/complete). [Table II](#)

presents IBRI items and its classification and sources. The use of IBRI indicates a departure from the conventional non-Islamic piety measurement utilizing the commonly adopted universal religious orientation inventory (Allport and Ross, 1967; Batson *et al.*, 1993; Storch and Storch, 2001) and this systematically contributes to the extant literature by offering a different, non-universal method in measuring *taqwa* from the pure Islamic practices which items are explicitly identified in many verses of the Holy *Quran* and the authentic sayings (*hadith*) of Prophet Muhammad (PBUH).

The responses to IBRI reflect individual's piety level as the level of *ibadah* effectively mirrors one's piety level (*Quran*, 2:21). The maintained priori expectation is that sufficiently high piety level should influence individuals' ethical dimensions, including attitudes, values and behaviors, thereby establishing a guiding framework on the (in)appropriateness of certain beliefs and actions (Bloodgood *et al.*, 2008). As moral and ethical teachings in all major religions including Islam despise AD practices, students with sufficiently high piety level are therefore expected to avoid engaging in any AD practices and hence, less likely to behave dishonestly in their academic dealings.

4. Results and discussions

4.1 Descriptive statistics

The descriptive statistics based on the 275 respondents are presented in Table III. It indicates that the respondents from U-2 (146: 53 per cent) are slightly higher than U-1 (129: 47 per cent). Female students dominated the sample (177: 64 per cent) and this is consistent across both universities, in harmony with the current trend of imbalance gender ratio skewing towards female domination in various spheres of life (Christie, 2009). Students in their third year and above from both universities constitute the largest group of respondents driven by the fact that only final year students in U-1 participated in the survey. In terms of academic performance, majority of them are in the moderate performance band ($3.0 \leq \text{CGPA} \leq 3.5$) (140: 51 per cent) whilst the outstanding students (>3.5) only constitute 16 per cent (45) of the overall respondents and being minority is common in any courses including accounting. The percentage is however higher in religious oriented university (U-2) compared to its non-religious counterpart (U-1).

4.2 Academic dishonesty practices

Table IV presents descriptive statistics for all four AD types and the relevant analyses results across selected demographic dimensions. The average aggregate AD score for the

Ibadah	P/C	Source (s)	Ibadah	P/C	Source (s)
Daily obligatory prayers	P	<i>Quran</i> (2:43)	Daily <i>Zikr</i>	P	<i>Quran</i> (33:41)
Daily voluntary prayers	P	<i>Hadith Qudsi</i> (No. 24)	Daily repentance	P	<i>Quran</i> (4:17)
Obligatory fasting	P	<i>Quran</i> (2:183)	<i>Solat</i> in congregation	C	<i>Sahih al-Bukhari</i> (645) & <i>Sahih Muslim</i> (650)
Voluntary fasting	P	<i>Hadith Qudsi</i> (No. 24)	Observing <i>Sunnah</i>	P	<i>Quran</i> (3:31–32)
<i>Sadaqah</i>	C	<i>Quran</i> (2:3)	Telling/Speaking truth	C	<i>Quran</i> (2:42)
Covering <i>Aurah</i>	P/C	<i>Quran</i> (7:26; 24:31)	Observing Trust	C	<i>Quran</i> (4:58)
Reciting <i>Quran</i>	P	<i>Quran</i> (2:152)	Da'wah	C	<i>Quran</i> (16:125)

Table II.
Items in IBRI and its classification
(# P = personal;
C = communal)

Future Muslim accountants

Profiles	U-1		U-2		Total	
	No.	(%)	No.	(%)	No.	(%)
<i>Gender</i>						
Total respondents	129	47	146	53	275	100
Male	33	26	65	45	98	36
Female	96	74	81	55	177	64
<i>Year of study</i>						
<3 rd Year	0	0	110	76	110	40
≥3 rd Year	129	100	36	24	165	60
<i>Current CGPA</i>						
CGPA > 3.5	8	6	37	25	45	16
3.0 ≤ CGPA ≤ 3.5	75	58	65	45	140	51
CGPA < 3.0	46	36	44	30	90	33

