

# Learning motivation and student academic dishonesty: A comparison between face-to-face and online courses

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## Abstract

There is a disagreement among researchers in regard to academic dishonesty in online as compared to traditional learning settings. Based on this, the aim of the current study was to investigate the connection between academic dishonesty in the virtual versus face-to face teaching/learning settings in relation to students' learning motivation, while examining the phenomenon from a cross-cultural perspective. The sample consisted of 1,574 participants - 803 from USA and 771 from Israel. The results showed that there are significant differences in students' likelihood to engage in academic dishonesty based on the type of course, such that students in face-to-face courses are more likely to engage in acts of academic dishonesty than their counterparts in online courses. In addition, it was found that students' propensity to engage in academic dishonesty is explained by motivational orientation, type of course, and age. The findings were consistent across student groups in both countries. The phenomenon can be explained by the fact that more intrinsically motivated students self-select online as opposed to traditional classroom courses, and because online instruction facilitates increasing levels of intrinsic motivation.

**Key words:** distance learning, learning motivation, academic dishonesty.

## Introduction

With the rapid growth of distance learning involving the Internet, there is a greater opportunity for individuals to engage in Academic dishonesty and plagiarism, particularly where there is little or no personal contact between students and faculty (Robinson-Zañartu et al., 2005; Walker, 2010). Kelley and Bonner (2005) suggested that students who feel close to their professors tend to be more honest. However, the ability for faculty to develop a strong rapport with students becomes more difficult in the online learning environment. Students who feel "distant" from others are more likely to engage in deceptive behaviors, such as cheating (Burgoon, et al., 2003; Rowe, 2004). Online courses, as contrasted with traditional classroom courses, may serve to exacerbate these feelings of separation and thus, may contribute to the incidence of academic dishonesty (Heberling, 2002; Kennedy, et al., 2000; Stuber-McEwen, et al., 2005). Both students and faculty perceive that cheating is more likely to occur in online rather than face-to-face classrooms (e.g., Grijalva, Kerkvliet & Nowell, 2006; Stuber-McEwen, Wiseley & Hoggatt, 2009).

Conversely, there are some reports suggesting there is less academic dishonesty in online as compared to traditional learning settings. The reason for this latter finding is that academic dishonesty may be associated with the extrinsic motivation that drives students in traditional courses (Greenberger, et al., 2008). Online students may be more intrinsically motivated by being able to learn independent of traditional classroom settings, while this type of motivation could substantially reduce their desire to cheat (Stuber-McEwen et al., 2009).

## Motivation and E-learning

According to Deci and Ryan (1985) there are two types of motivation: intrinsic and extrinsic, which are based on different reasons or goals underlying an action. *Intrinsic motivation* refers to doing something because it is inherently interesting or enjoyable, while *extrinsic motivation* refers to doing something because it leads to an enjoyable but external and separable outcome (Ryan & Deci, 2000). Self-determined motivation was found to be related to more interest, effort, positive emotions, satisfaction, and commitment by students (Ryan & Deci, 2000).

Intrinsic and extrinsic motivations can be viewed as extremes on a continuum with additional types of motivation that vary according to level of self-determination (Ryan & Connell, 1989; Ryan & Deci, 2000). Those are (1) *intrinsic motivation* explained above; (2) *regulation through identification* - this is the most autonomous or self-determined form of extrinsic motivation. Here, a person considers his activity as important and beneficial and he carries it out, although he does not enjoy it; (3) *introjected regulation* - individuals begin to internalize the reasons for their actions, but they do things in order to avoid feelings of guilt or anxiety or to attain ego-enhancements or pride (Moreno-Murcia, González-Cutre-Coll & Chillón-Garzón, 2009); (4) *external regulation* behaviors are performed to satisfy an external demand or to obtain an externally imposed reward contingency (deCharms, 1968); and, finally, *amotivation*, which is external to the motivation continuum, refers to a state where intention to act appears to be absent.

