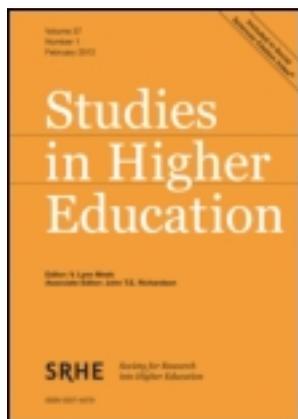


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Studies in Higher Education

Publication details, including instructions for authors and
subscription information:

<http://www.tandfonline.com/loi/cshe20>

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Published online: 02 Aug 2012.

To cite this article: Bruce Macfarlane, Jingjing Zhang & Annie Pun (2014) Academic
integrity: a review of the literature, *Studies in Higher Education*, 39:2, 339-358, DOI:
[10.1080/03075079.2012.709495](https://doi.org/10.1080/03075079.2012.709495)

To link to this article: <http://dx.doi.org/10.1080/03075079.2012.709495>

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Academic integrity: a review of the literature

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This article provides a literature review on academic integrity, which encompasses the values, behaviour and conduct of academics in all aspects of their practice. This is a growing area of academic research as a result of the expansion of higher education on a global basis and concerns about standards of professional conduct. The article maps the main strands of research on academic integrity by reference to teaching, research and service using 115 articles derived from both western and Chinese literature. The review indicates that much of the literature is framed in terms of misconduct or academic corruption with research ethics the dominant focus. Researchers investigating academic integrity draw predominantly on multivariate analysis using surveys/questionnaires, documentary analysis and, more occasionally, interviews. While there has been rapid growth in the literature, a stronger focus is needed on identifying ‘ethical’ as well as ‘unethical’ practice despite the methodological challenges in overcoming social desirability reporting.

Keywords: academic integrity; literature; methodology; ethics

Introduction

There is growing interest in issues connected with academic integrity. This is partly attributable to the increasing number of reported cases about academic fraud worldwide, which in turn is related, at least to some extent, to the rapid massification of university education and the growth of universities and higher education systems. Universities are organisations of special standing in society and globalisation means that integrity failures damage institutional brands and the credibility of higher education systems (Altbach 2004). The emergence of global university brands and influential international rankings means that positive and negative perceptions of academic integrity can have a significant impact on institutional reputations. As a result of the expansion of higher education there are now more universities and university faculties than ever before. Many institutions are operating in quasi markets controlled by national governments competing with each other in attracting students. The expansion of higher education has brought with it greater competition in the acquisition of credentials as symbolic capital. Stories of academic corruption frequently appear in the global news media, undermining the standing of institutions and the academic community. In response, governments are demanding that public universities address the professional development needs of faculty as part of a culture that increasingly defines students as customers (e.g. Browne 2010). It is against this backdrop that research

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into academic integrity has emerged as an area of scholarly and policy-based interest in higher education studies.

Defining ‘academic integrity’

‘Academic integrity’ is a problematic phrase as it is open to different interpretations. While our focus in this review of the literature is on the *values, behaviour and conduct of academics in all aspects of their practice*, the term ‘academic integrity’ is widely used as a proxy for the conduct of students, notably in relation to plagiarism and cheating. The North American and Chinese literatures are dominated here by papers about ‘honor codes’ that detail institutional and faculty expectations of student behaviour. There is also a substantial strand of literature about ethics education for a range of professionals such as nurses, school teachers, lawyers and business practitioners. Ethics education as part of a business education attracts considerable interest too. Moreover, universities commonly provide education and training related to pre-service and in-service teaching professionals. However, this is about the preparation of professionals *by* academic faculty rather than a focus on the values and behaviour *of* academic faculty. Once the literature related to student conduct and the ethical preparation of other professionals is discounted, there is considerably less research focused specifically on academic faculty. Hence, while universities and faculty see their roles as overseeing the conduct of students and preparing other professionals for occupations involving ethical challenges, collective self-examination is far less common.

Defining what the word ‘integrity’ means is complex. In English it is often used as a synonym for honesty although, by implication, it suggests something more far-reaching. Here, there is a similarity with the use of the word in Chinese. The Chinese concept of integrity can be traced back to the discussion in the Analects of Confucius (Liang 2009). The Chinese word, integrity, is made up of two characters: ‘cheng’ and ‘xin’. The modern word, ‘chengxin’, was used in traditional Chinese as ‘xin’ meaning honesty in the Analects of Confucius (Wu 2010). This mirrors the way the word integrity is principally interpreted in English. ‘Xin’ has many different meanings but invariably appears as an ethical concept. ‘Chengxin’ can variously refer to honesty, truthfulness and sincerity. There are 20 chapters in the Analects of Confucius, of which 16 chapters referred to integrity issues.

