Conducting research using web-based questionnaires: practical, methodological, and ethical considerations

JEZZ FOX, CRAIG MURRAY and ANNA WARM

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The use of the internet for social science research is becoming increasingly common. This paper outlines practical, methodological and ethical issues for researchers to consider when using web-based questionnaires. This is illustrated by consideration of the authors’ own experience of conducting a study into the phenomenon of self-harm.

Introduction

A number of researchers have begun to explore the advantages of conducting research via the internet using electronic mail (e-mail) (e.g. Smith 1997, Murray and Sixsmith 1998) and the World Wide Web (WWW or web), including web-based questionnaires (e.g. Davis 1999). The internet is increasingly seen as offering many advantages over more traditional methods of research, and as such may be expected to become a more prominent feature of empirical reports as time progresses. Some of the advantages that have been cited for web-based questionnaires are: reduced cost, ease and speed of administration (Schmidt 1997, Buchanan and Smith 1999); the ability to provide a high level of anonymity (Coomber 1997) which increases self-esteem whilst reducing social anxiety and social desirability (Joinson 1999); and access to larger and more diverse samples (Hewson et al. 1996, Buchanan and Smith 1999). In addition, this method allows the targeting of minority and specialized populations which may otherwise be difficult to access (Coomber 1997, Smith and Leigh 1997, Buchanan and Smith 1999).

Whilst researchers (e.g. Coomber 1997) have begun to report some of the issues involved in conducting internet research there is still a paucity of material that guides researchers through the whole process. With this in mind, this paper sets out the practical, methodological and ethical considerations involved when conducting empirical research with web-based questionnaires.

By way of illustration, the points outlined here are discussed in relation to our own web-questionnaire research into self-harm. This research
involved the construction of two questionnaires: the first examined the nature of self-harm, and the second was a follow-up questionnaire constructed in response to methodological issues raised via e-mail by some respondents. Valid responses to these questionnaires were received from 243 and 55 respondents respectively. The issues in this paper are grouped into three sections: practical issues; methodological issues; and ethical issues. These shall be examined in turn.

**Practical issues**

Before conducting web-based research, there are a number of practical issues that need to be considered before such work can progress. Included for consideration here are: costs of running a study; the construction of the questionnaire; recruitment of respondents; the time-span of the research; and technical issues.

*Costs of running a study*

The cost of conducting a project can be split into costs for materials/consumables and those of wages for people on the project. In relation to the costs of materials there are immediate differences to be highlighted between those of the internet and the more traditional paper and pencil administration of questionnaires.

Most higher education institutions have adequate internet presence to allow for the administration of web-based questionnaires. Therefore, there is no additional cost to the institution to present the material for respondents to fill in and submit. This can be contrasted with the printing costs of reproducing the questionnaire for paper and pencil completion and any additional costs of providing envelopes and postage for the return of the questionnaire to the research establishment.

With the tools available for the development of web-pages, there is little difference in the development of equivalent paper and Hyper Text Markup Language (HTML) versions of a questionnaire. With the HTML version, however, there needs to be an associated Common Gateway Interface (CGI) script on a web-server that records the responses of respondents (alternative pairings of methods of presentation and data-recording may be used, but the issues are the same as those discussed here). The cost of the CGI script will be dependent upon the complexity of the processing that is required from it. It may be possible to use freely available scripts that record responses, or it may be necessary/desirable to write a new one. The eventual cost of this will be determined by a number of factors such as plans for similar future work; if there are plans for similar studies in the future the researcher may decide to invest more resources into the initial development in order to have a more powerful/flexible system. However, if the researcher is only planning a single study then such investment may be more difficult to justify.
The costs of the CGI software development are offset by the time and associated costs that it saves during the research project. Responsibility can be passed to the script to save the data in a format that may then be imported directly into the software package that is to be used for data analysis. In addition, if necessary it is possible for the script to parse the data so that it is saved into more than one data file so that analysis may be performed more easily. A practical example of this would concern questionnaires that have a combination of forced choice items (for the purposes of statistical analysis) and free response items (for qualitative analysis). Here it may be appropriate to split the data into two files for the purposes of analysis.

By passing this responsibility to the CGI script at the time of data-gathering, time is saved by not having to split the data manually and the possibility of errors when splitting the data is eradicated. This is one aspect of the reliability of data input that is a major benefit of using web-based questionnaires. The CGI records the data to disc directly, therefore eradicating transcription errors. The cost benefits of this are readily apparent in terms of the time it takes to input data, and to subsequently check that the data has been inputted correctly.

The final topic to be considered here relates to the time taken to respond to queries by people either making enquiries prior to participating, or commenting upon aspects of the study following participation. It is perhaps here that we see a deviation from one of the presumptions made in relation to internet-based studies, i.e. that they are quick to run. The initial posting to groups in our self-harm research took approximately one hour. By the time this had been completed there were already three e-mail responses from potential respondents with specific questions and comments regarding the study. None of these was negative in nature, however it was felt that for good practice these should be replied to as promptly as possible.

The volume of direct e-mails was not anticipated. We received 27 e-mails from the total of 243 valid replies to the first questionnaire. Many of the issues dealt with methodological aspects, such as there not being enough space for free expression in answering the questions. In retrospect, some of these could have been avoided through the provision of more detailed information to respondents before participation. A manner of achieving this would have been to provide a Frequently Asked Questions (FAQ) section that was not compulsory to read, but that would have been available to those wishing more detailed information.