Motivation plays an important role when one chooses to participate in an online course (Moore & Kearsley, 2005; Rovai, et al., 2007) as intrinsic motivation is considered to be a significant predictor of persistence and achievement in distance education (Coussement, 1995; Fjortoft, 1996). In addition, Grolnick and Ryan (1987) found that controlling environments reduce a student's sense of autonomy, decrease intrinsic motivation, and result in poorer performance in the classroom.

George and Carlson (1999) contend that as the distance between a student and a physical classroom setting increases, so does the frequency of cheating. Their assumption, coupled with the belief that academic misconduct is more pervasive in the virtual classroom (e.g. Grijalva et al., 2006; Heberling, 2002; Kennedy et al., 2000; Smith, Ferguson & Caris, 2001), led us to question whether there is (1) a higher incidence of cheating in online courses as compared to traditional on-campus face-to-face courses; and (2) a relation between student's motivation, type of course, and frequency of academic misconduct. Thus, the purpose of this research is to explore the connection between self-reported frequencies of academic dishonesty in the virtual versus face-to-face teaching settings and students' learning motivation. Another purpose is to examine, for the first time, the issue of academic dishonesty from a cross-cultural perspective, i.e., by comparing online and face-to-face students in U.S. and Israeli academic institutions. We hypothesize that Israeli students will report less cheating than their counterparts in USA. This is due to the fact that Israel is high-uncertainty avoidance culture (Hofstede, 2009) in which people are not likely to engage in deviant behavior (Doney, Cannon & Mullen, 1998). Conversely, people in low-uncertainty avoidance cultures, such as the United States (Hofstede, 2009), may engage in deviant behavior, since they tolerate risks easily (Hofstede, 1984). Based on the foregoing, we hypothesize that there will be differences in the level of motivation between students that learn in traditional settings and e-learners in motivation and propensity toward academic dishonesty. Specifically, e-learners will show higher levels of intrinsic motivation and less propensity toward academic dishonesty than learners in traditional face-to-face settings.

## Method

*Participants:* The sample consists of 1,574 participants with 803 from two American academic institutes and 771 from four Israeli academic institutes. 65% of the participants were women and 35% were men. The age ranged from 17 to 59 (mean is 26.4 years). 26% of the participants were freshmen, 32% - sophomores, 20% - juniors, 19% - seniors, and 3% were graduate students. 46% were Christians, 38% were Jews, and 16% were Muslims. 13% of the participants were excluded from the analysis because their surveys were incomplete or carelessly completed. Therefore, the final data set consisted of 1,376 participants.

*Survey Instrument:* A three part survey instrument: part 1 contained 16 items compiled from the Academic Self-Regulation Questionnaire (SRQ-A) (Ryan & Connell, 1989). The questionnaire examines four types of motivation: external regulation, introjected regulation, identified regulation, and intrinsic motivation. The reliability of this questionnaire, measured by Cronbach's alpha, was 0.79.

Part 2 contained questions that examined academic integrity using the Academic Integrity Inventory (Kisamore, Stone & Jawahar, 2007). These questions inquired students' likelihood to engage in various forms of academic misconduct. The instrument was validated by Kisamore et al. (2007) and the reliability of this questionnaire, measured by Cronbach's alpha, was 0.75. Part 3 contained a series of socio-demographic questions.

*Procedure:* In order to encourage the participants to think in the frame of a specific type of course, we administered a printed version of the survey instrument in the traditional face-to-face courses and an on-line version of the survey instrument in the e-learning courses. The survey instruments were coded and grouped according to the location of the participants' college or university (USA or Israel).

## Results

Table 1 summarizes the results of Independent Sample T-test analyses, which indicate that there were significant differences in the level of motivation between students attending face-to-face or e-learning courses. These differences were found for three of the four motivational orientations (introjected, identified, and intrinsic) in the U.S. and for all four orientations (extrinsic, introjected, identified, and intrinsic) in Israel. The findings are presented according to the location of the participants' college or university.