The root of ‘integrity’ in English derives from the Latin words ‘integer’ and ‘integritas’ meaning whole or entire, integrating different parts of one’s true self. In moral philosophy the word ‘integrity’ is closely associated with the virtues that constitute a ‘good’ person (MacIntyre 1981). Applying virtue ethics to academic integrity, several authors have identified excellences of character, such as humility as a researcher or (proper) pride as a teacher in relation to academic functions (e.g. Macfarlane 2004, 2007, 2009; Nixon 2004; Pring 2001). From a legal standpoint, Fjellstrom (2005) suggests that integrity may be further interpreted as the possession of certain rights, such as those associated with being a citizen or owning property. One should not violate the ‘integrity’ of a person’s privacy or private property, for example. Finally, integrity can be understood as respecting the intrinsic worth of each individual and their human dignity. This is an interpretation that may be found in declarations pertaining to human rights agreed by multinational bodies such as the European Union (Fjellstrom 2005). This defines integrity as about respect for the individual and all other life forms.

This study draws on the definition of integrity as ‘integer’ and ‘integritas’ meaning whole or entire. As such, the phrase ‘academic integrity’ is interpreted as an umbrella term in two ways. Firstly, academic practice or what it means to be an academic is conventionally broken down into three component functions – teaching, research and service (Cummings 1998). These are the activities that academics undertake and by reference to which their ‘integrity’ (or lack of it) may be judged. Secondly, the word ‘integrity’ may be treated as a synoptic term incorporating the excellences of character one might expect from a ‘good’ person or, by extension, a ‘good’ academic. Hence, while the phrase ‘academic integrity’ is open to a wide range of interpretations, for the purposes of this literature review this is defined in this study as the *values, behaviour and conduct of academics in all aspects of their practice* (teaching, research and service).

Means of investigation

Key word searches were made in library catalogues and the following online article databases: Academic Search Premier, CSA Internet Database Service, Educational Administration Abstracts, ERIC, International ERIC, ProQuest and Scopus. The literature in Chinese was searched separately using the China National Knowledge Infrastructure (see later). The two main foci were ‘academic integrity’ and ‘higher education’. Hence, the searching of databases incorporated words and phrases such as ‘higher education’ or ‘university’ or ‘faculty’ plus ‘integrity’ or ‘ethics’ or ‘misconduct’. Synonyms and alternate terms like ‘university’ (private and public), ‘college’, as well as ‘tutors’, ‘faculty’, ‘academic staff’, and ‘professors’ were highlighted. These terms were used to narrow the scope of the search.

Articles were excluded if they were in the format of a newspaper article or reflection without the distinguishing features of an academic paper including citations and a form of empirical and/or conceptual enquiry. What is sometimes termed ‘grey literature’, such as working papers and reports produced outside conventional publication channels, were omitted. It was also important to distinguish, and exclude, articles that related to the moral education or academic dishonesty of *students* (e.g. honour codes, plagiarism or cheating) either in university or secondary schools. Other articles were excluded where they related primarily to ethics in the context of business or professional learning. Even so, the online databases still produced hundreds of results from which only a small proportion fully met requirements in terms of relevance and quality. Citation searches of key articles were performed and reference lists were then searched for further relevant papers. The final selection of 115 articles was classified and grouped according to its main themes and research methodologies. Commonly occurring themes were identified and grouped by teaching, research and service activities. Tables were developed to summarise the main themes from the literature (see Tables 1–5).

Core themes

Publications in the area of academic integrity are widely dispersed across a range of academic journals rather than being clustered in specialist outlets. This is partly because academic integrity does not represent a mature sub-field of enquiry in the same way as assessment and feedback, for example. Here, there are relatively well-established specialist journals such as *Assessment & Evaluation in Higher Education*, which was founded in 1975 and by 2011 was in its thirty-sixth volume. By contrast, in

the field of academic integrity, the literature is less well established and the *Journal of Academic Ethics*, one of very few specialist outlets, was only founded in 2003. Higher education research is divided, to some extent, between ‘teaching and learning’ and ‘policy’ fields (Tight 2003). Assessment and feedback as a research area is unambiguously positioned under ‘teaching and learning’. Academic integrity, by contrast, is less easy to locate in terms of this dichotomy and traverses ‘teaching and learning’ relevant research (e.g. the ethics of university teaching) and ‘policy’ research (e.g. research ethics policies as part of institutional governance and management).

Research on academic integrity is also carried out by academics drawn from several different cognate fields including management, ethics and psychology. Hence, there is a wide range of literature connected with the ethics of teaching, the ethics of research, and the ethics of service. Articles from 57 different journals were accessed as part of the literature review, ranging from sources closely associated with higher education research (e.g. *Journal of Higher Education*), discipline-specific educational outlets (e.g. *The Accounting Educators’ Journal*), and journals representing, variously, business, medicine, philosophy and ethics, psychology, psychiatry, sociology and information science. Tables 1, 2 and 3 categorise the literature by the most commonly occurring themes.

