

**Working Paper Series**

# Academic Dishonesty in Egypt

A Nation-wide Study of Students in Higher Education

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## **Abstract**

Academic dishonesty (AD) is an ongoing concern for authorities in higher education, where its importance is manifested in two folds. First, AD negatively affects the integrity and quality of research of individuals and institutions; and secondly it negatively affects the honesty level of the youth with far-reaching consequences for ethics and performance. Although AD is a challenge for all societies, there is strong evidence that developing countries are more prone to suffer from AD than developed countries. This exploratory paper follows similar studies for other countries, addressing the dimension of AD within higher education in Egypt. The results confirm significant levels of AD, with the top practice being to work cooperatively on individually assigned tasks. Interestingly, there are differences between the faculties, but not between public and private institutions. Management students, for example, showed by far the highest willingness to cheat on exams or to plagiarize.

## **JEL classification**

I20, I23

## **Keywords**

Academic dishonesty, higher education, Egypt

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## **1 Introduction**

Academic dishonesty (AD) is a highly important and frequently investigated topic within higher education worldwide. AD is perceived as a negative behavior that assaults the integrity of an institution, and that degrades and diminishes the character of future graduates (Staats, Hupp and Hagley, 2008:357). Nonetheless, AD's importance is manifested more within the developed countries shedding more light on the matter and investigating it rather than in developing countries (Lin and Win, 2007:85-86). The importance of addressing AD amongst students in general and more specifically in developing countries; e.g. Egypt; is that today's current students constitute tomorrow's workforce and the prevalence of AD would be reflected in the careers, future jobs and further performance of the national economies, corruption levels, as well as the future of research and education for the coming generations.

The purpose of this research is to conduct a nation-wide descriptive survey identifying the prevalence of AD in the Egyptian higher-education context amongst students. Such purpose is attained through addressing five sub-variables; namely gender, age as identified by class ranks or grades (freshman, sophomore, junior, senior and graduating), schools types (public vs. private universities), GPAs (fair, good, v. good and excellent), and school type (business, engineering, pharmacy, science and medicine).

## **2 AD and Related Literature**

### **2.1 AD Definition**

AD (AD) is a controversial topic that has occupied a wide area of researchers' discussion for many years. AD has been defined by Lambert, Ellen and Taylor (2003) as behavior that violates the submission of work for assessment that has been produced legitimately by the student who will be awarded the grade, and which demonstrates the student's knowledge and understanding of the context or processes being assessed. The most well known types of AD are cooperating and working with others on individual homework obtaining some information about a test from someone who already took it, and/or using few sentences without proper acknowledgment (Brown, 1996; Kidwell, Wozniak, and Laurel, 2003). According to Swift and Nonis (1998) some students may engage in one or more of these cheating practices (Eastman, Eastman and Iyer, 2008).

AD has several definitions, yet the most common focuses on the notion of undertaking plagiarism in an academic environment; hence it's imperative to define plagiarism by turn. For instance the American Heritage Dictionary (2000) defines plagiarizing as "using and sharing someone else's ideas as if it's one's own work". Random House Webster's Unabridged Dictionary (2006) defines plagiarism as the use or replication of the language and ideas of another author and the representation of them as if he is the original owner. Kibler (1993) had provided a rather wide scope for defining AD as receiving unauthorized and unacknowledged assistance, and he extended AD to include giving assistance in academic activities. As well Claxton (2005) defined AD as fabricated and falsified research findings, lack of proper data handling and record-keeping, deceitful data, made-up data, in addition to lack of acknowledgment to the original source. Added to these could be any endeavor or negligence that might affect the validity and reliability of a study (Akbulut, Sendag, Birinci, Kihcer, Sahin and Odabasi, 2008).

Further AD can be committed in many different ways (Sims, 1993; Tom and Borin, 1988). First, submitting other people's work as if it's one's own work this can be alienated into getting credit for work done by another student, using words from a book without giving proper recognition for the author, taking a paper from another student and resubmitting it as if its one's own work, and submitting a paper that is originally bought from a commercial firm. The second type of AD entails fabricating information, as for instance the bibliography of a paper. The third type of AD is shown in the misrepresentation of one's amount of effort,

such as doing less than the agreed upon share in a group project and or turning in the same paper in more than one course. The fourth and last type of AD is writing a paper or doing work for others (Campbell, Swift and Denton 2000). Across literature, researches had identified the earlier classification holistically as cheating likelihood (Smith, Davy, Rosenberg and Haight, 2002; Buckley, Wiese, and Harvey, 1998; Crown and Spiller, 1998).