The data in Table 1 indicate that, students in e-learning courses had significantly higher levels of intrinsic motivation than those in face-to-face courses. In the overall sample, there was a statistically significant difference in the level of extrinsic motivation with students in e-learning courses having lower levels as compared to students in face-to-face courses. This difference in level of extrinsic motivation was not found for students in the U.S. In general, no significant differences were found between American and Israeli students in the levels of academic dishonesty.

**Table 1: Differences in motivational orientation by course type and country**

Country	Motivation type	Course type	N	Mean	S.D.	T-Test
USA	Extrinsic	E-learning	287	2.61	0.65	0.023
		Face-to-Face	476	2.61	0.62	
	Introjected	E-learning	287	3.23	0.60	2.727**
		Face-to-Face	477	3.11	0.56	
	Identified	E-learning	287	3.77	0.42	4.827***
		Face-to-Face	477	3.61	0.51	
Intrinsic	E-learning	287	2.82	0.62	9.039***	
	Face-to-Face	475	2.37	0.74		
Israel	Extrinsic	E-learning	293	2.37	0.61	2.138*
		Face-to-Face	316	2.48	0.65	
	Introjected	E-learning	293	2.88	0.61	15.503***
		Face-to-Face	316	2.13	0.57	
	Identified	E-learning	293	3.61	0.54	44.606***
		Face-to-Face	318	1.53	0.61	
Intrinsic	E-learning	293	2.85	0.66	9.784***	
	Face-to-Face	316	2.31	0.70		
Overall Sample	Extrinsic	E-learning	580	2.49	0.64	1.956*
		Face-to-Face	792	2.56	0.64	
	Introjected	E-learning	580	3.05	0.63	8.855***
		Face-to-Face	793	2.72	0.74	
	Identified	E-learning	580	3.69	0.49	19.925***
		Face-to-Face	795	2.78	1.16	
Intrinsic	E-learning	580	2.84	0.64	13.241***	
	Face-to-Face	791	2.35	0.73		

\*\*\*P&lt;0.001, \*\*P&lt;0.01, \*P&lt;0.05

**Table 2: Differences in academic dishonesty by course type and country**

Country	Course type	N	Mean	S.D.	T-Test	F
USA	E-learning	287	2.03	0.83	10.334***	24.351***
	Face-to-Face	468	2.73	0.99		
Israel	E-learning	291	2.33	0.95	2.601*	
	Face-to-Face	311	2.52	0.86		

\*\*\*P&lt;0.001, \*\*P&lt;0.01, \*P&lt;0.05

Table 2 summarizes the results of Independent Sample T-test analyses, which indicate that there were statistically significant differences in students' likelihood to engage in academic dishonesty based on the type of course in which they were enrolled. Specifically, it was found that students in face-to-face courses were more likely to engage in acts of academic dishonesty than their counterparts in e-learning courses. Based on MANOVA analysis we found significant interaction between country and course type ( $F_{(1,1353)}=24.351, p<0.001$ ).

**Table 3: Stepwise Regression analysis – motivational orientation, type of course, and socio-demographic variables as predictors of academic dishonesty**

	Predictors	$\beta$	t	F	R <sup>2</sup>	R <sup>2</sup> $\Delta$
Step I	Country (0=USA, 1=Israel)	-0.089	<b>2.460*</b>	18.719***	0.115	==
	Teaching Method (0=E-learning, 1=Face-to-face)	0.355	<b>7.194***</b>			
	Gender (0=Female, 1=Male)	0.018	0.537			
	Age	-0.106	<b>3.203**</b>			
	Course type (0=Optional, 1=Required)	0.030	0.822			
	Average Grade	-0.085	1.950			
Step II	Country (0=USA, 1=Israel)	-0.105	1.439	12.498***	0.127	0.012
	Teaching Method (0=E-learning, 1=Face-to-face)	0.351	<b>7.009***</b>			
	Gender (0=Female, 1=Male)	0.012	0.367			
	Age	-0.098	<b>2.914**</b>			
	Course type (0=Optional, 1=Required)	0.028	0.786			
	Average Grade	-0.077	1.745			
	Extrinsic Motivation	0.124	<b>3.377**</b>			
	Introjected Regulation	-0.081	1.592			
	Identified Regulation	0.032	0.404			
	Intrinsic Motivation	0.007	0.182			

