

UNIVERSITY TEACHERS' ATTITUDES ABOUT UNETHICAL INFORMATION TECHNOLOGY USE: A REVIEW

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Abstract

Continuous confrontation with changes in technologies involves building new attitudes towards ethical issues of IT use. There is increased interest in investigating students' attitudes towards ethical information technology use in particular, and less those of teachers. The major aim of the study is to achieve a systematic review of the studies over the past twenty years on the investigation of the factors that explain the university teachers' attitudes towards the unethical use of information technologies. The specific objectives of the present study are to explore the existing literature on factors influencing unethical information technology use in higher education in terms of two areas of interest: (a) research into investigations on the direct effects of external and internal factors on unethical conduct in higher education; (b) research into investigations on the effects of technology on teachers' unethical conduct. The analysis of current studies reveals that most factors influencing ethical decision-making to a significant extent are internal. We need, first and foremost, strong interior springs to resist the temptation of fraud and less of the external resources. Based on existing studies, we can not extract the specific differences related to technological factors influencing unethical conduct in higher education.

Keywords: *factors, higher education, technology use, unethical information*

1. Introduction

This study is part of a wider research project aimed at developing an unethical information technology use (UITU) model for higher education teachers. We are currently at the first stages of our approach, therefore a review is absolutely necessary in building a rigorous scientific path.

Regarding the concept of unethical information technology use, answers have been provided more to the question of why teachers engage in unethical conduct rather than to how and under what circumstances such actions are being carried out. The unethical use of Information and Communication Technology (ICT) by students and teachers is a major challenge in educational institutions (Johnson & Simpson, 2005; Özer et al., 2011). Over the last 30 years, a great deal of research has been undertaken to elucidate ethical decision-making in different contexts. There are studies in organizational, educational, marketing, business. Many of them have explored the construction of explanatory models of decision makers. Some of the patterns are more general, such as those that explain the relationship between intention and behaviour, others are more contextual. The purpose of this article is to achieve a review of the research over the past 20 years on the investigation of the factors that explain the attitude towards the ethical use of information technologies for university teachers.

It is necessary to develop a theoretical model of understanding the factors influencing the attitude towards the unethical use of IT, by reference to the previous approaches: the model of unethical usage of information technology (Chatterjee, 2005), the attitude toward ethical decision model (Leonard & Cronan, 2005), the HV general theory of ethics (Hunt & Vitell, 2006), unethical behavioural model in the Social Networking Sites context (Jafarkarimi et al., 2016), and the casual model for ethical behavioural intention of information technology (Seif, 2016). The motivations of this approach are further presented. First of all, building a possible model of UITU factors in higher education must take into account the impressive theoretical and empirical accumulations in this field. However, we may ask ourselves how far we can extrapolate a series of conclusions from various fields in the university field. There are many studies that explain cheating at students, or explain decision making in general, but are they valid for teachers as well? Our intention is to delineate a series of specific information that will lead us to build a model for a specific (university) context, also within an information technology environment. Therefore, we should also take into account the general theories explaining the relationship between attitudes, intent and behaviour, as well as more specific and different variables (teachers in higher education, multiple roles, information technology use). Secondly, the IT fraud in the university environment is quite widespread, but it has been mainly researched in relation to students.

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The main objective of the present study is to explore the existing literature on factors influencing UITU in higher education in relation to two areas of interest: 1) Research on examining the direct effects of each factor on unethical conduct in higher education; 2) Research on examining the cumulative, comparative effects of each category of factors on unethical conduct. The research questions are:

- Can we extract, based on the analysed studies, the specific differences related to factors influencing UITU in higher education?
- What is the influence of the Internet and technologies resources on teachers' unethical attitude and unethical behaviour as revealed by studies? Is information technology a relevant external factor in ethical decision?

2. Method

The systematic review of the literature is an explicit, comprehensive and reproducible method for identifying, evaluating and synthesizing some of the existing issues in several completed and recorded works produced by researchers and practitioners (Fink, 2005). A rigorous analysis of the literature review, according to the author, should be systematic as a result of the use of an explicit methodological

approach in explaining the procedures through which it was achieved and made comprehensive, to include all relevant studies in the field of unethical information technology use.

Okoli and Schabram (2010) present eight major steps, each of which is necessary for a systematic literature review: setting the goal for reviewing the literature, drafting the protocol and conducting the training, identifying the most relevant studies and articles in the field, selecting significant studies and excluding unreliable ones, quality assessment based on clear criteria, extraction of necessary data, synthesis of studies, writing the review analysis. According to Rousseau et al. (2008), the systematic literature review allows a comprehensive accumulation, transparent exploration and reflexive interpretation of all empirical studies pertinent to a specific question.