Throughout this study, the adopted AD definition is Claxton's (2005) as it is strongly supported by many scholars in their literature which encompasses plagiarism, cheating on test, cheating on assignment and falsifying documents. Thus after presenting clear and extensive understanding for AD it becomes crucial to identify the factors that influence its occurrence. An example for such factors as stated by McCabe and Trevino (1997) are age, gender and GPA that are categorized as individual characteristics, also peers and apparent penalties for AD that are categorized as contextual factors (Eastman, Eastman and Iyer, 2008).

## **2.2 AD and Age**

The literature is abundant with studies that have tackled the impact of age on cheating behavior. Many recent studies have supported the idea that age is considered a significant predictor of cheating and have affirmed that the frequency of cheating among young student is much higher than their older peers (Diekhoff, LaBeff, Clark, Williams, Francis, and Haines 1996; Graham, Monday, O'Brien, and Steffens 1994; Haines, Diekhoff, LaBeff, and Clark 1986). Thus, it is possible to presume that age has a considerable negative effect on prior cheating and likelihood of cheating (Smith et al. 2002).

Many researchers have shown that upperclassmen cheat less than lowerclassmen or in other words younger immature students are more likely to cheat than older mature students; (McCabe and Trevino, 1997; Allmon, Page, and Roberts, 2000; Park, 2003; Straw, 2002). Also, Lambert et al. (2003) argued that older students perceive AD scenarios as severe offenses, and according to Kuther (2004) they even have a bigger ethical dilemma than freshmen with professors who ignored cheating acts (Eastman, Eastman and Iyer, 2008). Though the opposite was presented by Marsden, Carroll and Neill (2005:6), showing that first-year students were the students that have the lowest probability to commit AD in terms of cheating and plagiarism if compared to all other years of study. In other research it wasn't clear as Wajda-Johnston, Handal, Brawer, and Fabricatore (2001) argued that severity of dishonest behaviors in their study were inconsistent across year levels and can't be accurately

identified.

### **2.3 AD and Gender**

Gender-related research within different areas, including AD has been extensively studied but with many conflicting findings. For instance, Crown and Spiller (1998) showed conflicting outcomes in their review of 18 prior studies. Six studies have shown that males cheated considerably more than females, two studies presented contradicting results showing that females cheated more than males, and in the remaining ten studies no considerable gender differences were found. Whitley (1998) has pointed out to an important factor which is the method of reporting or investigating about cheating, noting that reported differences between genders have been much larger in survey research, if compared to reported research findings conducted in classrooms, observations or laboratories.

Research indicated that there are two counter views in relevance to gender and AD. On one hand, McCabe and Trevino (1997) showed in their research that the level of AD for men is much higher than women. Again Buckley, Wiese, and Harvey (1998) found that men are more likely to engage in unethical behavior. Further to that Lambert et al (2003) discovered that females perceive scenarios of AD as severe cases of cheating. On another hand, Leming (1980) argues that women may even cheat more than men under a low risk condition and their degree of cheating in fact differs with the level of risk and punishment existing (Eastman, Eastman and Iyer, 2008). This was also supported by Whitley and Keith-Spiegel (2001) Showing that women may have a more negative attitude toward cheating yet they are more likely to commit AD. Further Smith, Ryan, and Diggins (1975) argued that male students are more likely to admit cheating than female students as they feel less guilty in doing so. Based on such contradicting findings, gender as a variable affecting AD becomes a highly appealing topic for further study. Accordingly, gender is considered one of the possible explanations of prior cheating and likelihood of cheating.

### **2.4 AD and Potential Future Consequences**

Cheating behavior among different college students is of growing concern to both academics and researchers, which is witnessed in accelerated trends of research especially in recent years (Crown and Spiller 1998; Whitley 1998; Diekhoff, LaBeff, Clark, Williams, Francis, and Haines, 1996; Davis, Grover, Becker, and McGregor, 1992). In further analysis to student cheating behavior Baird (1980) argued that business students cheated more than

non-business students, based on the students' self-reported behavior. And that they are more tolerant of unethical behavior than their non-business peers. This argument was in fact consistent with Crown and Spiller's findings (1998) based on their literature on business ethics. Also with Marsden, Carroll and Neill (2005) who highlighted a significant differences among students from different faculties showing that students from business schools were the first on the list when it comes to committing AD, followed by engineering, science and then humanities. Whereas other studies found that the type of courses taken has a strong effect on committing cheating were students who study scientific and technological courses were more likely to cheat if compared to students from other disciplines.