Much of the literature tends to focus on the negative framing of academic integrity as ‘corrupt’ or ‘bad’ practice. In the teaching domain, many authors give examples of unethical behaviour in teaching, compare the perceptions of faculty and students as evaluators of faculty, and provide examples of dilemmas that illustrate unethical behaviour (e.g. Bruhn et al. 2002; Gao et al. 2008; Hall and Berardino 2006). Common themes include ‘dual’ (i.e. teaching and sexual) relationships between students and faculty (e.g. Biaggio, Paget, and Chenoweth 1997; Gottlieb 1993; Holmes et al. 1999). Misconduct is also the main focus of the literature on the research role of the academic, where the fabrication and falsification of results together with plagiarism and other ethical abuses practised by academic researchers is frequently highlighted. A number of articles centre on, among other things, conflicts of interest in the sponsorship of research by commercial organisations (e.g. Boyd and Bero 2000; Nichols and Skooglund 1998).

Hence, the predominant focus in the literature is on investigating and illustrating a perceived *lack* or *absence* of academic integrity. Research articles focusing on the service function contain similar characteristics in respect to a focus on ‘unethical’ conduct and identify issues such as the selling of copies of textbooks (sometimes known as ‘desk copies’) freely supplied to professors which are then sold to students (Davis and Usry 2011; Robie, Kidwell, and King 2003), the cover-up of academic misconduct (e.g. Steneck 1994; Valentine and Kidwell 2008) and unfairness in faculty evaluation systems (e.g. Calabrese and Roberts 2004). The American literature here is strongly focused on matters pertaining to tenure cutting across teaching and research functions. However, the literature about service also includes a focus on a more positive agenda connected with identifying sets of responsibilities and strategies for promoting ethical practices (e.g. Berube 1996). Others apply elements of ethical theory to seek to identify moral principles that might be ideally expected of academic faculty in respect to their professional conduct (e.g. Corlett 2005).

Individual, situational and environmental factors are highlighted by many authors as important in understanding academic integrity. Here, there is a strong interest in the explanatory power of cultural differences in relation to norms of behaviour

Table 1. Teaching-related literature.

Themes	Main literature items demonstrating the ethics of teaching
Nature and definition	Bruhn et al. (2002); Cheng (2006); Cheung (2002); Corlett (2005); Reybold (2008)
Examples of unethical behaviours	Bruhn (2008); Davis and Usry (2011); Dill (1982); Dixon (1996); Hall and Berardino (2006); Macfarlane (2001); Pariseau (2009); Robie, Kidwell, and King (2003)
Specification of responsibilities and ethical principles	Berube (1996); Birch, Elliott, and Trankel (1999); Bruhn et al. (2002); Cheung (2002); Corlett (2005); Crews and West (2006); De Vries (1975); Kitchener (1992); Klein (2007); Macfarlane (2001); Pariseau (2009); Sauser (1990); Tung and Tsui (2010)
Individual, situational and environmental factors	Bruhn (2008); Bruhn et al. (2002); Cheng (2006); De Vries (1975); Gao, Sirjy, and Johar (2010); Kidwell and Kidwell (2008); Knight and Auster (1999); Lewellyn (1996); Louis, Anderson, and Rosenberg (1995); Macfarlane (2001); Macfarlane and Ottewill (2004); Marshall et al. (1997); Reybold (2008); Robie and Kidwell (2003)
Faculty–student dual relationships	Aultman, Williams-Johnson, and Schutz (2009); Biaggio, Paget, and Chenoweth (1997); Bowen and Ei (2002); Bowman, Hatley, and Bowman (1995); Gottlieb (1993); Holmes et al. (1999); Kitchener (1988); Kolbert, Morgan, and Brendel (2002); Plaut (1993); Rupert and Holmes (1997)
Staff perceptions of ethical behaviour and ethical codes	Aultman, Williams-Johnson, and Schutz (2009); Barry, William, and Davis (1990); Beauvais et al. (2007); Bowman, Hatley, and Bowman (1995); Bryan, Yahr, and Schimmel (2009); Burnaz, Serap Atakan, and Topcu (2010); Davies, Moen, and Dykstra (2009); Gao et al. (2008); Gao, Sirjy, and Johar (2010); Kidwell and Kidwell (2008); Knight and Auster (1999); Laband and Piette (2000); Lewellyn (1996); Louis, Anderson, and Rosenberg (1995); Marshall et al. (1997); Pincus and Schmelkin (2003); Reybold (2008); Robie, Kidwell, and King (2003); Robie and Keeping (2005); Robie and Kidwell (2003); Shenas (1994); Tabachnick, Keith-Spiegel, and Pope (1991)
Students’ perceptions of professors’ ethical behaviour	Bowen and Ei (2002); Bowman, Hatley, and Bowman (1995); Friedman, Fogel, and Friedman (2005); Holmes et al. (1999); Keith-Spiegel, Tabachnick, and Allen (1993); Kolbert, Morgan, and Brendel (2002); Kuther (2003); Liebler (2009); Marshall et al. (1997); Oldenburg (2005); Owen and Zwahr-Castro (2007); Swazey, Anderson, and Louis (1993); Valentine and Kidwell (2008)

(Continued.)

