

Exploring Ethical Issues Associated with Using Online Surveys in Educational Research

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Abstract

Online surveys are increasingly used in educational research, yet little attention has focused on ethical issues associated with their use within educational settings. In this paper we draw on the broader literature on ethical issues associated with online surveys and apply them to the educational research domain. Five key ethical issues are explored: ~~informed consent~~; dual teacher/researcher roles; informed consent; use of incentives; privacy, anonymity and confidentiality; and data quality. We illustrate methods of addressing each of these issues based on our experience in conducting online surveys within the educational domain. Moving beyond the procedural ethics approach commonly adopted in quantitative educational research, we recommend the adoption of a situated/process ethics approach to identify and respond to ethical issues that may arise during the conduct, analysis and reporting phases of online survey research. The benefits of online surveying in comparison to traditional survey methods are highlighted, including the potential for online surveys to provide ethically defensible methods of conducting research that would not be feasible in offline education research settings.

Exploring Ethical Issues Associated with Using Online Surveys in Educational Research

In the 20+ years since NCSA Mosaic provided the first major graphical interface for the world-wide-web (National Centre for Supercomputing Applications, NCSA, 2013), global Internet penetration has rapidly increased. By the end of 2014, the Internet Telecommunications Union (ITU, 2014) projects that almost 3 billion people (or some 40% of the world's population) will be defined as 'Internet users', although access remains skewed in favour of developed nations, as well as the wealthy, educated and young (Australian Bureau of Statistics, ABS, 2014). As Internet penetration has increased, researchers have been quick to identify the data collection opportunities it affords (Lee, Fielding, & Blank, 2008; Reips, 2007, 2012; Skitka & Sargis, 2006). Currently, a diverse range of research methods are employed online (including qualitative, observational/non-reactive and experimental methods), although web surveying dominates (Buchanan & Hvizdak, 2009; Krantz & Williams, 2010; Reips, 2012). Its popularity can be linked to the advantages it offers over traditional (offline) methods, including cheap, flexible, rapid access to large, diverse, geographically disparate and otherwise difficult to access samples, reduced social desirability and experimenter expectancy effects, and the ability to impose complex conditional logic on the presentation of items and stimuli (Best & Krueger, 2004; Evans & Mathur, 2005; Gosling, Vazire, Srivastava, & John, 2004; Hewson & Laurent, 2008; Skitka & Sargis, 2006; Tuten, 2010). However, web surveying is not without its challenges, including reduced experimenter control (Stieger & Reips, 2010), relatively low response rates (Shih & Fan, 2008), relatively high levels of item non-response (Heerwegh & Loosveldt, 2008) and dropout (Peytchev, 2009), and some unique ethical considerations which require addressing (Allen & Roberts, 2010; Buchanan & Williams, 2010). It is these ethical considerations, and how they relate to the conduct of online surveys in educational research, which form the substance of the current paper.

When we refer to educational research, we are referring to research “concerned with investigating all aspects of the education world” (Regan, Baldwin, & Peters, ~~2010~~2012, p. 45), and not just the pedagogic research (undertaken by teachers to investigate the efficacy of their work within their own schools or classrooms, Stierer & Antoniou, 2004) that it subsumes. Furthermore, we are focusing our review on the ethical use of online surveying in educational research in higher education contexts, where the potential research participants, most commonly students and/or staff, are almost always adults, and engaged with an educational institution of their own volition. The use of online surveys with children within primary and secondary education raises a host of additional ethical issues, which are beyond the scope of this paper.

The use of online surveys in educational research has grown rapidly over the past 10 years, where they have been used to shed light on topics as diverse as student evaluations of teaching (Berk, 2012) and modes of delivery (Evans, 2008), student attitudes toward forensic science (Horton et al., 2012), learning in virtual environments (Shea & Bidjerano, 2010), lecturers’ attitudes and beliefs about pedagogy for education for sustainable development (Cotton, Warren, Maiboroda, & Bailey, 2007) and professional learning of higher education teachers (Knight, Tait, & Yorke, 2006). This is unsurprising, considering the benefits of online surveys outlined above and the finding that online surveys appear preferred to paper-based surveys by both students and teachers (Roberts & Allen, 2010, 2012; Harlow, 2010). However, the ethical use of online surveys in educational research requires consideration of a range of potential issues.

Ethical Issues Associated with Online Surveys in Educational Research

Ethical issues associated with the use of online surveys in educational research mirror ‘generic’ ethical issues in the use of online surveys, but with an overlay of complexities resulting from the sensitivities of conducting research within educational contexts. Despite

online survey research being the most frequently reviewed type of Internet research (Buchanan & Hvizdak, 2009), not all ethics review boards may be fully cognisant of the range of ethical issues associated with online surveys generally, or as applied to educational research specifically, highlighting the need for educational researchers to be cognisant of the range of ethical issues associated with this type of research.

In this paper we describe five sets of ethical issues associated with conducting online survey research, with particular reference to their use within education research. Ethical research balances potential benefits arising from the research against potential harm to research participants or others (The National Health and Medical Research Council, the Australian Research Council and the Australian Vice-Chancellors' Committee, 2007), and we situate our discussion of the five sets of ethical issues associated with online surveys within this definition of ethical research, with particular reference to the American Educational Research Association's (AERA) 2011 *Code of Ethics*.

Dual Teacher/Researcher Roles

As observed by Hammack (1997), teachers have a primary obligation to their students, whereas for researchers, the primary obligation is to their field of expertise. The 'good' teacher seeks to maximise opportunities for learning, whilst the 'good' researcher seeks to maximise participation, publications and data quality. When one's responsibilities as a teacher and researcher overlap, as they do when conducting research with one's own students as participants, role conflict can occur (Ferguson, Yonge, & Myrick, 2004), which is an issue often not adequately addressed in educational research proposals (Regan et al., 2012). In these situations, meeting our students' educational needs should supersede our own research needs (Brown, 2010; Regan et al., 2012), although this is often easier said than done. Indeed, on reflection, the second author can think of several instances where he has enthusiastically encouraged his students to participate in his own research, and only

begrudgingly permitted colleagues to do similar. He has mentally justified this (rather selfish) reluctance by questioning the educational merit of participation (after all, surely the students' time could be better spent studying the content of his course!). Realistically though, it probably has more to do with competition for participants, and a concern that one more participant for a colleague could mean one less for him (Adams & Umbach, 2012; Porter, Whitcomb, & Weitzer, 2004). In other words, he had been allowing his needs as a researcher to outweigh his students' educational needs, whilst arguing to himself that the opposite was true.