Cheating behavior is decisive for business schools as it seems to mirror the potential ethical problem in the business community (Chapman, Davis, Toy, and Wright, 2004; Kidwell et al., 2003). The real problem is that some students may assume that people in the business community act unethically, and by turn they might also act unethically in business with an assumption that this will help them get promoted (Lawson, 2004). This again supports the argument that people who cheat in college probably will cheat on their jobs (Swift and Nonis, 1998; Eastman, Eastman and Iyer, 2008).however in other researched it was shown that

The main concern for most of the business professionals, academics and researchers is whether this negative behavior would be passed on to the students' professions. This is considered of high concern as for instance people used to hire accountants who are assumed to perform their job with the highest degree of honesty and integrity. The public in fact relies on accountants in their investments, taxes, and in general to protect them from potentially destructive financial and legal mistakes (Flesher, 1996). This concern appears to be highly critical, since the Ethical Resource Center (ERC) reported that one third of workers reported doing ethical misconduct in the workplace (Thompson, 2000). Unfortunately, it was proven in previous research that cheating in the past could be a strong predictor of future cheating behavior (Davis and Ludvigson, 1995). Furthermore, it is stated that there is a correlation between past unethical behavior in college and consequent unethical behavior in the workplace (Crown and Spiller, 1998). Such unethical behavior is considered of great consequences especially for business graduates (Flesher, 1996). According to Brown (1995) both graduates and undergraduate business students seem to have almost the same ethics, but graduate students suppose their behaviors are more ethical (Eastman, Eastman and Iyer, 2008)

Because of the wide spreading of ethics scandal in different businesses, governments and even media, attention has been paid to the role of higher education and whether it succeeds in its main role which is nurturing and promoting ethical behavior among students or not. On further investigations, the ERC pointed out that the main cause of these scandals was the lack of ethics, thus it is possible to say that beside diffusion of knowledge, higher education is also responsible for their students' ethical and moral advancement (Coalter, Lim and Wanorie, 2007). As based on different researches there is a relationship between students' ethical behavior in the business community, and the learned ethical behavior in the classrooms (Lawson, 2004). This all shows the actual increasing need for business schools to tackle the problem of AD as what students learn in the classroom influence their future expectation of what is considered ethical behavior in their professions (Eastman, Eastman and Iyer, 2008).

### **2.5 AD and Academic Standing**

The relation between AD and academic standing is still under study since most of the previous studies had not reach a consensus about the nature of this relation either on the school level or the university level. Yet, the majority of previous studies argued that students with lower SAT/ACT scores, lower course grades, and lower grade point averages, are more expected to cheat than their peers with higher grades (Crown and Spiller, 1998; Whitley, 1998). Whereas on the university level, researchers found that students with a lower Grade-point average (GPA) are more likely to cheat as they presume that the benefits outweigh the costs if compared to students with a higher GPA (Straw, 2002). Moreover, Williams and Hosek (2003) highlighted the fact that dishonest students are rational, and when they decide to cheat is always based on risk benefits analysis. An example of this, is to cheat in an attempt to achieve higher GPAs in order to join a certain graduate school (Eastman, Eastman and Iyer, 2008). Thus, it is possible to say that there is a negative relation between current academic performance of the student and the probability to cheat. This was also supported by Marsden, Carroll and Neill (2005) stating that students who had lower average grades were more likely to cheat than those with higher grades