\*\*\*P<0.001, \*\*P<0.01, \*P<0.05, N=867

Table 3 summarizes the results of a Stepwise Regression analysis used to explain the effect of motivational orientation on academic dishonesty. Likelihood to engage in acts of academic dishonesty served as the dependent variable and motivational orientation along with socio-demographic factors served as the independent variables. The hypothesis that students' propensity to commit acts of academic misconduct would be related to type of course (face-to-face versus on-line) and motivational orientation was supported. In addition, there is a correlation between motivational orientation and academic misconduct ( $r_p=0.115$ ,  $p<0.001$ ), however, when controlling for course type using Partial Correlation Analysis the correlation coefficient is reduced ( $r_p=0.075$ ,  $p<0.01$ ), confirming that course type mediates the relationship between motivational orientation and academic misconduct.

The results of the regression analysis indicate that approximately 13% of the variance in students' propensity to engage in academic dishonesty is explained by motivational orientation, type of course, and age. Specifically, students' likelihood to engage in dishonest acts was found to vary directly with the level of extrinsic motivation and participation in face-to-face courses (as opposed to e-learning courses) and inversely with age. Simply put, the regression results show that the only motivational orientation found to explain students' likelihood to engage in academic dishonesty was the extrinsic motivation. More specifically, the more students are extrinsically motivated, the more likely they are to engage in academic dishonesty. Course type was also found to explain academic dishonesty. According to the results, students in face-to-face courses were more prone to engage in academic dishonesty than e-learners. Finally, age of students was found to explain academic dishonesty, with younger students inclined to cheat more than older students.

## Discussion and conclusion

The results of this study are in accordance with the findings of Greenberger et al. (2008), who suggested that academic dishonesty can be explained by extrinsic motivation. Similarly, our findings indicate that of the four types of motivational orientations, extrinsic motivation is the only type that explains academic dishonesty in sample populations of American and Israeli students.

Furthermore, Stuber-McEwen, et al. (2009) found that there is less overall cheating in the virtual than in traditional classroom settings. They explained that these students may have a higher motivation to learn or able to learn independent of the structure typical in traditional classroom settings, which could substantially reduce their desire to cheat. Our study found that e-learning students manifest significantly higher levels of intrinsic motivation and significantly lower levels of extrinsic motivation than traditional classroom students. Consistent with Stuber-McEwen et al. (2009), we also found that e-learners were less likely to engage in acts of academic dishonesty as compared to face-to-face learners – a finding most likely related to their being more intrinsically and less extrinsically motivated in their course work.

One possible explanation for these results is that more intrinsically motivated students self-select online as opposed to traditional classroom courses. Since less than 6% of higher education students are enrolled in online courses, they most likely are innovators and early adopters who, according to Rogers' (2003) Diffusion of Innovations Theory, may be more internally motivated by factors such as intellectual curiosity.

Another possible explanation for the higher levels of intrinsic motivation observed in e-learning students as compared to students in face-to-face courses is that online instruction facilitates increasing levels of intrinsic motivation. Zhang's (1998) research suggests that the e-learning medium provides a learning environment that "emphasizes intrinsic motivation, self-sponsored curiosity and creative situated learning"(p. 4). This rationale is consistent with Cognitive Evaluation Theory (Deci & Ryan, 1985), which posits that intrinsic motivation is maximized when individuals feel competent and self-determining in dealing with their environment. Deci and Ryan (2000) pointed out that "interpersonal events and structures (e.g., rewards, communications, feedback) that conduce toward feelings of competence during action can enhance intrinsic motivation for that action, because they allow satisfaction of the basic psychological need for competence"(p. 58).

It is important to note that this research study examined academic dishonesty in e-learning and face-to-face settings in two culturally different countries – the USA and Israel. The findings were consistent across student groups in both countries. As such, these findings should be interpreted as having greater generalizability and not limited by cultural specificity.

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