Table 1. (*Continued.*)

Themes	Main literature items demonstrating the ethics of teaching
Comparing students and faculty perceptions of unethical behaviour	Artino and Brown (2009); Gundersen, Cappozzoli, and Rajamma (2008); Hall and Berardino (2006); Morgan and Korschgen (2001); Stevens, Harris, and Williamson (1993)
Ethical challenges and teaching dilemmas	Chesley and Anderson (2003); Davis and Usry (2011); Dill (1982); Macfarlane (2001); Macfarlane (2002); Macfarlane and Ottewill (2004)
Professional ethics development and self-enhancement	Chapfika (2008); Cheng (2006); Cheung (2002); Choi, Yu, and Guang (2010); Kitchener (1992); Ma (2004); O'Neill and Bourke (2010); Reybold (2008); Tung and Tsui (2010); Whisnant (1988); Yeung (2002)
Strategies for managing misconduct and promoting moral practices	Biaggio, Paget, and Chenoweth (1997); Bruhn et al. (2002); Chapfika (2008); Cheng (2006); Cheung (2002); Choi, Yu, and Guang (2010); Dixon and Kress (2007); Kitchener (1992); Ma (2004); Macfarlane (2001); Pincus and Schmelkin (2003); Roworth (2002); Rupert and Holmes (1997); Sun (2010); Tung and Tsui (2010); Zhang (2007)

related to the organisational culture of universities (Bryan, Yahr, and Schimmel 2009) and the culture of society and nation-states more generally (e.g. Macfarlane and Saitoh 2008). Exploration of cultural differences is applied in understanding teaching dilemmas (e.g. the receipt of gifts), research ethics and plagiarism. Relevant studies have taken place in a wide range of national contexts. More broadly there is recognition of the role of cultural and other institutional and systemic explanations for academic corruption in much of the literature, particularly, but not exclusively, in the Chinese literature (e.g. Cheung 2002; Liebler 2009).

Calls for codes of conduct for higher education institutions and faculty are increasingly providing a focus for many articles that are linked to the policy context. A major North American study has recently reported on the misconduct of professors in relation to graduate education and has called for more formal guidelines (Braxton, Proper, and Bayer 2011). Most publicly funded universities in the developed world now have research ethics approval mechanisms, partly as a means of protecting institutional reputation and to guard against possible litigation. Institutional ethical guidelines for faculty also commonly cover activities such as plagiarism and specific areas such as personal relationships with students and policies on the acceptance of gifts. However, they are rarely comprehensive and tend to focus mainly on research rather than teaching or the service role.

Emerging literature in China and Hong Kong

While much of the literature appears in western journals, there is a growing interest in exploring educational ethics in areas of the world where higher education has expanded rapidly, such as China and Hong Kong (Chapman and Lupton 2004). A number of

Table 2. Research-related literature.

Themes	Main literature items demonstrating the ethics of research
Historical review of research ethics policy	Montgomery and Oliver (2009); Steneck (1994)
Nature and definition	Bruhn et al. (2002); Regmi (2011)
Examples of unethical behaviours	Calabrese and Roberts (2004); Cossette (2004); Goodstein (2002); Hackett (1994); Regmi (2011); Schirmer (2009); Shi (2006)
Specification of responsibilities	Bruhn et al. (2002); Corlett (2005); Crews and West (2006)
Formation and review of research ethics policy	Hackett (1994); Kelley, Agle, and Demott (2006); Lind (2005); Schoenherr and Williams-Jones (2011); Steneck (1994); Zeni (1998)
Guide and ethics review of action research	Owen (2006); Shi (2006); Zeni (1998)
Individual, situational and environmental factors	Braxton and Bayer (1994); Bruhn (2008); Cheng (2006); Cheung (2002); Gao, Sirgy, and Johar (2010); Gundersen, Capozzoli, and Rajamma (2008); Hackett (1994); Hamilton, Greco, and Tanner (1997); Macfarlane and Saitoh (2008); Marshall et al. (1997); Martinson et al. (2010); Price, Drake, and Isam (2001)
Perceptions of ethical research behaviour and ethical codes	Burnaz, Serap Atakan, and Topcu (2010); Cossette (2004); Gao et al. (2008); Gao, Sirgy, and Johar (2010); Goodyear, Crego, and Johnston (1992); Gundersen, Capozzoli, and Rajamma (2008); Hamilton, Greco, and Tanner (1997); Kidwell and Kidwell (2008); Laband and Piette (2000); Macfarlane and Saitoh (2008); Marshall et al. (1997); Price, Drake, and Isam (2001); Swazey, Anderson, and Louis (1993); Whitbeck (2001)
Academia's handling of misconduct	Brumfiel (2007); Clouthier (2005); Steneck (1994)
Ethical challenges in areas of research	Calabrese and Roberts (2004); Goodstein (2002); Hackett (1994); Kennedy (2006); Nichols and Skooglund (1998); Owen (2006); Sun (2010); Swazey, Anderson, and Louis (1993)
Conflicts of interest in faculty–industry research relationships	Blumenthal (1996); Boyd and Bero (2000); Frankel (1996); Mintz, Savage, and Carter (2010); Nichols and Skooglund (1998)
Strategies for managing misconduct and promoting moral practices	Calabrese and Roberts (2004); Cheng (2006); Cheung (2002); Choi, Yu, and Guang (2010); Cossette (2004); Ferguson et al. (2007); Hackett (1994); Ma (2004); Martinson et al. (2010); Regmi (2011); Steneck (1994); Sun (2010); Yang (2005); Zhang (2007)