Dishonest academic behavior has also been manifested on students who feel the alienation and believe in neutralization. Alienation and neutralization have concerned many researchers for a long time and occupied large areas in research (Crown and Spiller, 1998; Whitley, 1998; Nonis and Swift, 1998). First, alienation can be defined as 'the state of

psychological estrangement from a culture, which includes feelings of powerlessness, social isolation, and the absence of norms' (Seeman, 1991). In earlier studies it was shown that the more the alienation feeling, the more likely the student will cheat (Whitley, 1998; Smith et al, 2002). This means that there is a significant positive relation between cheating and alienation. Second, neutralization could be defined as 'the elimination of guilt feeling or the disapproval from others through justification and rationalizations' (Sykes and Matza, 1957). A student who believes in neutralization appears to support a societal norm, and thus highlights circumstances that allow him to breach that norm (Nonis and Swift, 1998) (i.e. claiming the difficulty of the subject matter and the time as an excuse for committing AD) (Daniel, Blount and Ferrell, 1991). This again removes any sense of guilt for the dishonest action and justifying past dishonest behavior (Nonis and Swift, 1998; Smith et al., 2002)

## **2.6 AD and School Type**

Since cheating prevalence among students in both public vs. private has been a debatable issue and some scholars believe that it mostly concern private university since it harms their reputation and quality (Simkin and McLeod, 2010). However, it seems that they lack concrete data to support this argument. As some scholars have proven that it records no differences, as other factor might be more significant than university type (Blankenship and Whitley, 2000). Nevertheless, other scholars like Brown and Choong (2005) found in their comparison between public and private universities, higher prevalence of AD practices in public if compared to private. This in fact was also support by Chang's (1995) in his study as he confirmed higher frequency in cheating in public universities (Lin and Wen, 2007). As 96 % of total students at the private university and 97 % of the students at the public university committed different forms of AD. In particular, 84 % of the students at the private university and 83 % at public university had asked someone who had formerly taken a test about content covered in it; moreover 77 % of the students in private and 78 % in public had worked in groups on individual projects; whereas for the plagiarized work 61 % in private and 53 % in public did submit a plagiarized work; while for allowing another student to see their exam answers 55 % of the students in private university and 53 % in public did this; 47 % in private and 35 % in public copied from other student paper/exam. Furthermore, 41 % of private university students and 40 % of public used notes during an exam that is not permitted. Undoubtedly, whether at public or at the private university, cheating was found to be rampant. Thus further investigation for private vs. public AD prevalence is needed.

### 3 Methodology

This study had adopted the AD index (ADI) which had been developed and adopted earlier in Lucas and Friedrich's work (2005). The ADI consists of 26 questionnaire items that had been drawn from prior published studies (Koljantic and Silva 2002; Newstead, Franklyn-Stokes and Armestead, 1996) and included further items (Lucas and Friedrich, 2005). All the questionnaire items follow a 5-level Likert-scale, where respondents were asked to give an answer ranging from 1 to 5 (1= Never, 5= Always). The four dimensions of academic cheating had been addressed through the instrument, where they had been shuffled in the empirical study. Such dimensions were cheating on tests, cheating on assignments, plagiarism and falsifying documents. Table 1 shows their distribution. Additional control demographic questions had been added to the ADI instrument, addressing the respondents' age, gender, school type, class ranks, different schools and academic performance to escalate the total questionnaire items to 32.

The number of completed and usable ones after all questionnaires had been collected out reached 420, whereby only 407 had been completed and thus employed in the research. Data collection had extended across the period from May 2010 to Early January 2011. Research was planned to continue for a longer time span, but due to the turbulences that Egypt faced in early January 2011, the research period was cut short. As such, the researchers had refrained from compiling further data afterwards in order to sustain the scope of research and to avoid any variation in the data collected due to the recent events that might have affected the population's concerns and perceptions in relevance to the topic in question.

Concerning the instrument's reliability, internal consistency was assessed where Cronbach alpha of the original questionnaire by Lucas and Friedrich scored a Cronbach Alpha of 0.8 which is deemed significant in social sciences if it exceeds 0.7 (Buunk and Van Vugt, 2009; Lucas and Friedrich, 2005). The reliability of the questionnaire was tested using Cronbach's Alpha and gave a result of 0.921 which successfully assures the reliability of the used questionnaire in measuring the variables under question.

As the instrument was used in the Egyptian setting; an Arabic translation had to be effected for feasibility considerations for the respondents and to increase the response rate. To attain translation verification, double translation was conducted both forwards and back translations by two researchers who are bi-lingual in Arabic and English. Afterwards, a third party had compared both versions and acknowledged that both delivered the same content. Finally, the instrument was tested by ten different random respondents who had confirmed

the clarity and feasibility of the content of the instrument. Such test was both self-administered and followed by an interview to verify the clarity of the translation (Somekh and Lewin 2006; Nasser, 2005).