This systematic literature search began in august 2018 and was completed in November 2018. A literature search in the databases Google Scholar and Science Direct was performed using the following keywords: "factors unethical conduct", "unethical attitudes higher education" and "higher education unethical attitude Information and Communication Technology". The stage of selecting relevant studies consisted in covering by hand all the articles on one or several of the three areas of interest specified in the main study objective.

3. Results

The presentation of the research results is done by reference to the two areas already mentioned. For each of them, the most useful elements to support answers to research questions have been integrated into tables.

Issue 1: Research on exploring the direct effects of each factor on unethical intention and unethical conduct

a) The relation between individual factors and unethical choice

Table 1 presents a systematic analysis of the main categories of individual factors that emerged from studies as being related to the ethical decision of teachers.

Table 1. Individual factors and unethical choice for teachers

Individual factors	Authors	Findings
Cognitive moral development	Johnston and Lubomudrov (1987)	The level of moral reasoning of teachers influences teachers' understanding of classroom rules.
	Diessner (1991)	The expressed moral reasoning of teachers (after Kohlberg) is at the conventional level. Moral reasoning indicates a preference, 30-50% of time, for postconventional, principled thinking.
	Chang (1994)	Most teachers are at the conventional level.
	Cummings et al. (2001)	Students – prospective teachers display lower moral reasoning than students from other specializations.
Personal system of values	Hyytinen & Löfström (2016)	The views of university professors on the responsibility for research integrity, the teaching methods used and the need to intervene vary.

Moral philosophy	Kish-Gephart et al. (2010)	Relativistic moral philosophy was positively related to unethical choice.
Ethical orientation (deontologism, utilitarianism, relativism and selfishness)	Deering (1998)	The ethical orientation of teachers depends on the cultural context in which they work.
	Melo (2003)	Early teachers join the utilitarian framework.
	GökÇe (2013)	The value of justice has the most powerful effect on the ethical reasoning of teachers.
Machiavellianism	Kish-Gephart et al. (2010)	Machiavellianism positively influences unethical choices.
Locus of control	Kish-Gephart et al. (2010)	External locus of control was also positively related to unethical choices.
Ethical sensitivity	Sparks and Hunt (1998)	There is a significant negative relationship between ethical sensitivity and formal ethical training of participants in research.
	Kuusisto et al. (2012)	Finnish teachers perceived themselves as having a high level of ethical sensitivity.
Job satisfaction	Kish-Gephart et al. (2010)	Higher job satisfaction was related to a lower likelihood of unethical choices.
Demographic variables (gender, age, education)	Akdemir et al. (2015)	Men are more likely to carry out non-ethical activities in the virtual environment than women.
	Beycioglu (2009)	Future female teachers were more concerned

		with ethical issues than men.
	Kreie and Cronan (1998)	Women are more conservative in their judgments than men.
	Hodges et al. (2017)	Senior teachers tend to self-plagiarize more than juniors.

The preliminary conclusion is that there are not many recent studies on internal factors that could lead to an unethical choice. Studies on teachers' moral reasoning, ethical orientation, Machiavellianism, locus of control need to be extended and updated to cover a wide range of cultural contexts. With direct reference to the purpose of our research, there is a lack of studies focused on university teachers.

b) The relation between external factors and unethical choice

Table 2 synthesizes the main categories of external factors that explain teachers' unethical choice.

Table 2. External factors and unethical choice for teachers

External factors	Authors	Findings
Ethical climate type (egoistic climates, benevolent climates, principled climates)	Kish-Gephart et al. (2010)	An egoistic climate increases the likelihood of unethical choices; benevolent and principled ethical climates decrease the likelihood of unethical choices.
Ethical culture	Kish-Gephart et al. (2010)	The strength of ethical cultures in organizations is negatively related to unethical choices.
Codes of conduct (code existence, code enforcement)	Kish-Gephart et al. (2010)	Existence of a code of conduct is not negatively related to unethical choices; enforcement of a code of conduct is negatively related to unethical choices.
Years of experience in computer use	Beycioglu (2009)	Future teachers who have up to five years of experience with personal computers take into account ethical behaviour more than teachers with over five years of experience.
Domain of teaching and subjects taught	Tiong et al. (2018)	Various forms of academic deviations have higher prevalence among medical

		academics compared to their counterparts in non-medical settings.
	Beycioglu (2009)	The judgments of teachers who teach science or computer science were less ethical than those who teach social sciences.
Training in other cultural spaces	Lei and Hu (2015)	Teachers trained in other countries had a subtler understanding of the transgressional intertextualities present in plagiarism than did teachers trained in their native countries.
	Hodges et al. (2017)	Participants from non-Western contexts have not plagiarized more than Westerners in the abstracts of a conference.