studies have also focused on mainland China. Yang (2005), for example, examines corruption in research administration, academic promotion, and doctoral students' training.

In Chinese culture the benefits derived from social connections are described as 'guanxi' and this plays an important role in academic life, sometimes leading to

Table 3. Service-related literature.

Themes	Main literature items demonstrating the ethics of service
Nature and definition	Bruhn et al. (2002); Crews and West (2006); Janinska and Garcia-Zamor (2006); Reybold (2008)
Examples of unethical behaviour	Bruhn et al. (2002); Callahan (1982); Dill (1982); Hiller and Peters (2006); Holmes et al. (1999); Poff (2004)
Specification of responsibilities	Berube (1996); Caldwell and Boyle (2007); Corlett (2005); Crews and West (2006); Gao et al. (2008); Meisengelder (1983); Roworth (2002); Sauser (1990)
Individual, situational and environmental factors	Bruhn (2008); Bruhn et al. (2002); Engle and Smith (1992); Gao, Sirgy, and Johar (2010); Lewellyn (1996); Louis, Anderson, and Rosenberg (1995); Macfarlane (2001); Macfarlane and Ottewill (2004); Poff (2004); Reybold (2008); Robie and Kidwell (2003)
Characterisations of professional ethics and personal values	Chesley and Anderson (2003); Chapfika (2008); Dill (1982); Kitchener (1992); Klein (2007); Ma (2004); Macfarlane and Saitoh (2008); Pariseau (2009); Reybold (2008); Siegel (2000); Tung and Tsui (2010); Yeung (2002)
Staff perceptions of ethical behaviour and ethical codes	Bowman, Hatley, and Bowman (1995); Bryan, Yahr, and Schimmel (2009); Burnaz, Serap Atakan, and Topcu (2010); Gao et al. (2008); Gao, Sirgy, and Johar (2010); Hall and Berardino (2006); Laband and Piette (2000); Louis, Anderson, and Rosenberg (1995); Marshall et al. (1997); McKay, Kidwell, and Kling (2007); Rezaee, Elmore, and Szendi (2001)
Factors associated with non-reporting of academic misconduct	Nitsch, Baetz, and Hughes (2005)
Strategies for promoting moral practices	Bruhn et al. (2002); Chapfika (2008); Cheng (2006); Dixon and Kress (2007); Kitchener (1992); Reybold (2008); Rezaee, Elmore, and Szendi (2001)
Problems with faculty evaluation system	Cheng (2006); Cheung (2002); Choi, Yu, and Guang (2010); Dill (1982); Reybold (2008); Sun (2010)
Ethics of faculty selling desk copies	Davis and Usry (2011); Robie, Kidwell, and King (2003)
Public expectations of universities and faculty	Berube (1996); Callahan (1982); Wong and Yeung (2010)
Costs of ethics failure to academic community	Bruhn et al. (2002)

allegations of academic cronyism. Literally translated, ‘guanxi’ refers to building social connections but it is the expectation of reciprocal favours leveraged through this network of contacts that is perceived as a problem, especially in western cultural contexts, where personal merit, rather than social connection, is considered as the sole legitimate criterion for employment and promotion. Moreover, low academic salary

Table 4. Use of quantitative methods.