It is for reasons like these that the ~~The~~ AERA (2011) Code of Ethics (Clause 14.02) specifies that educational researchers should ideally recruit participants unrelated to their other professional roles, such as teacher or supervisor. ~~Where~~ Where circumstances necessitate sampling from one's own classes, and thus dual roles do exist, the resulting research is not inherently unethical (Regan, 2013). However, other professional relationships exist, the students/participants should be considered members of a 'vulnerable' population (Chen, 2011; Leentjens & Levenson, 2013) and extra care should be taken to minimise risk and adverse consequences, should students choose not to participate or withdraw ~~from the study~~ consent before a study's completion. As this issue of dual-roles colours how all other ethical issues should be considered and addressed, it will be revisited several times in the following sections. Dual teacher/researcher roles can result in role conflict (Ferguson, Yonge, & Myrick, 2004) and it is important that educational needs supersede research needs (Regan et al., 2012). Potential role conflict is often not adequately addressed in educational research proposals (Regan et al., 2012).

~~The power relationship between teacher and student limits students' abilities to freely consent where it is feared that non-participation may adversely affect their education (Ferguson, Myrick, & Yonge, 2006).~~

~~Where dual roles exist, special care needs to be taken to ensure consent to participate in research is fully informed and voluntary, and perceptions of coercion are minimised (Ferguson et al., 2006). This may involve strategies such as using other members of the research team (or other non-involved academics) to recruit students and not collecting data during class, ensuring the researcher with the dual role does not know who has volunteered to participate in the research (Ferguson et al., 2006; Regan et al., 2012; Ridley, 2009). The use of academic staff not directly involved in teaching the students should continue throughout the data collection and recording phases of the research. Educational researchers should explicitly advise students that these steps have been taken in order to counter any perceptions that research participation (or abstention) may affect grades (Ridley, 2009).~~

~~When conducting online surveys, steps can be taken to reduce perceptions of coercion associated with dual teaching/research roles. In our two studies developing and validating a measure of student perceptions of the educational value of research participation (Roberts & Allen, 2013) we employed a number of steps to ensure that students were fully informed and voluntarily chose whether or not to participate in the research. In both studies, anonymous online surveys were completed by consenting students outside of class time. In the first study, students were recruited through advertisements on student learning management system sites and announcements during lectures. Participation was voluntary and no incentive for participation was offered. Interested students were provided with a link to an online participant information sheet, and upon consenting were redirected to the online questionnaire. In the second study we recruited students through a participant pool. Students could elect to participate in this study, other studies by other researchers, or complete an alternative activity not involving research participation. Mirroring the first study, interested students were provided with a link to an online participant information sheet, which linked~~

~~them to an online questionnaire. In this instance, students completing the survey were assigned credits towards their research participation requirements.~~

Informed Voluntary Consent

A basic standard of ethical research is that prospective participants are able to make informed choices about whether or not to consent to participate. Providing sufficient information to enable informed consent has been identified [by Human Research Ethics Committees \(HRECs\)](#) as an ethical concern across educational research proposals, with the most common ethical transgression [observed by Regan \(2013\) in her analysis of feedback given to educational researchers](#) being the provision of limited or incorrect information, including the use of favourably worded information to increase the likelihood of participation [\(Regan et al., 2010\)](#). [A number of Brody, Cluck and Aragon's \(1997\) undergraduate student sample also reacted negatively to what they saw as "vague", "inaccurate" and "incomplete" information provided prior to participation in a diverse range of psychological studies \(p. 291\).](#)

The AERA Code of Ethics (2011; Clause 13.01a) specifies that, as a general principle, educational researchers must "obtain and document written or oral consent" from research participants. However waivers of consent may apply to online surveys where the research is minimal risk and could not be practicably completed if written or oral informed consent were required (Clause 13.01b). This does not absolve researchers from fully informing potential participants about the study, extent of confidentiality, possible risks and benefits, the voluntary nature of participating and the lack of [negative](#) consequences should the individual decline to participate or withdraw from the study (Clause 13.02d).

To ensure potential participants are as fully informed in online survey research as in other types of research, Mahon (2013) recommends setting an information sheet as the first page of the online survey, with participants required to check a box to indicate consent before

accessing the survey. This ensures that participants have access to the same information they would receive prior to completing an offline survey. We have used similar processes successfully in our research, hosting the information sheet on a university server and then automatically redirecting participants to an externally hosted survey (e.g., on Qualtrics.com) on consent (Roberts & Allen, 2013). To prevent prospective participants from bypassing an information sheet, many survey software systems allow the researcher to enable referrer verification (thus only allowing participants access to survey if they have come from a specific URL) and prevent search engine indexing.

Although informed consent is a necessary characteristic of ethical research, it is not a sufficient characteristic. In ethical research, consent should also be given (and withdrawn) voluntarily (e.g., AREA, 2011, Clause 14.02). When sampling from a vulnerable population, extra care should be taken to ensure that consent is not coerced (AREA, 2011, Clause 13.01d). Although the term ‘vulnerable’ is most commonly associated with children, minorities, and individuals with special needs,

~~Children and youth are classified in the AERA Code of Ethics as vulnerable populations, requiring educational researchers to “take special care to ensure that the voluntary nature of the research is understood and that consent or assent is not coerced” (Clause 13.01d). While this directly applies to children in primary and secondary education,~~ the vulnerability of students in tertiary education has also been questioned also requires careful consideration (Chen, 2011; Leentjens & Levenson, 2013). Higher education students (in contrast to school students) are adults who have voluntarily chosen to continue their studies (Stierer & Antonious, 2004). Further, many higher education students conduct research themselves and are knowledgeable about research ethics, which potentially reduces their vulnerability (Parsell, Ambler, & Jacenyik-Trawoger, 2014). However, higher education students may still be considered a vulnerable population when the research is being

conducted by a researcher with whom they also have an educational relationship (e.g., a ~~lecturer~~teacher). Indeed, it has been argued that an adult student “may be competent to make decisions in general while not being competent in particular situations” (Clark & McCann, 2005, p. 44), such as when asked to participate in their own teacher’s research. In such situations, their “competence to refuse may be impaired” (p. 45).