Table III.
Demographic profile of respondents

AD	Overall	Var.	SD	Gender			Year of study			Current CGPA ^{&}			
				Male	Female	<i>p</i> -value	< 3 rd Year	≥ 3 rd Year	<i>p</i> -value	A	B	C	<i>p</i> -value
Plagiarism	2.88	1.51	1.23	2.41	3.14	0.00	2.41	3.19	0.00	2.62	2.84	3.35	0.00
Free ride	1.79	1.51	1.23	1.89	1.72	0.27	1.65	1.87	0.15	1.62	1.62	2.8	0.00
<i>Cheating #</i>													
(D)	1.68	1.41	1.19	1.85	1.59	0.08	1.64	1.71	0.62	1.49	1.59	2.75	0.00
(E)	1.90	1.35	1.16	2.11	1.79	0.03	1.86	1.93	0.66	1.73	1.81	2.86	0.00
(F)	1.57	1.22	1.11	1.67	1.51	0.25	1.59	1.56	0.81	1.44	1.49	2.62	0.00
Overall	1.72	1.29	1.14	1.88	1.63	0.04	1.70	1.73	0.79	1.55	1.63	2.74	0.00
<i>Forgery @</i>													
(G)	1.70	1.45	1.21	1.89	1.59	0.05	1.78	1.64	0.35	1.62	1.56	2.81	0.00
(H)	1.57	1.52	1.23	1.76	1.47	0.07	1.62	1.55	0.63	1.56	1.39	2.85	0.00
Overall	1.64	1.49	1.22	1.83	1.53	0.05	1.70	1.60	0.45	1.59	1.48	2.83	0.00
Overall AD	2.00	1.02	1.01	1.94	1.83	0.39	1.79	1.92	0.31	1.73	1.76	2.86	0.00

Notes: [&]A (>3.5); B (3.0 ≤ CGPA ≤ 3.5); C (CGPA < 3.0); [#]Note on Cheating: D: Unlawful utilization of materials during test/examination; E: Copying other student's answer(s) in test/examination; F: Outsourcing of academic work (s); [@]Note on Forgery: G: Forging signature on attendance list; H: Forging signature on official document(s) for academic advantage

Table IV.
Academic dishonesty across demographic

sample stood at 2.00 which is well below the scale average. Plagiarism is the most prevalent committed AD activity (2.88), corroborating earlier evidence that plagiarism is unexceptional (Abdolmohammadi and Baker, 2007; Ellery, 2008), followed by free ride (1.79), cheating (1.72) and forgery (1.64). The aggregate AD practices score is statistically indifferent across gender and year of study but not in academic performance. The ANOVA result provides a small *p*-value ($p < 0.00$) which subsequent LSD test results suggest that students in weak performance group (CGPA < 3.0) scored statistically higher AD mean compared to the other two performance groups. The results based on the aggregate AD

score suggest that AD practices are homogenous across gender and year of study but not academic performance.

Whilst there is no evidence of gender differences at the aggregate AD level, further analysis reveals that all AD scores except free-ride are statistically different between male and female. Unlike the results for cheating (male: 1.88, female: 1.63, $p < 0.05$) and forgery (male: 1.83, female: 1.53, $p < 0.5$) where male students scored higher AD than their female counterpart, the result on plagiarism (male: 2.41, female: 3.14, $p < 0.00$) is however inconsistent with the common prediction in prior research utilizing the socialization theory which argues that gender differences will lead to different moral orientation styles to solve moral dilemmas (Nguyen *et al.*, 2008) since women are trained to reason differently on moral issues from a young age compared to their male counterpart (Gilligan, 1982). In the AD context, the theory predicts lower AD engagement since females are more concerned about ethical issues and conservative in their ethical orientation, thereby exhibiting a higher moral development and standards (Suhaiza and Salwa-Hana, 2016).