Research instrument	Themes/aims	Types of tests	Articles
Questionnaires / surveys	Comparisons between student & faculty perceptions of unethical behaviour	ANOVAs, MANOVA & post hoc comparison	Gundersen, Capozzoli, and Rajamma (2008)
		ANOVA (one-way) & post hoc comparison	Hall and Berardino (2006); Morgan and Korschgen (2001)
	Examining faculty perceptions of unethical behaviour	MANOVA & <i>t</i> -test	Artino and Brown (2009); Stevens, Harris, and Williamson (1993)
		ANCOVA & chi-square	Robie and Kidwell (2003)
		ANOVA	Lewellyn (1996); Pincus and Schmelkin (2003)
		ANOVA & <i>t</i> -test	Kidwell and Kidwell (2008)
	Examining students' perceptions of faculty's unethical behaviour	chi-square	Birch, Elliott, and Trankel (1999); Davies, Moen, and Dykstra (2009); Robie and Keeping (2005); Tabachnick, Keith-Spiegel, and Pope (1991)
		chi-square & MANOVA	Knight and Auster (1999)
		chi-square & <i>t</i> -test	Beauvais et al. (2007)
		MANOVA	Cossette (2004); Petrick and Scherer (2005); Price, Drake, and Isam (2001)
Examining management and administrators' perceptions of unethical behaviour	MANOVA & <i>t</i> -test	Gao, Sirjgy, and Johar (2010)	
	<i>t</i> -test	Stevens, Harris, and Williamson (1994)	
	ANOVA & <i>t</i> -test	Oldenburg (2005)	
	ANOVA (factorial analysis) & MANOVA	Owen and Zwahr-Castro (2007); Valentine and Kidwell (2008)	
Examining faculty perceptions of institutional ethical codes	chi-square & post hoc comparison	Kuther (2003)	
	MANOVA & <i>t</i> -test	Friedman, Fogel, and Friedman (2005)	
	sign test	Marshall et al. (1997)	
Examining individual, situational and environmental factors affecting academic conduct	MANOVA & <i>t</i> -test	Gao et al.(2008)	
	One way ANOVA	McKay, Kidwell, and Kling (2007)	
Exploring individual, situational and environmental factors affecting academic conduct	ANOVA & <i>t</i> -test	Rezaee, Elmore, and Szendi (2001)	
	Principal components analysis and multiple regression	Braxton and Bayer (1994)	
	Regression analysis	Martinson et al. (2010)	

(Continued.)

Table 4. (Continued.)

Research instrument	Themes/aims	Types of tests	Articles
	Comparing faculty perceptions on joint authorship	chi-square & <i>t</i> -test	Hamilton, Greco, and Tanner (1997)
	Attitudes towards the examination book selling by professors	ANOVA	Robie, Kidwell, and King (2003)
	Examining perceptions about faculty–student dual relationships	Factor analysis Chi-square	Bowen and Ei (2002) Rupert and Holmes (1997)

Table 5. Use of qualitative methods.

Research instrument	Themes/aims	Articles
Interviews	Examining perceptions about faculty–student dual relationships	Kolbert, Morgan, and Brendel (2002); Aultman, Williams-Johnson, and Schutz (2009)
	Exploring faculty characterisations of professional ethics and personal values	Macfarlane and Saitoh (2008); Reybold (2008)
	Examining the ethics review of school-based research	Tilley (2008)
Focus group observation	Comparing approaches of faculty in dealing with ethical dilemmas	Macfarlane (2002)
Open-ended surveys	Exploring perceptions about faculty–student research collaboration	Goodyear, Crego, and Johnston (1992)
	Exploring factors associated with non-reporting of academic misconduct	Nitsch, Baetz, and Hughes (2005)
Documentary analysis	Role and importance of morals, ethics and integrity in higher education	Callahan (1982); Chapfika (2008); Ianinska and Garcia-Zamor (2006)
	Specification of faculty responsibilities and ethical dilemmas	Berube (1996); Corlett (2005); Dill (1982); Kitchener (1992); Klein (2007); Macfarlane and Ottewill (2004); Pariseau (2009); Roworth (2002); Sauser (1990); Tung and Tsui (2010)
	Exploring academic anti-corruption in China’s universities	Cheng (2006); Cheung (2002); Choi, Yu, and Guang (2010); Sun (2010); Wong and Yeung (2010); Yang (2005); Yeung (2002); Zhang (2007)
	Discussion of faculty–student dual relationships	Biaggio, Paget, and Chenoweth (1997); Dixon (1996); Gottlieb (1993); Plaut (1993)
	Typology of ethics failures and codes of professional values	Bruhn (2008); Bruhn et al. (2002); Chesley and Anderson (2003); Crews and West (2006); Macfarlane (2001); O’Neill and Bourke (2010); Poff (2004); Siegel (2000)
	The handling of misconduct investigations	Brumfiel (2007); Clouthier (2005)
	Research ethics and legal issues: concept and control	Ferguson et al. (2007); Goodstein (2002); Hackett (1994); Regmi (2011); Schirmer (2009); Zeni (1998)
	Comparing universities’ ethics codes, misconduct policies and infrastructures	Kelley, Agle, and Demott (2006); Lind (2005); Schoenherr and Williams-Jones (2011)
	Ethicality of faculty–industry financial relationships	Blumenthal (1996); Frankel (1996); Mintz, Savage, and Carter (2010)

(Continued.)