The power imbalance between teacher and student may limit students’ abilities to freely consent where it is feared that non-participation may adversely affect their education (Ferguson, Myrick, & Yonge, 2006). When Forester and McWhorter (2005) asked 524 medical students whether or not they would feel coerced if asked to participate in faculty research, nine percent indicated they would. In a smaller sample of psychology students, Miller and Kreiner (2008) found that 25% had felt coerced or forced into participation at some point, while 33% indicated that they would feel coerced if asked to participate in their own teacher’s research. Shi (2006) also reported that a number of her students felt ‘used’ in her action research in her teacher-training class.

To minimise the coercion some students may perceive when asked to participate in their teacher’s research, various strategies have been suggested. For example, using other members of the research team (or other non-involved academics) to recruit students; recruiting broadly (e.g., via general announcements on learning management systems and notice boards) rather than sending out personalized invitations; leaving students with time (e.g., one or more days) to decide on whether or not they wish to participate after providing them with information about a study; not collecting data during class; and ensuring the researcher with the dual role does not know who has volunteered to participate in the research (Aycock, & Currie, 2013; Clark & McCann, 2005; Comer, 2009; Ferguson et al., 2006; Regan et al., 2012; Ridley, 2009). The use of academic staff not directly involved in teaching the students should continue throughout the data collection and recording phases of the

research. Educational researchers should explicitly advise students that these steps have been taken in order to counter any perceptions that research participation (or abstention) may affect grades (Ridley, 2009).

When conducting online surveys, steps can be taken to reduce perceptions of coercion associated with dual teaching/research roles. In our two studies developing and validating a measure of student perceptions of the educational value of research participation (Roberts & Allen, 2013) we employed a number of steps to ensure that students were fully informed and voluntarily chose whether or not to participate in the research. In both studies, anonymous online surveys were completed by consenting students outside of class time. In the first study, students were recruited through advertisements on student learning management system sites and announcements during lectures. Participation was voluntary and no incentive for participation was offered. Interested students were provided with a link to an online participant information sheet, and upon consenting were redirected to the online questionnaire. In the second study we recruited students through a participant pool. Students could elect to participate in this study, other studies by other researchers, or complete an alternative activity not involving research participation. Mirroring the first study, interested students were provided with a link to an online participant information sheet, which linked them to an online questionnaire. In this instance, students completing the survey were assigned credits towards their research participation requirements.

Finally, in addition to feeling like they gave their consent freely, student participants should also feel like they can withdraw said consent freely. It appears that this may not be the case in face-to-face research, particularly when data is collected in a group setting. For example, Brody and colleagues (1987) found that student participants sometimes felt too embarrassed to ‘change their mind’ during participation, or felt that quitting would violate the terms of the consent agreement, and/or reflect poorly on them. Although many of these

barriers against terminating participation are already reduced when research is conducted online, there are still additional measures that researchers can take to maximise the likelihood that students will feel genuinely free to withdraw consent, should they wish to do so. For example, in our own online survey research we typically include a statement in the participant information sheet stating that consent will only be assumed if the student/participant actually completes the survey (i.e., clicks 'submit' on the final page), and that anyone wishing to withdraw consent can do so by simply navigating away from the survey or closing the relevant browser window/tab.

Use of Incentives

The AERA Code of Ethics (Clause 14.04) allows for offering incentives for research participation, providing they are not “excessive or inappropriate” (p. 14). However, the use of incentives in educational research needs to be carefully considered to ensure that there are no perceptions of coercion (Miller & Kreiner, 2008). Monetary incentives may infer coercion where potential student participants have limited incomes (Ridley, 2009). Further, anonymity is eroded when research participants need to demonstrate they have participated in order to obtain the incentive. In the first author’s previous research examining student perceptions of the teaching of computer-assisted qualitative data analysis (Roberts, Breen, & Symes, 2013), a token incentive was provided to all members of the sampling pool as a way of indicating appreciation for considering participating, whether or not individual members chose to participate. All students attending scheduled research methods laboratories within the last week of semester (the sampling pool) were given a chocolate frog, prior to deciding whether or not to participate. The tutor left the room and those who chose to participate completed the anonymous online survey. Other methods of providing incentives, including entry into a prize

draw, were rejected as this would alert the researchers (who also taught the students) as to who had participated, removing their anonymity.¹

A further form of incentive widely used in higher educational settings is extra credit. Lecturers who offer extra credit to their own students as an incentive for participating in their own research may reduce the trust relationship with their students (Ridley, 2009). Less contentious is the use of subject or participant pools at a faculty or school level, where students elect to participate in a range of research offered by a range of researchers as a course requirement or for extra credit, as long as alternative activities to research participation are also offered. This removes the potential for perceived coercion where the lecturer is asking the student to participate in his/her own research. In the first author's previous [research on online discussion boards](#) [educational survey research](#) (Roberts & Forman, 2014; Roberts & Povee, 2014a, 2014b; Roberts & Rajah-Kanagasabai, 2013) students were recruited through an undergraduate psychology participant pool and received research credit for participating. Participation was voluntary and students could elect to take part in other studies or complete alternative written activities.

Privacy, Anonymity and Confidentiality

Privacy, anonymity and confidentiality are key ethical considerations in online survey research. Educational researchers must act to minimise intrusions on the privacy of research participants (AERA, 2011, Clause 12.07) at every stage of the research process. Unsolicited online survey requests may violate the privacy of the individual to a greater extent than paper requests, as they are perceived as more intrusive (Cho & La Rose, 1999). Perceived intrusion

¹ It is interesting to note that in the original version of this paper submitted for review we had included detailed information on recruitment to demonstrate how we had addressed possible concerns associated with the use of incentives and potential perceptions of coercion. On the advice of an anonymous reviewer this was removed from the paper as "The procedure is described clearly, but in perhaps a bit too much detail – e.g. it is not necessary for the reader to know ... how exactly students received the invitation".

may be greater when email requests are sent to accounts that are viewed as private. Some students view email accounts issued by an educational institution as personal property (Lefever, Dal, & Matthiasdottir, 2007), increasing the likelihood that survey requests may be seen as intrusive.