Among the sources examined, the meta-analysis Kish-Gephart et al. (2010) was of particular interest to our study, because it also examined the cumulative, comparative effects of each category of factors on unethical conduct. To establish the cumulative effects of external factors, the authors concluded: five of the six variables had simultaneous and significant unique impacts on either unethical intention or unethical behaviour. Strength of benevolent climate, principled climate, and code enforcement explained significant variance in unethical intention. Only ethical culture did not account for unique variance in either unethical intention or unethical behaviour beyond these other predictors.

Issue 2: Studies on ICT and unethical choice

Table 3. Factors in ICT context

Authors	Findings
Al-Rafee and Cronan (2006)	Attitude toward digital pirating is influenced by beliefs about the outcome of behaviour (cognitive beliefs), happiness and excitement (affective beliefs), age, the perceived importance of the issue, the influence of significant others (subjective norms), and Machiavellianism.
Haines and Leonard (2007)	Gender has the most profound effect on ethical decision-making in IT context; ego strength also having a strong effect; locus of control has a negligible effect.
Leonard and Haines (2007)	Along with other factors, computer-mediated group discussion may influence

		individual's ethical behavioural intention.
	Cronan and Al-Rafee (2008)	Attitude, past piracy behaviour, perceived behaviour control, and moral obligation explained 71 percent of the intention to pirate variance.
	Akdemir et al. (2015)	Prospective teachers are more likely to perform unethical behaviours in virtual environment than real life. Men are more likely to perform unethical behaviours in the virtual environment than women.
	Akbulut et al. (2008)	The factors constituting common types of e-dishonesty among undergraduate students are: fraudulence, plagiarism, falsification, delinquency, and unauthorized help.
	Şendağ et al. (2012)	The extent of involvement in e-dishonesty practices was significantly greater among freshmen than graduate students; a significant relationship between involvement in e-dishonesty and the rationale for e-dishonesty.

4. Conclusions

Our review has led to the formulation of two main final conclusions. The first is that in the context of ICT, most factors that contribute significantly to ethical decision-making are internal. Therefore, measures to reduce fraud need to work on these internal factors of attitude. First of all, we need strong interior springs to resist the temptation of fraud, and less external resources. The second conclusion is that studies on IT as an external factor of ethical decision-making in higher education are still in incipient stage. Although some general models have been developed, we cannot yet extract, based on empirical evidence, the specific differences about technological factors influencing the unethical conduct in higher education. Authors present studies with contrasting results, where technological resources either lead to positive attitudes, if they support transformational learning, or to negative attitudes, with tools for fraud being available. We need to approach both situations more thoroughly, so that we can outline an explanatory model of factors influencing unethical information technology use in higher education.