The study's instrument had been distributed throughout a period of 9 months, extending from May 2010 till January 2011. Four main universities were targeted within Cairo and Alexandria, with the rate of 1 public and 1 private per city. Table 1 illustrates such response rates. The researchers had been to these universities, where students from different schools and class ranks or grades had been sought. To increase the response rate, the instrument had been published on a survey web provider to allow higher accessibility through the following link for the English version:

<http://www.surveymonkey.com/s/BXH63B6>,

as well as for the Arabic version through the link:

<http://www.surveymonkey.com/s/PLHQG8J>.

Further, via the researchers' contacts in the academic setting, currently enrolled university students were emailed with the survey and were asked to forward it to their appropriate contacts within the research sample.

The scope of research was limited from the embankment of the research in May 2010 to the beginning of January 2011 due to circumstance changes in Egypt at the time which might have biased the results. This was done to avoid any variation in the data collection due to the recent events that are expected to have affected the research's concern. Thus, it is recommended for future research to run the study to interpret whether the cultural and ethical dimension that the 25<sup>th</sup> of January 2011 (Egyptian) revolution had postulated on the Egyptian youth was really reflected in their academic integrity and behaviors or not. By comparing a similar study post-revolution to this one, the social and educational consequences of such revolutions in the Arab Spring can be tested.

#### 4 Findings and Discussion

SPSS version 19 had been employed in processing the data gathered by this instrument. As this research's objective is mainly descriptive in terms of grasping an understanding of the prevalence of the AD phenomenon, descriptive and frequency analysis was employed. In addition, cross-tabs and chi-square tests were employed to test for the different control variables and whether any of them had had an influence on AD; and if such influence exists study its further significance.

The demographic information found was as follows: Approximately 36% were male students, 64% were female students. Of these participants, 60% were from public universities and 40% were from private ones with 40% from Cairo and 60% from Alexandria. These ratios are considered to be representative for the Egyptian educational system. The emphasis was placed on Cairo and Alexandria as the higher educational system is concentrated on these two cities.

On one hand, analysis of the collected data showed that the top five most academic dishonest practices of college students in Egypt in descending order were: "allowing own coursework to be copied", "turning someone else's answers in as own work", "altered/changed data", "doing another student's coursework for them" and finally "signing for someone on an attendance sheet or having it done for you". On another hand, the five least practices were found to be "taking an exam for someone else", "having someone else take an exam for you" "changing your grade by covert means", "Taking unauthorized material into an exam" and finally "Turning in the same paper for two classes without the instructors approval". Thus, on first glance the major two areas of dishonest practice in Egypt are cheating on assignments and plagiarism while cheating on tests is rarely practiced.

Concerning cheating, 66.9% of the respondents never arranged with other students to exchange answers during an exam, and a similar percentage (57.0%) never compared answers with other students during exams. Furthermore, 92% never sent someone else to take an exam for them nor took an exam for someone else. Regarding cheating on assignment, it was found that 6.9% of the respondents always submitted the answers of someone else as their own. A further 10.1% used this practice frequently, 28.0% sometimes, and only 29.2% never did.

Concerning the plagiarism category "dishonest behavior", 50.6% of students never paraphrased material from a book or article without identifying its source, while 5.9% frequently and 2.9% always did so. Only 60.0% of respondents stated that they never invented data. Only 27.5% of respondents never allowed their own coursework and

assignments to be copied. For other behaviors such as falsifying documents, approximately 72.5% of respondents stated that they never fabricated references, while 40.0% stated that they never altered or changed data. Ensuring articles were not available to others was one of the least practiced dishonest behaviors with 74.7% of respondents stating that they never did so. Less than half of the respondents, representing 48.4%, never signed an attendance sheet for someone else nor had it done for them, while 23.8% sometimes did so, 4.4% always did so, and 5.7% frequently did so. Finally, a large portion of respondents approximately 95.1% never changed their grades by covert means.

With regards to t-tests, table 1 shows significance levels found between individual ADI categories and Gender, School (business, science and medicine) and University types (whether Public or Private). The tests showed strong significance across all aspects of ADI with regards to gender. Similar results were found showing significance across all aspects of ADI (save for plagiarism) with regards to university type and location.