The heterogeneous results between the aggregate and individual AD in gender context reflect the need for careful interpretation for meaningful comparison with prior results. The findings indicating no gender effect on aggregate AD and free-ride are consistent with prior results (Jurdi *et al.*, 2011; Storch and Storch, 2001; Muñoz-García and Aviles-Herrera, 2014). The result on plagiarism is consistent with finding from a prior Malaysian study by O'Leary and Mohamad (2006) in the case of exam cheating but in contrast with evidence found suggesting plagiarism is more prevalent among male compared to female students (Smith *et al.*, 2007; Underwood and Szabo, 2003). The results on cheating and forgery are consistent with accumulating international evidence (Ballantine *et al.*, 2014; Brown and Choong, 2003; Devonish *et al.*, 2009) which suggest lower ethical conducts among male students.

In terms of year of study, the results indicate that all AD scores are statistically indifferent between the two groups except for plagiarism whereby senior students scored higher AD compared to their juniors (≥ 3 Year: 3.19, < 3 rd Year: 2.41, $p < 0.5$). This contradicts the common theorization in prior cognitive moral development research suggesting that moral reasoning scores increases with age, implying that older persons are less inclined to act unethically compared to younger individual (Wimalasiri, 2001). In the AD context, the theory predicts mature students to perceive AD as more unacceptable since they tend to become more ethically minded (Franklyn-Stokes and Newstead, 1995). Accordingly, the result on plagiarism contradicts findings obtained by prior research (Conroy and Emerson, 2004; Tse and Au, 1997) but in consistent with evidence obtained by a Malaysian study (Ahmad *et al.*, 2008) and other prior international research (Devonish *et al.*, 2009; Muñoz-García and Aviles-Herrera, 2014).

With regard to academic performance, the results are observably homogeneous across all AD types and on aggregate AD level whereby AD scores for academically weak students (CGPA < 3.0) are statistically higher ($p < 0.00$) compared to other performance groups. This is consistent with international evidence (Bloodgood *et al.*, 2008; Brown and Choong, 2003; McCabe and Trevino, 1997; Smith *et al.*, 2007) which support the notion that academically weak students have lower ethical orientation and thus engaged more in AD activities. The results are also consistent with findings obtained by prior research exploring AD antecedents which indicates that pressure for good grades constitute the main reason for student's AD practices and intentions (Franklyn-Stokes and Newstead, 1995; Rettinger and Jordan, 2005) as it constitutes a strategic mechanism to reduce tensions associated with pressures arising from academic failure (Ma *et al.*, 2013).

Overall, the varying results documented above reflect diverse AD practices among the accounting students surveyed, suggesting varying demographic dimensions do shape accounting students' AD practices. The descriptive statistics presented above suggest that

all AD practices considered are on average, sporadic in nature as the calculated mean score is well below the scale average of 3.0 indicating students' infrequent engagement in such academic integrity destroying activities. This is consistent with prior evidence of high scores in moral awareness among Malaysian students provided by [Ishak and Hussain \(2013\)](#). However, the average score for plagiarism is alarmingly beyond average for female, senior and academically weak students. These evidently indicate potential proliferation of this AD type in the future should appropriate mitigating plans are not effectively executed.

4.4 Investigating the role of *taqwa* on academic dishonesty practices

Piety measurement in this research is based on two religiosity proxies of university type and IBRI. The score results on the latter are presented in [Table V](#), which indicate an overall piety score of 4.53 which is well above the scale average. The calculated means are however not significantly different between U-1 and U-2 ($p > 0.10$) suggesting homogenous piety level among students in both universities regardless of the prevailing religious orientation and emphasis. This indicates the inability of observing different measured impact of mandating Islamic orientation on university environment, specifically with regards to students' piety. One plausible reason for this is the fact that majority of the respondents are Malay students who are automatically Muslim by virtue of the Malaysian Constitution. They have been exposed to the same level of religious education during their primary and secondary schools, the impact of which could be seen in their religious knowledge and practices, leading to almost the same piety level. Additionally, religious orientation in U-2 could possibly be on administrative policies which have not been fully internalized by the students. Analyzing the individual IBRI items between the two universities however reveals that 70 per cent (10 out of 14) of the *ibadah* considered are statistically different, indicating significant variations in religious practices among students in the two universities surveyed.