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References

- Akbulut, Yavuz, Serkan Şendağ, Gürkay Birinci, Kerem Kılıçer, Mehmet C. Şahin, and Hatice F. Odabaşı. "Exploring the types and reasons of Internet-triggered academic dishonesty among Turkish undergraduate students: Development of Internet-Triggered Academic Dishonesty Scale (ITADS)." *Computers & Education* 51, no. 1 (2008): 463-473.
- Akdemir, Ömür, Ömer F. Vural, and Özgür M. Çolakoglu. "Prospective Teachers' Likelihood of Performing Unethical Behaviors in the Real and Virtual Environments." *Turkish Online Journal of Educational Technology-TOJET* 14, no. 2 (2015): 130-137.
- Al-Rafee, Sulaiman, and Timothy Paul Cronan. "Digital piracy: Factors that influence attitude toward behavior." *Journal of Business Ethics* 63, no. 3 (2006): 237-259.
- Beycioglu, Kadir. "A cyberphilosophical issue in education: Unethical computer using behavior—The case of prospective teachers." *Computers & Education* 53, no. 2 (2009): 201-208.
- Chang, Fon-Yean. "School teachers' moral reasoning." In J. R. Rest & D. Narvaez (Eds.), *Moral development in the professions: Psychology and applied ethics* (pp. 71–83). Hillsdale, NJ: Erlbaum., 1994.
- Chatterjee, Sutirtha. "A model of unethical usage of Information Technology." *AMCIS 2005 Proceedings* (2005): 51.
- Cronan, Timothy Paul, and Sulaiman Al-Rafee. "Factors that influence the intention to pirate software and media." *Journal of business ethics* 78, no. 4 (2008): 527-545.
- Cummings, Rhoda, Lynn Dyas, Cleborne D. Maddux, and Art Kochman. "Principled moral reasoning and behavior of preservice teacher education students." *American Educational Research Journal* 38, no. 1 (2001): 143-158.
- Deering, Thomas E. "The ethical perspective of British and American preservice teachers." *Educational Research* 40, no. 3 (1998): 353-358.
- Diessner, Rhett. "Teacher Education for Democratic Classrooms: Moral Reasoning and Ideology Critique. Draft." (1991).
- Fink, Arlene. *Conducting research literature reviews: From the Internet to paper*. Sage Publications, 2013.
- Gökçe, Asiye. "Ethical awareness and ethical orientation of Turkish teachers." *Education* 134, no. 1 (2013): 35-49.
- Haines, Russell, and Lori NK Leonard. "Individual characteristics and ethical decision-making in an IT context." *Industrial Management & Data Systems* 107, no. 1 (2007): 5-20.
- Hodges, Amy, Troy Bickham, Elizabeth Schmidt, and Leslie Seawright. "Challenging the profiles of a plagiarist: a study of abstracts submitted to an international interdisciplinary conference." *International Journal for Educational Integrity* 13, no. 1 (2017): 1-15.
- Hunt, Shelby D., and Scott J. Vitell. "The general theory of marketing ethics: A revision and three questions." *Journal of Macromarketing* 26, no. 2 (2006): 143-153.
- Hyytinen, Heidi, and Erika Löfström. "Reactively, Proactively, Implicitly, Explicitly? Academics' Pedagogical Conceptions of how to Promote Research Ethics and Integrity." *Journal of Academic Ethics* 15, no. 1 (2017): 23-41.
- Jafarkarimi, Hosein, Robab Saadatdoost, Alex Tze Hiang Sim, and Jee Mei Hee. "Behavioral intention in social networking sites ethical dilemmas: An extended model based on theory of planned behavior." *Computers in Human Behavior* 62 (2016): 545-561.
- Johnson, D., & Simpson, C. Are you the ©opy cop?. *Learning and Leading with Technology*, 323, no. 7 (2005): 14-20.
- Kish-Gephart, Jennifer J., David A. Harrison, and Linda Klebe Treviño. "Bad apples, bad cases, and bad barrels: Meta-analytic evidence about sources of unethical decisions at work." *Journal of applied psychology* 95, no. 1 (2010): 1.
- Kreie, Jennifer, and Timothy Paul Cronan. "How men and women view ethics." *Communications of the ACM* 41, no. 9 (1998): 70-76.
- Kuusisto, Elina, Kirsi Tirri, and Inkeri Rissanen. "Finnish teachers' ethical sensitivity." *Education Research International*, 2012.
- Lei, Jun, and Guangwei Hu. "Chinese university EFL teachers' perceptions of plagiarism." *Higher Education* 70, no. 3 (2015): 551-565.
- Leonard, Lori NK, and Russell Haines. "Computer-mediated group influence on ethical behavior." *Computers in Human Behavior* 23, no. 5 (2007): 2302-2320.
- Leonard, Lori NK, and Timothy Paul Cronan. "Attitude toward ethical behavior in computer use: a shifting model." *Industrial Management & Data Systems* 105, no. 9 (2005): 1150-1171.
- Melo, Patricia. "Ethical conflicts in teaching: The novice teacher's experience." *Connections* 3 (2003): 175-189.
- Okoli, Chitu, and Kira Schabram. "A guide to conducting a systematic literature review of information systems research." (2010). Retrived from <http://sprouts.aisnet.org/10-26>.
- Özer, Niyazi, Celal Teyyar Ugurlu, and Kadir Beycioglu. "Computer teachers' attitudes toward ethical use of computers in elementary schools." *International Journal of Cyber Ethics in Education (IJCEE)* 1, no. 2 (2011): 15-24.

- Rousseau, D. M., Manning, J., & Denyer, D. *Evidence in Management and Organizational Science: Assembling the Field's Full Weight of Scientific Knowledge Through Syntheses*. (2008). SSRN eLibrary. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1309606.
- Seif, Mohammad Hasan. "Presenting a casual model for ethical behavioral intention of information technology among students of Shiraz University of Medical Sciences." *Medical Ethics Journal* 10, no. 35 (2016): 177-198.
- Sparks, John R., and Shelby D. Hunt. "Marketing researcher ethical sensitivity: Conceptualization, measurement, and exploratory investigation." *The Journal of Marketing* (1998): 92-109.
- Şendağ, Serkan, Mesut Duran, and M. Robert Fraser. "Surveying the extent of involvement in online academic dishonesty (e-dishonesty) related practices among university students and the rationale students provide: One university's experience." *Computers in Human Behavior* 28, no. 3 (2012): 849-860.
- Tiong, John Jeh Lung, Hui Ling Kho, Chun-Wai Mai, Hui Ling Lau, and Syed Shahzad Hasan. "Academic dishonesty among academics in Malaysia: a comparison between healthcare and non-healthcare academics." *BMC medical education* 18, no. 1 (2018): 168.