**Table 1: T-Test Significance Results of ADI Categories with Gender, Location and University Type respectively.**

T-Test Pair	t	Df	Sig. (2-tailed)
ADI of Cheating on Exams and Gender	4.920	405	.000
ADI of Cheating on Assignments and Gender	3.587	405	.000
ADI of Plagiarism and Gender	3.269	405	.001
ADI of Falsifying Documents and Gender	2.924	405	.004
ADI of Cheating on Exams and Location	5.362	405	.000
ADI of Cheating on Assignments and Location	3.700	405	.000
ADI of Plagiarism and Location	1.663	405	.097
ADI of Falsifying Documents and Location	2.806	405	.005
ADI of Cheating on Exams and University Type	-4.246	405	.000
ADI of Cheating on Assignments and University Type	-3.174	405	.002
ADI of Plagiarism and University Type	-1.801	405	.072
ADI of Falsifying Documents and University Type	-2.696	405	.007

With regards to individual inter-faculty testing, t-tests were run to evaluate the ADI of our four AD indexes across the samples collected from each school. This was done by filtering out each school's responses, then testing them with ADI and Gender, University Type and Location respectively. The following tables 4, 5 and 6 show the significance levels found for each school. Other results were not found to be significant in any of the other schools with regards to gender. None of the ADI results within any of the schools showed significance with regards to university type and location.

**Table 2: T-test results of Faculty of Business: ADI and Gender**

	Gender	N	Mean	Std. Deviation	Std. Error Mean	T	df	Sig. (2-tailed)
Cheating on Tests	Male	51	14.5098	5.79784	.81186	3.616	128	.000
	Female	79	11.5190	3.64045	.40958			
Cheating on Assignments	Male	51	11.5098	4.15871	.58234	4.070	128	.000
	Female	79	8.9114	3.10578	.34943			
Plagiarism	Male	51	8.3529	2.87627	.40276	2.185	128	.031
	Female	79	7.3291	2.42170	.27246			
Falsifying Documents	Male	51	16.1373	5.38152	.75356	3.099	128	.002
	Female	79	13.5823	4.00195	.45025			

**Table 3: T-test results of Faculty of Medicine: ADI and Gender**

	Gender	N	Mean	Std. Deviation	Std. Error Mean	T	Df	Sig. (2-tailed)
Cheating on Tests	Male	25	12.6400	5.93633	1.18727	3.185	53	.002
	Female	30	9.0333	1.67091	.30507			
Cheating on Assignments	Male	25	8.9200	2.53180	.50636	.847	53	.401
	Female	30	8.3667	2.31164	.42205			
Plagiarism	Male	25	6.9200	2.08006	.41601	.581	53	.564
	Female	30	6.6000	1.99309	.36389			
Falsifying Documents	Male	25	13.2400	3.03150	.60630	.371	53	.712
	Female	30	12.9333	3.07306	.56106			

**Table 4: T-test results of Faculty of Science: ADI and Gender**

	Gender	N	Mean	Std. Deviation	Std. Error Mean	T	Df	Sig.(2-tailed)
Cheating on Tests	Male	32	11.7813	4.09354	.72364	2.263	149	.025
	Female	119	10.1933	3.35796	.30782			
Cheating on Assignments	Male	32	9.5313	4.05593	.71699	1.140	149	.256
	Female	119	8.8151	2.86997	.26309			
Plagiarism	Male	32	8.3750	3.06647	.54208	2.152	149	.033
	Female	119	7.2773	2.41087	.22100			
Falsifying Documents	Male	32	15.7188	5.83778	1.03198	2.725	149	.007
	Female	119	13.3950	3.76923	.34552			

The research, conducted using the ADI yielded results that generally support the worldwide trend and results of other researchers, though this research stands to be unique in its focus on the Egyptian higher education system. The findings themselves showed that Egyptian undergraduates, like their peers in other countries, show some level of AD, with some of the top practices being most popular amongst all literature in the field. These practices are, namely, cooperating and working with others on homework, whether by allowing it to be copied or doing it for someone else, with the second being using sentences or extracts from literature without identifying or presenting the proper acknowledgement. Some reasons that these practices are among the most found in Egypt and other countries might be because they are easier to flee with, hard to detect by supervisors, and are very tempting for students since it will get a lot of work done in very little time. More reasons include that these practices are widely popular and therefore have lost the social pressure of being found out and the social peer-to-peer effects and that these practices usually having relatively minor penalties compared to other dishonest practices such as cheating on exams.