The piety is further classified into high (piety mean ≥ 4) and low (piety mean < 4) in facilitating more refined analyses. Such threshold is premised on the fact that 4 out of the scale of 6 is a reasonable limit for the lower and higher religious practices and hence piety. [Table VI](#) presents basic descriptive statistics of the aggregate piety as well as each piety

No.	Piety Item	Overall	Mean		p-value	Med.	Var.	SD
			U-1	U-2				
1	Daily obligatory prayers	5.31	5.40	5.23	0.09	5	0.68	0.82
2	Daily voluntary prayers	4.17	4.02	4.31	0.03	4	1.26	1.12
3	Obligatory fasting	5.44	5.66	5.21	0.00	6	0.72	0.85
4	Voluntary fasting	4.08	3.86	4.27	0.00	4	1.11	1.05
5	<i>Sadaqah</i>	4.31	4.19	4.41	0.07	4	1.02	1.01
6	Covering <i>Aturah</i>	5.03	4.87	5.18	0.01	5	1.01	1.00
7	Reciting <i>Quran</i>	4.72	4.67	4.77	0.38	5	1.03	1.02
8	Daily <i>Zikir</i>	4.55	4.50	4.60	0.44	5	0.96	0.98
9	Daily repentance	4.08	4.05	4.10	0.69	4	1.31	1.15
10	<i>Solat</i> in congregation	3.73	3.53	3.91	0.01	4	1.32	1.15
11	Observing <i>Sunnah</i>	4.37	4.40	4.34	0.58	4	0.99	0.99
12	Telling/Speaking truth	4.43	4.56	4.32	0.04	4	0.93	0.96
13	Observing Trust	4.75	4.93	4.59	0.00	5	0.90	0.95
14	<i>Da'wah</i>	4.43	4.60	4.27	0.01	4	1.09	1.04
	Overall Mean: IBRI	4.53	4.52	4.54	0.80	5	0.45	0.67

Table V.
Descriptive statistics
on religious practices
(IBRI)

Profiles	N	Piety (IBRI) Aggregate		Piety (IBRI) [Low (< 4)]		Piety (IBRI) [High (≥ 4)]		N (%)	
		Mean	p-value	Mean	p-value	Mean	p-value		
All University	275			3.47		52 (19)	4.76	223 (81)	
U-1	129	4.52	0.80	3.38	0.19	24 (46)	4.78	105 (47)	
U-2	146	4.54		3.55		28 (54)	4.75	118 (53)	
<i>Gender</i>									
Male	98	4.38	0.01	3.35	0.09	23 (44)	4.70	75 (34)	
Female	177	4.59		3.56		29 (56)	4.80	148 (66)	
<i>Year of study</i>									
<3rd Year	110	4.62	0.04	3.64	0.06	17 (33)	4.80	93 (42)	
≥3rd Year	165	4.45		3.39		35 (67)	4.74	130 (58)	
<i>Current CGPA</i>									
>3.5	45	4.51	0.12	3.39	0.04	8 (15)	4.75	37 (17)	
3.0 ≤ CGPA ≤ 3.5	140	4.58		3.62		26 (50)	4.79	114 (51)	
CGPA <3.0	90	4.28		3.28		18 (35)	4.72	72 (32)	

Table VI.
Analysis on piety (IBRI) (high–low) across demographic

category (high and low) analyzed across the demographic dimensions. It indicates that a sizeable number of students (223: 81 per cent) falls under high piety category and this is consistent across both universities. At the aggregate level, the results reveal that piety is blind to university type and academic performance. Female and junior students are however statistically more pious than their male and senior counterparts ($p < 0.05$).

Analyzing the data on the basis of high and low piety provides further insights on religiosity. High piety group based on the sample is populated by students from U-2 (118: 53 per cent), female (148: 66 per cent), seniors (130: 58 per cent) and those in the second performance band (114: 51 per cent). This is consistent with the existing theoretical propositions related to universal maturational changes in adult personality (McCrae *et al.*, 1999) and religiosity (Argue *et al.*, 1999) which theorized to grow in tandem with age because of the cognition or awareness of the divine and faith. The result on gender is also consistent with prior findings (Feltey and Poloma, 1991; Levin and Taylor, 1993) which indicate relatively higher piety among women because of among others their different moral development phases, life experience, biology, roles and attitude compared to men (Trzebiatowska and Bruce, 2012).