When collecting data through online surveys for educational research, researchers can minimise intrusions on privacy through only collecting identifiable information where it is specifically required for research purposes (e.g., for longitudinal studies). Where identifiable information is collected in educational research, the AERA Code of Ethics specifies that reasonable precautions must be taken to protect it during storage, delivery and electronic transfer. Of course, similar precautions should be taken with all research data, regardless of whether or not it could be used to identify individual participants.

Commercial online survey systems are increasing in functionality, with some functions potentially undermining respondent anonymity and privacy. For example, the automatic collection of Internet Protocol (IP) addresses [and even geolocation data](#) by ~~most~~ [many](#) commercial online survey hosting sites can threaten the anonymity and privacy of respondents. An IP address is assigned to a computer or mobile device each time it connects to the Internet, providing contextual information (e.g., the geographical location of the user's Internet Service Provider) that may aid in identifying survey respondents when used in combination with time and date information (see Allen & Roberts, 2010, for a more detailed explanation). While the legal status of IP addresses as personally identifiable information varies across countries (Buchanan & Zimmer, 2012), they should be treated in online survey research as potential identifiers. IP addresses should be stripped from the dataset, preferably before saving the data file to the researcher's computer (Barchard & Williams, 2008; Benfield & Szlemko, 2006).

Buchanan and Hvizdak (2009) reported that three-quarters of the ethics review committees they surveyed did not have a designated reviewer to examine proposals for online research, and a third did not consider evaluation of privacy and security policies of commercial online survey providers to be part of their remit. More recently, Baker's (2012) survey of Institutional Review Boards (IRBs) indicated that more than a quarter (28%) do not allow collection of IP addresses in online surveys, approximately a third (32%) allow for collection of IP addresses with conditions ~~(32%)~~ and 40% have no policy on IP addresses.

Unique tracking links in online surveys also undermine anonymity through providing a link between survey responses and the email address of the survey respondent. More than half of IRBs surveyed by Baker (2012) approved tracking links in online surveys, but some apply conditions for their use, such as informing potential research participants that the survey is not anonymous. Similarly, longitudinal designs that require students to provide identifying information such as student number or name in order to match respondents across time points cannot be promoted as anonymous surveys.

Even where IP addresses are not collected, tracking links are not used and identifying information is not requested within the survey itself, there is still the potential for breaches of anonymity and privacy in online surveys that are beyond the researcher's control. No online transaction can be guaranteed as completely secure due to the potential for hacking and other malicious activity. Consequently, Mahon (2013) argued that researchers should not state that online surveys are anonymous and recommended the inclusion of a warning statement in participant information sheet to that effect. While earlier research (Buchanan & Hvizdak, 2009) suggested that some IRBs did not have a good understanding of the issues involved in online surveys or adequate processes in place to review this type of research, on the basis of a review of policy from 52 IRBs, Baker (2012) concluded that IRB policy now demonstrates sufficient understanding of these issues.

Data Quality

How confident can we be that data collected in online surveys is of sufficient quality for research purposes? Obtaining quality data is an essential component of ethically defensible research, justifying the research burden placed on participants, resources consumed and investment by funders and society (Rosenthal, 1994). Further, failure to obtain quality data may result in inaccurate conclusions being drawn. Within the educational context, time spent by students, teachers and researchers on research that does not result in data of sufficient quality may be better spent on educational experiences (Rosenthal, 1994).

There are a number of factors that may limit the quality of data collected. The first of these is the representativeness of the sample obtained. If relying on email to recruit participants for educational research, some email addresses are likely to be incorrect. Lefever and colleagues (2007) reported that 8% of emails sent to students and teachers were returned as incorrect addresses. Even where email addresses are valid, they may not be accessed regularly by potential participants (Lefever et al., 2007), [or invitations to participate may be erroneously filtered into a 'spam' folder](#). In combination, these factors may reduce the response rate to the survey and potentially bias results if unreachable potential participants systematically vary from those who do receive and read the recruitment email.

Of those who do receive and read recruitment material, not all may choose to participate (survey non-response). Survey response rates have been in decline over recent decades (Peytchev, 2013) with low response rates associated with increased sampling error and possible survey non-response bias. Survey non-response bias refers to possible differences between respondents and non-respondents on the issues of interest (Berk, 2012), resulting in inaccurate estimates of population parameters.

In educational research, online surveys are most commonly used to capture student evaluations of teaching (SETs). In reviewing previous literature on online survey non-

response on SETs, Berk (2012) noted that the responses rates for online SETs (generally around 50%) have been consistently lower than for paper-and-pencil SETs (~70-90%). Berk identified seven contributing factors to non-response in online SET surveys. Student factors were apathy, perceived lack of importance and inconvenience. Factors relating to the technology were technical problems, perceived lack of anonymity and inaccessibility. A factor relating to the survey itself was the time required for completion. Berk detailed 20 strategies that can be employed to increase response rates to online set surveys. These included the stronger marketing of SETs to students (including advertising, specifying the intended use of survey ratings, having the survey promoted by faculty, and sending of reminders); ensuring ease of access to an intuitive survey system that protects anonymity and confidentiality; offering incentives to students, faculty and departments; and in-class administration. Other strategies that may be less ethically defensible included providing students who complete SETs with earlier access to their marks, or assigning grades or extra credit to students who complete them (Berk, 2012).

A further factor that may contribute to survey non-response across all types of surveys is survey fatigue. Survey fatigue is not specific to online surveys, but a response to frequent requests to participate in survey research from a range of sources. The demand to participate in multiple surveys increases the respondent burden and results in suppressed response rates (Porter, [Whitecomb, & Weitzer et al.](#), 2004). Within the higher education sector the use of surveys has been increasing and includes national surveys, institutional surveys (with further surveys from individual faculties and schools) and accrediting body surveys (Porter et al., 2004). Further, within the higher education sector, the increasing requirement for postgraduate students and academics to conduct research is resulting in increased requests to students to participate in survey research (Scott & Fonseca, 2010). Survey fatigue has been demonstrated to affect response rates to SETs, with responses rates declining once a threshold

of survey requests has been received (Adams & Umbach, 2012). The ease of developing online surveys has been posited to increase the number of survey requests received and hence may further increase survey fatigue and further suppress response rates (Porter et al., 2004).