Table 5. (Continued.)

Research instrument	Themes/aims	Articles
Historical research	Review of research policies, development and scientific misconduct	Montgomery and Oliver (2009); Steneck (1994)
Case study	Addressing faculty-industry financial relationships	Boyd and Bero (2000)
	Faculty's ethics dilemmas and suggested approaches	Calabrese and Roberts (2004); Dixon and Kress (2007); Hiller and Peters (2006)
	Ethicality in faculty selling desk copies	Davis and Usry (2011)
<i>Non-Conceptual Analysis</i>		
Critical reflection	Ethics of corporate sponsored research at universities	Nichols and Skooglund (1998)
Self-reflection	Guide and ethics review of action research	Owen (2006); Shi (2006)
	Tension between protecting student privacy and public accountability	Poff (2003)

levels in China (and elsewhere in emerging higher education systems) means that it is common practice among Chinese academics to look for ways to generate additional income. Hence, low salary levels combined with a rapidly rising cost of living legitimises practices, such as working a second job, that might in other contexts be regarded as inappropriate behaviour by full-time faculty.

While academic integrity has been long discussed among Chinese academics, it is a relatively recent focus of educational policy. In China, much research looking into academic integrity is policy driven. In the early 1990s, state educational policy pointed to the importance of preventing research misconduct when a case of local research fraud was uncovered nationally for the first time (Sun 2010). In 2006, the Ministry of Science and Technology (MOST) and the Ministry of Education (MOE) stepped up efforts in building academic norms and research integrity, through developing standards and regulations, setting up special agencies, issuing policy papers, organising national forums or seminars, and promoting international cooperation (Sun 2010). Following government appeals, the number of research projects addressing issues of academic integrity increased dramatically in 2006. This led to a rapid growth of articles on academic integrity published in China (see Figure 1) according to the China National Knowledge Infrastructure (CNKI), the most authoritative and comprehensive China-based information resource.

In 2010, Liu Yandong, a member of the Central Politburo of the Communist Party of China, stressed the importance of building academic integrity and scientific ethics in higher education (Choi, Yu, and Guang 2010). She pointed out that ethical culture and norms should be the top priority in the development of Chinese academics and the research and development system (Choi, Yu, and Guang 2010; Sun 2010). Following the remarks made by Liu Yandong, many universities and

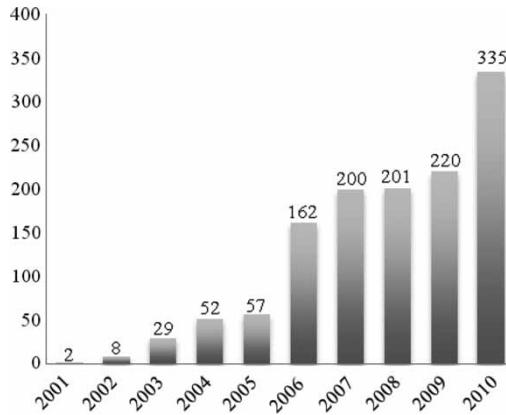


Figure 1. Yearly distribution of published academic articles about academic integrity available in CNKI (1492 in total).

colleges launched independent units to deal with academic fraud and corruption (Sun 2010). Peking University is one of the first institutions in China to have established an Academic Ethics Committee to formulate, interpret and evaluate school academic ethics policies as well as to investigate ethical cases (Zhou 2009). Echoing the attempts to enhance academic norms at both the national and university level, more academic articles discussing academic integrity have stressed the importance of strengthening academic standards.

Nevertheless, academic research in this area is largely commissioned by the state and tends to echo government policy by putting forward suggestions for strengthening academic ethics and culture in respect to faculty behaviour. In the literature, there is a tendency to overemphasise the importance of finding solutions to prevent plagiarism, collusion or falsification of data that have already been disseminated.

Use of methodologies

In considering the international literature as a whole, researchers in the field use a range of social science methodologies in investigating academic integrity, crudely divided between quantitative and qualitative approaches. The most popular research instruments are questionnaires linked to forms of multivariate analysis (i.e. use of ANOVA, MANOVA, chi-square, and *t*-test) (e.g. Beauvais et al. 2007; Robie and Kidwell 2003). Authors based in the USA are particularly likely to deploy a questionnaire or survey instrument linked to some form of quantitative analysis. The nature of academic integrity, and the opportunity to discuss and analyse policy statements issued by a range of government agencies connected with higher education, professional and scholarly organisations and universities, means that documentary analysis is the second most popular methodology (e.g. Pariseau 2009; Roworth 2002).