4.4.1 Piety based on university type. The results comparing piety to AD are tabulated in Table VII. Interestingly, the average AD score on the aggregate basis for U-1 (1.91) is lower than U-2 (2.09) but the scores are however statistically indifferent ($p > 0.10$). Analyzing AD scores individually adds more to such perplexing religious reality as all results except for plagiarism indicate that students in religious oriented university (U-2) committed more AD practices than their non-religious counterpart (U-1) which scores are statistically different ($p < 0.00$). This suggests the inability of religious environment to insulate the students from engaging in AD practices, thereby contradicting the prevailing maintained priori expectation in the Islamic scriptures that *taqwa* shields individuals from academic malaise particularly AD.

The only comforting result however is on plagiarism in which AD score is statistically lower for religious oriented university *vis-à-vis* its non-religious counterpart (U-1: 3.19, U-2: 2.61, $p < 0.00$), confirming partly the research priori expectation that religious environment

AD types	U-1	U-2	<i>p</i> -value	Mean (AD)		<i>p</i> -value
				Piety (IBRI) [Low (<4)]	Piety (IBRI) [High (≥4)]	
(1) Plagiarism	3.19	2.61	0.00	3.60	2.71	0.00
(2) Free-Ride	1.60	1.93	0.03	2.52	1.61	0.00
(3) Cheating						
Unlawful utilization of materials during test/examination	1.49	1.85	0.01	2.40	1.51	0.00
Copying other student's answer (s) in test/examination	1.74	2.05	0.03	2.63	1.73	0.00
Outsourcing of academic work (s)	1.37	1.75	0.01	2.33	1.39	0.00
Overall: Cheating	1.53	1.88	0.01	2.46	1.55	0.00
(4) Forgery						
Forging signature on attendance list	1.36	2.00	0.00	2.40	1.53	0.00
Forging signature on official document (s) for academic advantage	1.24	1.87	0.00	2.25	1.42	0.00
Overall: Forgery	1.30	1.94	0.00	2.33	1.48	0.00
Overall: AD	1.91	2.09	0.14	2.74	1.84	0.00

Table VII.
Specific committed AD vs Piety (university type and IBRI: High–low)

which pillars individual piety development helps to improve appropriate moral reasoning in repudiating AD practices particularly plagiarism. This is consistent with international evidence obtained in prior research (Conroy and Emerson, 2004; Hongwei *et al.*, 2017; Rettinger and Jordan, 2005), suggesting positive impact of religion on individual ethics. The results on free ride, cheating and forgery which indicate higher AD practices committed by pious students are also in line with prior evidence (Mustapha *et al.*, 2016; Quah *et al.*, 2012; Rawwas *et al.*, 2006) suggesting religion's inability to influence student's ethics and hence their AD practices.

4.4.2 Piety based on ibadah-based religiosity inventory. Comparing the AD scores using the high and low IBRI thresholds provide more theoretically aligned results. As expected, all AD scores at both the aggregate and individual levels are found to be statistically higher among students in lower piety threshold ($p < 0.00$). This represents fresh evidence based on a Malaysian sample that piety insulates Muslim students from engaging in academic misconducts. The results also suggest that piety measurement matters in evaluating precisely its impact on various observable consequences including AD as different piety proxies provide competing results as evidenced by the above findings. Further analyses across demographic dimensions as presented in Table VIII indicate that all AD scores are statistically lower ($p < 0.05$) among students with higher piety level, confirming the earlier findings reflecting the theoretical proposition that Allah fearing individuals would engage in less AD practices.