The second component of survey non-response is where participants choose not to answer some questions on a survey. Internet [surveys—survey researchers can](#) enable ‘forced responding’, where a participant cannot move on to a further question until an answer to the current question has been provided. While this has advantages for the researcher in terms of eliminating missing data (although perhaps just replaces it with higher rates of drop-out; see Stieger, Reips, & Voracek, 2007), it does raise ethical concerns. Baker (2012) reported that three quarters of 52 IRBs surveyed viewed forced responding as violating research participants’ rights not to answer individual questions. This was particularly of concern where participation incentives were provided. Similarly Mahon (2013) argued that forced responding violates informed consent, where every research participant should be able to skip a question if they so choose. More ethically acceptable alternatives to the use of forced response validation are the use of ‘decline to answer’ (Baker, 2012), ‘no response’ or ‘not applicable’ options (Mahon, 2013). Further, some survey software tools enable the use of ‘prompts’ or ‘reminders’ that alert the participant to missing answers, without prohibiting continuation with the remainder of the survey.

Another factor that potentially affects the quality of data collected using online surveys is the potential for any individual to respond multiple times. Multiple responding can be detected through checking for identical IP addresses on consecutive cases and determining if (near) identical responses have been submitted from the same IP address. Multiple responses can be deleted, retaining only the first response (Gosling et al., 2004), a practice we have used in our own research (e.g., Roberts & Allen, 2013). Participants can also be asked if they have completed the survey previously, and responses from those answering affirmatively

deleted (Gosling et al., 2004). However, the risk to survey findings appears small with evidence to date suggesting multiple responding has little impact on survey findings (Gosling et al., 2004).

A further concern raised in relation to data quality is the potential for careless responding by students who perceive their participation in online surveys to be coerced (Meade & Craig, 2012). Approximately 10-12% of undergraduate students provide data that indicates careless responding is likely (Meade & Craig, 2012). A number of measures of identifying careless responding have been developed: the inclusion of items designed to detect careless responding, response consistency indices, survey response times and self-report measures of effort (Meade & Craig, 2012). The detection of careless responding enables researchers to remove such cases prior to analysis.

Given the potential threats reviewed above, how confident can we be with the results of online surveys in educational research? Reviews conducted to date suggest that equivalent results are obtained using online and offline surveys (Gosling et al., 2004; Roberts, 2006), with the possible exception of measures that may be subject to social desirability response sets (Roberts, 2006). For example, based on a 10 year longitudinal study of 63,000 student responses to SETs, Risquez, Vaughan, and Murphy (2014) reported that after controlling for class size, faculty, year of evaluation, years of teaching experience and student performance, the effect of administration mode on SET results is minimal. Further, reviewing meta-analyses of non-response bias studies, Peytchev (2013) noted that there is little evidence of a relationship between response rate and non-response bias. While steps should be taken to maximise response rates and screen data for multiple and careless responses, at the present time there is no reason to assume that online surveys will provide lower quality data than their paper-and-pencil counterparts.

Procedural and Process Ethics

The five sets of ethical issues detailed above require consideration in the design phase of online survey research. Documentation of processes and procedures to be adopted based on these considerations should form part of the material prepared for formal ethics review. That is, they form part of the formal *procedural ethics* process. It is possible that during the conduct of the research project new ethical issues may emerge that were not considered as part of the procedural ethics process prior to the research commencing. Adopting a *situated ethics* approach (Simons & Usher, 2000; also known as *ethics in practice* and *process ethics*; Guillemin & Gillam, 2004) requires ethical consideration throughout the research process as events or issues arise (Guillemin & Gillam, 2004). Whilst the situated ethics approach is most strongly associated with qualitative research (Simons & Usher, 2000), it has been applied to quantitative (Jones, 2000) and online (James & Busher, 2007) education research, and in our opinion is applicable to online survey research in educational contexts. Potential ‘ethically important moments’ (Guillemin & Gillam, 2004) in online survey research requiring ethical consideration might include actual threats to data security and participant anonymity (e.g., as a result of hacking or data breaches), responding to student participants’ concerns about anonymity and/or coercion, and negotiating between conflicting interests when our teaching and research interests are not aligned. Requiring sensitivity to situational factors, educational researchers need to respond to ethical issues as they arise throughout the research, analysis and reporting process in order to minimise the potential for harm to research participants and others.

Discussion

Online surveys provide a useful tool for conducting educational research. In this paper we have outlined five areas requiring ethical consideration when using online surveys for data collection: ~~informed consent~~; dual teacher/researcher roles; [informed voluntary consent](#); use of incentives; privacy, anonymity and confidentiality; and data quality. We note that

these are areas worthy of ethical consideration in all types of educational research, but require additional consideration when applied to online surveys, and advocate careful consideration of both procedural and process ethics.

These areas of ethical concern are worth addressing because online surveys provide such an efficient and flexible way of collecting data for educational research. Online surveys are preferred by both students and teachers (Roberts & Allen, 2010, 2012; Harlow, 2010) and also allow for the collection of data from students without taking up valuable (and limited) class time (Lefever et al, 2007). We have illustrated how the online survey process can be designed to offer genuine anonymity to respondents, circumventing many of the dual-role concerns that are commonly faced by educational researchers, and providing greater confidence that consent is truly voluntary, rather than influenced by perceptions of coercion.

Further, online surveys can provide ethically defensible methods of conducting research that would not be feasible in offline education research settings. Using online surveys it is possible to randomly assign research participants to conditions, creating an experiment within a survey. For example, Roberts and Rajah-Kanagasabai (2013) randomly assigned students to simulated discussion board threads that varied only in whether postings were anonymous or identified. The full potential of online surveys for education research has yet to be realised, with the rapidly increasing feature sets of online surveying tools providing an ever widening range of possibilities for survey data collection.