Furthermore, the results showed that practices such as taking an exam for someone else or changing one's grades by covert means are not highly popular among Egyptian undergraduates. This may be due to a number of reasons, some of which have to do with having strict rules and supervision during exam sessions, as well as the ability of those who correct the tests to recognize some familiarity among test papers and attempts to cheat. Also in a society that puts a lot of emphasis on social ties and behaviors, it is highly unlikely that someone can enter an exam session to take an exam for someone else without many of those around them recognizing and reporting such an act. In addition, such acts would hold dire consequences for those involved. As for changing grades by using covert means, usually those in charge of grades are usually in higher positions and are well-experienced in securing grades. As well, the use of manual paperwork in tests and the absence of networked databases in many institutions in the grading system minimize the opportunities for hacking or other attempts at changing grades.

To sum up, these two practices are among the least practiced because of the several external environmental factors aforementioned that minimize the ability of a student to successfully attempt or get away with them, and not directly due to the student's integrity and behavior.

Results found across literature in varying countries concluded that age has a negative effect on dishonest practices; but that was not supported in the current research in Egypt. No relation was found between the two, and that it was found that older students were as likely to cheat as their younger peers, and vice versa. Rational explanation for this relation in literature had been attributed to students' maturity, as well as that professors' tendency to ignore some of these practices for younger students. These two factors do not apply so stringently within Egyptian universities and environment. A significant difference between the Egyptian educational system and other countries with regards to age is that Egyptian undergraduates averagely graduate at the age range of 21-24 while in developed countries undergraduates averagely graduate at a higher age range.

The tests showed strong significance levels across all aspects of ADI with regards to gender. To be more specific, the studies showed that gender does in fact play a significant role in AD behaviors, namely cheating on exams, assignments, plagiarism and falsifying documents. Correlation tests showed that females tend to practice academically dishonest behaviors more than males. This may be due to females' belief that they will not be caught due to using more subtle means of practicing AD behaviors, or due to more culturally oriented factors, where it is common for females to be protected within the Egyptian and Middle Eastern cultures. It is more likely that supervisors will let off a female with a subtle warning or with none at all rather than publicly punish a female in the Egyptian and Middle Eastern cultures. These significant results were also clear upon analyzing individual faculties, where faculties of business, medicine and science showed that gender plays a significant role as a factor for at least one of the four dishonest behaviors tested by the index (see tables 4, 5 and 6). Perhaps these figures change upon entry into the working environment where most literature shows that males tend to undergo more unethical practices in the workplace than females, yet this was not measured in the research and cannot be claimed.

Also the Egyptian case was found to be similar to some of the international findings. Namely cheating on exams was found to be more widespread among business students as compared to other faculties. And this was found to apply on both public as well as private institutions. This result confirms the findings from other papers in the field. This finding naturally helps explain why, with regards to corruption, many business students are found to act unethically and in a corruptive manner when they enter the workforce.

As for University Type, being in a Private or Public University, as a factor in AD, it was found to play a significant role as a factor leading to three out of the four academic

dishonest categories. Therefore it can be stated that all categories except plagiarism can be predicted by whether students belong to a public or private university. Correlation tests showed that academically dishonest behaviors tend to flourish in Private Universities as compared to Public ones. These significant results may have to do with the fact that although Private Universities are more strict in their AD penalties and regulations, compared to public universities that do not place such a high emphasis on research for undergraduates, and therefore do not apply strict rules on AD, yet private universities have a financial bias and motivation to avoid publicizing dishonest behaviors or otherwise producing a class result where many students have failed which may affect university standing and therefore have an adverse financial affect on the university. Therefore students in Private Universities feel they have an upper hand or at least an advantage of being protected by the university's fear.

As for University Location, being in a University in Cairo or Alexandria, as a factor in AD, it was found to play a significant role as a factor leading to the same three out of the four academic dishonest categories discussed in the previous paragraph. Therefore it can be stated that all categories except plagiarism can explained by whether students belong to a university in Cairo or Alexandria. Correlation tests showed that students belonging to universities in Cairo tend to practice more academically dishonest behaviors as compared to their counterparts in Alexandria. This may have to do with Cairo being the capital, thus a much more competitive market where students feel the need to come on top of their class mates using any means necessary. Another possibility is that students in cities other than the capital tend to be more conservative in their moral actions compared to capital cities which are livelier, more active and significantly more liberal than smaller cities.