The analysis results comparing AD and piety using both piety proxies suggest that findings are sensitive to different piety measurement. Comparing the aggregate AD scores between U-1 and U-2 controlling for the demographic characteristics suggests piety's limited role in influencing students' AD practices. Majority of the results even suggest poor practices by students in religious oriented university. A more refined piety measure using

Table VIII.
Overall committed
AD vs Piety
[university type and
IBRI (high–low)]
across demographics

Profiles	N	Mean (AD)			Mean (AD)		p-value
		U-1	U-2	p-value	(IBRI) [Low (<4)]	(IBRI) [High (≥4)]	
All	275	1.91	2.09	0.14	2.72	1.84	0.00
University							
U-1	129	N/A	N/A	N/A	2.15	1.86	0.01
U-2	146	N/A	N/A	N/A	3.22	1.82	0.00
Gender							
Male	98	1.95	2.03	0.72	2.71	1.79	0.00
Female	177	1.90	2.13	0.10	2.74	1.86	0.00
Year of study							
< 3 rd Year	110	N/A	1.87	N/A	3.11	1.64	0.00
≥ 3 rd Year	165	1.91	2.77	0.00	2.54	1.98	0.00
Current CGPA							
> 3.5	45	1.97	1.83	0.72	2.44	1.73	0.05
3.0 ≤ CGPA ≤ 3.5	140	1.84	1.94	0.48	2.47	1.76	0.00
CGPA < 3.0	90	2.01	2.52	0.05	3.22	2.02	0.00

IBRI however provides more theoretically aligned results as students with higher calculated piety level demonstrate lower AD practices. The assumption that religious orientation reflects student's piety could be argued as a crude measure which creates unnecessary "noise" to the analysis. Alternative explanation could be similar to [Brown and Choong \(2003\)](#) that religious orientation in U-2 might provide selective effect on some students' values, but not with respect to their academic integrity.

5. Conclusion

Academic is arguably not immune to dishonesty which myriads of acts are part of the many malaise in academic. Dishonesty in academic constitutes multitudes of egregious violations of academic integrity which pillars including that of ethics and morality. A review of published literature features persistent gaps in the existing knowledge frontier with regards to the magnitude of AD particularly in light of different religious environment among accounting students which ethics and trust are the cornerstone of the course. Such scenario is empirically perturbing given the strategic role of religion in guiding individual's ethical conducts. In the specific context of Islam, AD practices should rightfully be contained by the attainable piety level. The maintained priori religious expectation is that piety should shield individual students from engaging in AD practices. Forming part of a larger research on academic integrity among future members of the Malaysian accountancy profession, this exploratory research examined two specific research issues, which results are relevant to public policy formulation and future academic research in the area of accounting education, specifically academic integrity.

The results in general point to the fact that AD practices among the accounting students surveyed are still within the safe and non-disturbing limit with an overall mean value of 2.00 which is well below the scale average. Notwithstanding the tepid nature of AD practices observed in aggregate, institutions of higher learning should be concerned with the relatively high AD score on plagiarism. Universities should therefore consider mandatorily using the necessary technological products to counter such integrity destroying practices by subjecting all written assignments to anti-plagiarism detection software. Finally, the results

on piety which form the crux of the research paint diverse yet perplexing colors to the AD and piety literature. Whilst the evidence based on IBRI strongly support the priori expectation outlined in the Islamic scriptures, the same could not be supported when piety is measured crudely using religious orientation and environment. This highlights the imperative of appropriately measuring piety in future religious based research.

Given the results on self-reported AD practices presented above, the need for balanced and comprehensive religious based strategies that effectively cover deterrence, detection and appropriate punishment could not be overemphasized. Specifically, universities are recommended to embark on religious based educational and rehabilitative sanctions as opposed to punitive action in isolation. In so doing, it should ideally educate students on the nature and importance of academic honesty whilst providing supportive and conducive academic environment to improve students' ethical sensitivity. Internalization of Islamic values among Muslim students should also be prioritized, placing *taqwa* at the forefront of the crusade against academic malaise particularly AD. This is consistent with the recent call for the embedment of virtues in reforming the accounting profession (Lail *et al.*, 2017) which should ideally be done at the accounting academic level.

The research practically suffers from at least two apparent limitations. First, it relies on self-reported data, which truthfulness could not be verified. Second, the imbalance of respondents that skewed towards female effectively drives the results and potentially created unnecessary "noise" in the analysis. These however represent promising areas for future research. Overall, this research enhances the accounting academic integrity literature and hence our understanding on the unique role of Islamic piety in shaping accounting students' AD practices in Malaysia.

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