Future Research

Ethical research is based on the premise that the potential benefits from the research outweigh potential risks to research participants and others. Student research participation provides clear benefits to educational researchers through providing access to research participants, with possible flow-on benefits to later students through the application of findings stemming from the research. However, the benefits to participating students in terms

of educational gains ([including the development of “practical wisdom”; Chen, 2011, p. 281](#)) are seldom assessed, and to our knowledge have not been assessed in relation to completion of online surveys within the educational research domain. A suggestion for future research is to examine student perceptions of the educational value of participating in educational research. The Student Perceptions of the Educational Value of Research Participation Scale (SPEVRPS, Roberts & Allen, 2013) is a brief, reliable eight-item measure that may be a useful addition to online surveys conducted within the educational context. The results would enable researchers to assess the educational value students perceive from participating in their research projects, which is a necessary first step for any teacher-researchers seeking to maximize such value. A more comprehensive evaluation of the risks and benefits to research participants could be obtained by administering this measure with the Reactions to Research Participation Questionnaire-Revised (RRPQ-R; Newman, Willard, Sinclair, & Kaloupek, 2001), which includes measures of personal benefits, emotional reactions and perceived drawbacks to participating in a study.

Conclusion

In this paper we have examined the use of online surveys in education research in relation to five key ethical issues: [informed consent](#); dual teacher/researcher roles; [informed voluntary consent](#); use of incentives; privacy, anonymity, and confidentiality; and data quality. We have illustrated methods of addressing these issues, and recommended the adoption of a situated/process ethics approach to support traditional procedural ethics. We conclude that online surveys can provide ethically defensible methods of conducting educational research.

References

- Adams, M. J., D., & Umbach, P. D. (2012). Nonresponse and online student evaluations of Teaching: Understanding the influence of salience, fatigue and academic environments. *Research in Higher Education, 53*, 576-591. doi:10.1007/s11162-011-9240-5
- Allen, P. J., & Roberts, L. D. (2010). The ethics of outsourcing online survey research. *International Journal of Technoethics, 1*, 35-48. doi:10.4018/jte.2010070104
- American Education Research Association. (2011). *Code of ethics*. Retrieved from [http://www.aera.net/Portals/38/docs/About_AERA/CodeOfEthics\(1\).pdf](http://www.aera.net/Portals/38/docs/About_AERA/CodeOfEthics(1).pdf)
- Australian Bureau of Statistics. (2014). *Household use of information technology, Australia, 2012-13* (Catalogue Number 8146.0). Canberra, Australia: Author. Retrieved from <http://www.abs.gov.au/Ausstats/abs@.nsf/mf/8146.0>
- [Aycock, D. M., & Currie, E. R. \(2013\). Minimizing risks for nursing students recruited for health and educational research. *Nurse Educator, 38*\(2\), 56-60. doi:10.1097/NNE.0b013e3182829c3a](#)
- Baker, T. D. (2012). Confidentiality and electronic surveys: How IRBs address ethical and technical issues. *IRB: Ethics & Human Research, 34*(5), 8-15. Retrieved from <http://www.thehastingscenter.org/Publications/IRB/>
- Barchard, K. A., & Williams, J. (2008). Practical advice for conducting ethical online experiments and questionnaires for United States psychologists. *Behavior Research Methods, 40*, 1111-1128. doi:10.3758/BRM.40.1111
- Benfield, J. A., & Szlemko, W. J. (2006). Internet-based data collection: Promises and realities. *Journal of Research Practice, 2*(2), D1. Retrieved from <http://www.jrp.icaap.org/index.php/jrp/article/view/30/51>

- Berk, R. A. (2012). Top 20 strategies to increase the online response rates of student rating scales. *International Journal of Technology in Teaching and Learning*, 8(2), 98-107.
Retrieved from http://www.sicet.org/journals/ijttl/issue1202/2_Berk.pdf
- Best, S. J., & Krueger, B. S. (2004). *Internet data collection*. Thousand Oaks, CA: Sage.
- [Brody, J. L., Cluck, J. P., & Aragon, A. S. \(1997\). Participants' understanding of the process of psychological research: Informed consent. *Ethics & Behavior*, 7, 285-298. doi:10.1207/s15327019eb0704_1](#)
- [Brown, P. U. \(2010\). Teacher research and university institutional review boards. *Journal of Early Childhood Teacher Education*, 31, 276-283. doi:10.1080/10901027.2010.500559](#)
- Buchanan, E. A., & Hvidzak, E. E. (2009). Online survey tools: Ethical and methodological concerns of Human Research Ethics Committees. *Journal of Empirical Research on Human Research Ethics*, 4, 37-48. doi:10.1525/jer.2009.4.2.37
- Buchanan, T., & Williams, J. E. (2010). Ethical issues in psychological research on the Internet. In S. D. Gosling & J. A. Johnson (Eds.), *Advanced methods for conducting online behavioral research* (pp. 255-272). Washington, DC: American Psychological Association.
- Buchanan, E., & Zimmer, M. (2012). Internet research ethics. *Stanford Encyclopedia of Philosophy*. Retrieved from <http://plato.stanford.edu/entries/ethics-internet-research/>
- [Chen, R. P. \(2011\). Student participation in health professions education research: In pursuit of the Aristotelian mean. *Advances in Health Science Education*, 16, 277-286. doi:10.1007/s10459-009-9164-4](#)
- Cho, H., & LaRose, R. (1999). Privacy issues in internet surveys. *Social Science Computer Review*, 17, 421- 434. doi:10.1177/089443939901700402

[Clark, E., & McCann, T. \(2005\). Researching students: An ethical dilemma. *Nurse Researcher*, 12\(3\), 42-51.](#)

[Comer, S. K. \(2009\). The ethics of conducting educational research on your own students. *Journal of Nursing Law*, 13\(4\), 100-105. doi:10.1891/1073-7472.13.4.100](#)

Cotton, D. R. E., Warren, M. F., Maiboroda, O., & Bailey, I. (2007). Sustainable development, higher education and pedagogy: a study of lecturers' beliefs and attitudes. *Environmental Education Research*, 13, 579-597.
doi:10.1080/13504620701659061