## **5 Conclusions and Further Research**

In conclusion, it can be seen that the topic of AD is very important to be addressed in Egypt as well as in other countries worldwide. Such importance is manifested from the fact that Egypt as a developing country is ranked among the top five countries in terms of economic growth rates in Africa (World Bank, 2010). Another indication of the importance of measuring the integrity of the Egyptian workforce on the international scale is that Egyptian workers can be found to work as expatriates in many countries in the Middle East and North African region equaling approximately four million Egyptians worldwide according to the latest consensus conducted in 2006 (CAPMAS, 2011). Thus these undergraduates represent a key workforce for these countries. Besides having quite a large workforce in the region, Egypt also has a relatively high corruption index rank as measured in 2011; Egypt was ranked as 112 with a rating of 2.9 on a rating of 0-10 having 0 as the most corrupted (Transparency International, 2012). Having such indicators makes Egypt a very interesting specimen for the Human Resources and Organizational Behavior aspects and makes it very important to measure AD of graduates who will become the future workforce coming into the Egyptian economy.

The findings in this research should be appropriately addressed by the educational establishments in Egypt and other developing countries, whether they are governmental, public or private educational institutions or other community improvement programs. Addressing these problems will ensure a well functioning educational system capable of graduating academically honest youth while at the same time curbing the rise in corruption and practices of dishonest behavior.

Future research can begin to measure similar practices among other developing countries in the MENA region with similar Public-Private University distributions and indices. Such research will be useful for comparison purposes and may bring a trend into light. This trend may then be analyzed to provide further knowledge about the reasons behind these practices upon having different countries, where disentanglement can help isolate the factors behind these practices. Also a re-measurement of AD trends on a more regular basis can serve as an indicator on whether any improvements are being made or not, especially post-Arab Spring; considering this research was conducted before such events took place thus their impacts had not been considered. Governments and Universities alike can keep this information as a benchmark when implementing reform policies for the educational sector in

order to figure out which practices are the most binding for AD and to know what most to watch out for.

Finally, any other demographic factors that may have behavioral effects on students such as social class, income distribution, religious affiliations or previous contact with professional work experience can be investigated for significant effects on AD practices. Although this paper has included such factors, we were restricted by criticism in the pilot testing stage as well as many non-responses. This can be mainly attributed to the nature of the Egyptian society, which is not research-oriented.

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**Appendix:**

ADI Questionnaire employed adopted from Lucas and Friedrich's work (2005)

ADI Domain	Questions Addressing Domain
Cheating on Tests	Copied from a neighbor during an examination
	Took unauthorized materials into an exam (e.g., a crib sheet/formula sheet)
	Illicitly gained advance information about contents of an exam
	Arranged with another student to give or receive answers during an exam.
	Compared answers with others during a quiz or exam
	Took an exam for someone else
	Had someone else take an exam for you
	Used a text or notes on a take-home test when instructed not to do so
Cheating on Assignments	Turned in someone else's answers for an assignment or homework exercise
	In a situation where students marked each other's work, came to an agreement with another student or students to mark each other's work more generously than it merited/deserves
	Submitted a piece of coursework as an individual piece of work when it was actually written jointly with another student
	Did another student's coursework for him or her
	Exaggerated a report of your participation in a team project when you did little or no work
Plagiarism	Paraphrased material from a book without acknowledging/identifying the source
	Allowed own coursework to be copied by another student
	Submitted a major project or paper obtained from an outside source (e.g., from friends, other students, or an Internet essay bank)
	Turned in the same paper for two classes without instructor approval
Falsifying Documents	Invented data (e.g., entered nonexistent results into the database)
	Fabricated/created reference or a bibliography
	Altered/changed data (e.g., adjusted data to obtain a significant result)
	Ensured that books or journal articles were unavailable to others in the library by deliberately misshelving/misplacing them or by tearing out the relevant article or chapter
	Lied about medical or other circumstances to get an extended deadline or exemption from a piece of work
	Attempted to obtain special considerations by offering or receiving favors (e.g., bribery)
	Signed for someone on the attendance sheet or had someone sign for you
	Turned in a signed verification form for hours volunteered or worked without completion of those hours (e.g. internship papers)
	Changed your grade by covert means (e.g., "hacking," forgery, replacing exam answers)