These two approaches – questionnaires and documentary analysis – dominate the literature, although other methodologies employed include interviews mainly with faculty members (Aultman, Williams-Johnson, and Schutz 2009), focus groups (Macfarlane 2002), case studies (Dixon and Kress 2007), critical reflections (Nichols and Skooglund 1998), self-reflections (Poff 2003) and open-ended qualitative surveys

(Nitsch, Baetz, and Hughes 2005). Many articles combine empirical analysis with some form of conceptual framework often derived from the literature on ethical theory. This draws variously on utilitarianism, Kantianism, virtue theory and rights theory. Compared with the international literature as a whole, the Chinese literature contains limited empirical work and relies more heavily on the reporting and criticising of ethical 'incidents', often calling on professors to improve their moral conduct.

The challenge of researching academic integrity

There are important practical and ethical issues connected with researching academic integrity. One of these concerns the predominant focus on understanding and investigating academic integrity in terms of negative framing by providing research respondents with 'unethical' examples, scenarios and case studies. Researchers, in short, focus on investigating 'bad' behaviour. This leads to much research identifying ethical shortcomings rather than seeking to identify sets of norms, values or behavioural characteristics that might be considered 'good' or 'ethical'. A further obstacle connected with developing a positive framing of research in this area is a post-modern consideration concerning cultural differences that it is either not feasible or inappropriate to seek to identify a set of norms that have universal legitimacy. Much of the literature that does seek to identify sets of norms and values tends to be produced by professional bodies, scholarly societies, universities or other regulatory or governmental organisations and is rarely research-based.

A second challenge for researchers is methodological. It is a demanding task to collect data that is not undermined by social desirability reporting (SDR). This occurs when there is a tendency for respondents to answer questions or give opinions that they think are socially desirable or present a favourable image of themselves (Johnson and Fendrich 2002). SDR is recognised as a common source of bias impacting the validity of experimental and survey research findings generally and normally means that respondents over-report 'good' as opposed to 'bad' behaviour. For example, in health research it has been found that respondents frequently under-report their consumption of alcohol (McGillaway and Connelly 2004). In the same way, it is recognised that academic integrity is a highly sensitive research topic likely to potentially elicit SDR, and therefore the design of research instruments needs to minimise this possibility.

SDR may partly explain why questionnaires, rather than interviews, are the dominant methodology used in researching academic integrity since it is easier to control for SDR using a questionnaire than in interviews where the presence of the interviewer is a key factor (Nederhof 1985). It needs to be recognised that no one method will entirely eliminate SDR but the research should combine prevention and detection methods as the best strategies available. Self-administration of a questionnaire and adopting a four-point 'forced choice' Likert scale are two strategies that help to combat SDR, as recommended by Nederhof (1985). The potential disconnect between attitudes expressed in surveys and interviews compared with actual practice means that researchers interested in academic integrity might reflect on whether they can make more use of methods that provide access to the practice context through forms of ethnography and non-participant observation. In this way it is more likely that insights into theory-in-use as opposed to espoused theory can be gleaned (Argyris and Schon 1974).

Conclusion

There is now a pressing need for greater understanding of academic integrity across all practice elements (i.e. teaching, research and service) and the raising of standards of professional conduct. There is already ample evidence, sadly, that academics can behave unethically (Braxton et al. 2011). Hence, the future research agenda might focus more on ways to identify and establish better or 'best' practice in areas where the potential for the abuse of academic power is common, such as determining authorship credit or in dual relationships between students and faculty. Conducting such research, though, is methodologically challenging and it demands courage to tackle taboo topics in some cultural contexts. The interweaving of personal relationships and academic power means that the results of such research do not necessarily, or neatly, transfer into simple, or perhaps simplistic, policy statements. Fine-grained analysis is needed to untangle the complexity of such issues and contribute to a gradual process of cultural change in enhancing professional self-awareness within academe.

The growth of higher education worldwide, partly in response to the development of knowledge economies and newly developing nations, is only sustainable in the longer term if there are good standards of conduct among academic practitioners. The emergence of global university brands and influential international rankings (e.g. Shanghai Jiao Tong; Times Higher Education World Rankings) mean that (positive and negative) perceptions of academic integrity can have a significant impact on institutional fortunes.

Despite the challenges associated with researching academic integrity, there is now considerable interest in the topic evidenced by the considerable growth of articles since 2000 and the emergence of specialist journals such as the *Journal of Academic Ethics* in 2003. Moreover, the massification of higher education and the importance institutions attach to managing reputational risk make it a 'hot' topic. Little empirical research has yet been conducted, especially in emerging and newly developed higher education systems such as China, providing many opportunities for those with an interest in gaining a more fine-grained understanding of what academic integrity means.

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