Evans, C. (2008). The effectiveness of m-learning in the form of podcast revision lectures in higher education. *Computers & Education*, 50, 491-498.
doi:10.1016/j.compedu.2007.09.016

Evans, J. R., & Mathur, A. (2005). The value of online surveys. *Internet Research*, 15, 195-219. doi:10.1108/10662240510590360

Ferguson, L.M., Myrick, F., & Yonge, O. (2006). Ethically involving students in faculty research. *Nurse Education Today*, 26, 705-711. doi:10.1016/j.nedt.2006.07.021

Ferguson, L. M., Yonge O., & Myrick, F. (2004). Students' involvement in faculty research: Ethical and methodological issues. *International Journal of Qualitative Methods*, 3(4), Article 5. Retrieved from
http://www.ualberta.ca/~iiqm/backissues/3_4/html/ferguson.html

[Forester, J. P., & McWhorter, D. L. \(2005\). Medical students' perceptions of medical education research and their roles as participants. *Academic Medicine*, 80, 780-785.](#)

Gosling, S. D., Vazire, S., Srivastava, S., & John, O. P. (2004). Should we trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. *American Psychologist*, 59, 93-104. doi:10.1037/0003-066X.59.2.93

Guillemin, M., & Gillam, L. (2004). Ethics, reflexivity, and “ethically important moments” in research. *Qualitative Inquiry*, 10, 261-280. doi:10.1177/1077800403262360

[Hammack, F. M. \(1997\). Ethical issues in teacher research. *Teachers College Record*, 99, 247-265.](#)

Harlow, A. (2010). Online surveys-possibilities, pitfalls and practicalities: The experience of the TELA evaluation. *Waikato Journal of Education*, 15, 95-108. Retrieved from <http://researchcommons.waikato.ac.nz/bitstream/handle/10289/6163/Harlow%20online.pdf>

Heerwegh, D., & Loosveldt, G. (2008). Face-to-face versus web surveying in a high-internet-coverage population: Differences in response quality. *Public Opinion Quarterly*, 72, 836-846. doi:10.1093/poq/nfn045

Hewson, C., & Laurent, D. (2008). Research design and tools for Internet research. In N. Fielding, R. M. Lee, & G. Blank (Eds.), *The SAGE handbook of online research methods* (pp. 58-78). London, England: Sage.

Horton, R. C., Kelly, T. L., Lenehan, C. E., Lennard, C., Lewis, S. W., Lim, K. F., ... & Southam, D. C. (2012). Assessing students' attitudes toward forensic science: collecting an expert consensus. *Forensic Science Policy & Management: An International Journal*, 3, 180-188. doi: 10.1080/19409044.2013.849780

Internet Telecommunications Union. (2014). *The world in 2014: ICT facts and figures*. Retrieved from <http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2014-e.pdf>

James, N., & Busher, H. (2007). Ethical issues in online educational research: Protecting privacy, establishing authenticity in email interviewing. *International Journal of Research & Method in Education*, 30, 101-113. doi:10.1080/17437270701207868

- Knight, P., Tait, J., & Yorke, M. (2006). The professional learning of teachers in higher education. *Studies in Higher Education, 31*, 319-339.
doi:10.1080/03075070600680786
- Jones, K. (2000). A regrettable oversight or a significant omission? Ethical considerations in quantitative research in education. In H. Simons & R. Usher (Eds.), *Situated ethics in education research* (pp. 147-161). New York, NY: Routledge/Falmer.
- Krantz, J. H., & Williams, J. E. (2010). Using graphics, photographs and dynamic media. In S. D. Gosling & J. A. Johnson (Eds.), *Advanced methods for conducting online behavioral research* (pp. 45-62). Washington, DC: American Psychological Association.
- Lee, R. M., Fielding, N., & Blank, G. (2008). The Internet as a research medium: An editorial introduction to 'The Sage Handbook of Online Research Methods'. In N. Fielding, R. M. Lee, & G. Blank (Eds.), *The SAGE handbook of online research methods* (pp. 3-20). London, England: Sage.
- [Leentjens, A. F. G., & Levenson, J. L. \(2013\). Ethical issues concerning the recruitment of university students as research subjects. *Journal of Psychosomatic Research, 75*, 394-398. doi:10.1016/j.jpsychores.2013.03.007](#)
- Lefever, S., Dal, M., & Matthiasdottir, A. (2007). Online data collection in academic research: Advantages and limitations. *British Journal of Educational Technology, 38*, 574-582. doi:10.1111/j.1467-8535.2006.00638.x
- Mahon, P. Y. (2013). Internet research and ethics: Transformative issues in nursing education research. *Journal of Professional Nursing, 30*, 124-129.
doi:10.1016/j.profnurs.2013.06.007
- Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods, 17*, 437-455. doi:10.1037/a0028085

Miller, W. E., & Kreiner, D. S. (2008). Student perception or coercion to participate in psychological research. *North American Journal of Psychology, 10*, 53-64

National Centre of Supercomputing Applications, University of Illinois and Urbana-Champaign (2013, December 3). *NCSA Mosaic*. Retrieved from <http://www.ncsa.illinois.edu/enabling/mosaic>

Newman, E., Willard, T., Sinclair, R., & Kaloupek, D. (2001). Empirically supported ethical research practice: The costs and benefits of research from the participants' view. *Accountability in Research: Policies and Quality Assurance, 8*, 309-329.
doi:10.1080/08989620108573983

Parsell, M., Ambler, T., & Jacenyik-Trawoger, C. (2014). Ethics in higher education research. *Studies in Higher Education, 39*, 166-179.
doi:10.1080/03075079.2011.647766

Peytchev, A. (2009). Survey breakoff. *Public Opinion Quarterly, 73*, 74-97.
doi:10.1093/poq/nfp014

Peytchev, A. (2013). Consequence of survey nonresponse. *The Annals of the American Academy of Political and Social Science, 645*, 88-111.
doi:10.1177/0002716212461748

Porter, S. R., Whitcomb, M. E., & Weitzer, W. H. (2004). Multiple surveys of students and survey fatigue. *New Directions for Institutional Research, 21*, 63-73.

[Regan, J. -A. \(2013\). Risks to informed consent in pedagogic research. *Journal of Perspectives in Applied Academic Practice, 1*\(1\), 25-29.](#)

Regan, J. -A., Baldwin, M. A., & Peters, L. (~~2010~~2012). Ethical issues in pedagogic research. *Journal of Pedagogic Development, 2*(3), 44-54. Retrieved from <http://www.beds.ac.uk/jpd/journal-of-pedagogic-development-volume-2-issue-3/ethical-issues-in-pedagogical-research>

- Reips, U. -D. (2007). The methodology of Internet-based experiments. In A. Joinson, K. McKenna, T. Postmes, & U. -D. Reips (Eds.), *The Oxford handbook of Internet psychology* (pp. 373-390). New York, NY: Oxford University Press.
- Reips, U. -D. (2012). Using the Internet to collect data. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology, Vol 2: Research designs: Quantitative, qualitative, neuropsychological, and biological* (pp. 291-310). Washington, DC: American Psychological Association. doi:10.1037/13620-017
- Ridley, R. T. (2009). Assuring ethical treatment of students as research participants. *Journal of Nursing Education*, 48, 537-541. doi:10.3928/01484834-20090610-08
- Risquez, A., Vaughan, E., & Murphy, M. (2014): Online student evaluations of teaching: what are we sacrificing for the affordances of technology? *Assessment & Evaluation in Higher Education*, 1-16. doi:10.1080/02602938.2014.890695
- Roberts, L. D. (2006). Equivalence of electronic and offline measures. In R. A. Reynolds, R. Woods & J. D. Baker (Eds.), *Handbook of research on electronic surveys and measurements* (pp. 96-102). Hershey, PA: Idea Group Inc.
- Roberts, L. D., & Allen, P. J. (2010, July). *Enhancing the teaching of research methods: Student perspectives on the value of research participation*. Paper presented at the 4th International Conference on Psychology Education, University of New South Wales, Australia.
- Roberts, L. D., & Allen, P. J. (2012). Student perspectives on the value of research participation. In S. McCarthy, K. L. Dickson, J. Cranney, A. Trapp, & V. Karandashev (Eds.), *Teaching psychology around the world* (Vol 3; pp. 198-211). UK: Cambridge Scholars Publishing.

- Roberts, L. D., & Allen, P. J. (2013). A brief measure of student perceptions of the educational value of research participation. *Australian Journal of Psychology*, 65, 22-29. doi:10.1111/ajpy.12007
- Roberts, L. D., Breen, L. J., & Symes, M. (2013). Teaching computer-assisted qualitative data analysis to a large cohort of undergraduate students. *International Journal of Research & Method in Education*, 36, 279-294. doi:10.1080/1743727X.2013.804501
- [Roberts, L. D. & Forman, D. \(2014, early online\). Interprofessional education for first year psychology students: Career plans, perceived relevance and attitudes. *Journal of Interprofessional Care*.](#)
- [Roberts, L. D., & Povee, K. \(2014a\). A brief measure of attitudes towards mixed methods research in psychology. *Frontiers in Psychology, Article 5,1312*, doi:10.3389/fpsyg.2014.01312](#)
- [Roberts, L. D. & Povee, C \(2014b\). A brief measure of attitudes toward qualitative research in psychology. *Australian Journal of Psychology*, 66, 249-256. doi:10.1111/ajpy.12059](#)
- Roberts, L. D., & Rajah-Kanagasabai, C. (2013). "I'd be so much more comfortable posting anonymously": Identified versus anonymous participation in student discussion boards. *Australasian Journal of Educational Technology*, 29, 612-625. Retrieved from <http://ascilite.org.au/ajet/submission/index.php/AJET/article/view/452>
- Rosenthal, R. (1994). Science and ethics in conducting, analysing and reporting psychological research. *Psychological Science*, 5, 127-134. doi:10.1111/j.1467-9280.1994.tb00646.x
- Scott, C. L., & Fonseca, L. (2010). Overstepping the mark: Ethics procedures, risky research and education researchers. *International Journal of Research and Method in Education*, 33, 287-300. doi:10.1080/1743727X.2010.511710

Shea, P., & Bidjerano, T. (2010). Learning presence: Towards a theory of self-efficacy, self-regulation, and the development of a communities of inquiry in online and blended learning environments. *Computers & Education*, 55(4), 1721-1731.

doi:10.1016/j.compedu.2010.07.017

[Shi, L. \(2006\). Students as research participants or as learners? *Journal of Academic Ethics*, 4, 205-220. doi: 10.1007/s10805-006-9028-y](#)

Shih, T. -H., & Fan, X. (2008). Comparing response rates from web and mail surveys: A meta-analysis. *Field Methods*, 20, 249-271. doi:10.1177/1525822X08317085

Simons, H., & Usher, R. (Eds.). (2000). *Situated ethics in education research*. New York, NY: Routledge/Falmer.

Skitka, L. J., & Sargis, E. G. (2006). The Internet as psychological laboratory. *Annual Review of Psychology*, 57, 529-555. doi:10.1146/annurev.psych.57.102904.190048

Stieger, S., & Reips, U. -D. (2010). What are participants doing while filling in an online questionnaire: A paradata collection tool and an empirical study. *Computers in Human Behavior*, 26, 1488-1495. doi:10.1016/j.chb.2010.05.013

Stieger, S., Reips, U. -D., & Voracek, M. (2007). Forced-response in online surveys: Bias from reactance and an increase in sex-specific dropout. *Journal of the American Society for Information Science and Technology*, 58, 1653-1660.

doi:10.1002/asi.20651

Stierer, B., & Antonious, M. (2004). Are there distinctive methodologies for pedagogic research in higher education? *Teaching in Higher Education*, 9, 275-285.

doi:10.1080/1356251042000216606

The National Health and Medical Research Council, the Australian Research Council and the Australian Vice-Chancellors' Committee. (2007). *National statement on ethical conduct in human research (updated December 2013)*. Canberra, Australia: Author.

Tuten, T. L. (2010). Conducting online surveys. In S. D. Gosling & J. A. Johnson (Eds.), *Advanced methods for conducting online behavioral research* (pp. 179-192).

Washington, DC: American Psychological Association.