Construction of the questionnaire

In addition to considerations relating to the cost of the questionnaire development, there are two broad aspects to consider in the construction of a web questionnaire. The first relates to the wording of questions, and the second to the visual/interactive aspects of the questionnaire.

When questionnaires are not administered in person (e.g. postal and internet), it is important that respondents interpret questions in the manner in which the researcher intended. Respondents to web-based question-
naires do not have the benefit of having someone at hand to check the exact meaning of a sentence, and wording which seems innocuous to the researcher may, in fact, be offensive to the target population. Thus, in our self-harm research, the wording of the questionnaire was put at a premium. The manner in which this was realized was through having all three researchers negotiate and agree suitable wording.

In relation to the visual/interactive nature of the questionnaire, our own research utilized a predominantly forced-choice format, with respondents indicating their response by selecting the appropriate radio button or item from a pull-down menu. When using forced-choice questions it is inevitable that at least some respondents will not be completely satisfied with the options available. However, an open acknowledgement of the limitations of such questions would indicate to potential respondents the scope of conclusions that researchers wish to draw from the data, and therefore make participation more likely.

**Recruitment of respondents**

Once a questionnaire has been constructed and tested, the next stage is to recruit willing respondents. We located a number of internet discussion groups (newsgroups and bulletin boards) which were primarily or peripherally concerned with the issue of self-harm. The eventual manner of recruitment was through posting a message to the groups indicating the nature of the questionnaire and its web-address.

Prior to participation, potential respondents were offered the opportunity to ask questions via e-mail. A dedicated e-mail address was set-up for the study which was intended to reinforce the ‘legitimacy’ of the study, while also providing a central address for respondents to make contact. This address was monitored by all members of the research group so that we were all aware of which issues had been dealt with and which had not.

**Time-span of research**

Major benefits of web-based questionnaires and surveys are that they do not require the administration of materials in person, are accessible worldwide, and are therefore available cross-culturally. Thus, in our study, once the recruitment postings had been made, the questionnaire administration and recording of responses was self-running. E-mail addresses had been provided for any questions or feedback in relation to the questionnaire itself, and in addition an address was provided for reporting technical issues in relation to the questionnaire.

The stage of ending data-gathering involved thanking respondents for their participation. This was achieved via a posting to all the groups that had been contacted initially approximately two weeks after the initial posting had been made. This interval was chosen so as not to leave too long a period between the ‘advertising’ and the thanking (by this stage there were no new responses being submitted).
Prior reports have indicated that one of the benefits of web-based research is the ease of data-gathering. Some of the time-consuming aspects of the investigation have been outlined above. Here, we simply want to highlight that time issues may be an important consideration. By considering the number of e-mailed responses that we received and responded to, we begin to appreciate that time needs to be set-aside. If the rate of e-mailing (one e-mail per nine valid questionnaire responses) is a true reflection of that which may be expected in other studies, then genuine problems of resources may arise if there is insufficient time to respond to each in person.

**Technical issues**

It is important that potential respondents do not spend time providing data which can not be processed due to technical problems. This is especially the case when they are being asked about issues that they may find emotionally upsetting or troubling, as with the case of self-harm. Here an outline of the steps that were taken to avoid this situation in our own research shall be given.

In our research, different web-servers were used for the questionnaires and for the script that recorded responses to the questionnaires. Thus, there was the possibility for respondents to spend time filling in the questionnaire, and, when attempting to submit their responses, finding out that the server was ‘down’ (i.e. not functioning correctly). Therefore, instead of having a direct link to the questionnaire, the link was provided to a script on the server on which the script to record responses was to be found. All that this script did was to return the location of the questionnaire. Thus, from a respondent’s perspective, if the system was up and running the set-up would be experientially identical to a direct link. However, if the web-server with the script was down, then they would receive an error message before having completed the questionnaire. Naturally, this method does not deal with web-server crashes during the time that the respondent completes the questionnaire, but it should deal with most such problems of down-time.

The second aspect to be considered emerged during the running of the study. In the database of responses it was noted that there were a few occasions when the script had been triggered but the responses had not been recorded. Two possible explanations for this are: (1) that they were not triggered by an attempt to submit responses, but by typing in the location of the script into the web-browser (the motivation for people doing this would be through inquisitiveness as to how the script may respond if triggered in this manner, or through an attempt to sabotage the data-set); or (2) that the respondent had filled out the questionnaire but that the responses were not received by the script (this may occur as the result of a web-browser not supporting the ‘post’ method of sending data).

If the latter explanation is correct then these respondents had spent time on data that was not to be received. To avoid this in future studies it is suggested that a check be made that the respondent’s browser supports the
protocol for data collection. This may be achieved simply by putting a hidden field into the page that precedes the presentation of the questionnaire. A script could check that the information in the hidden field is received correctly before returning the location of the questionnaire, otherwise it could return a message stating that the browser is not supported.

Methodological considerations

Having given initial consideration to some of the practicalities involved in web-based research, we now go on to discuss a number of methodological issues which may impact upon the reliability and validity of data. These are: sampling; the authenticity of responses; response rates; and the analysis of data. Some of the issues may extend or overlap with those already discussed, or to be presented later in the section looking at ethical considerations.

Sampling

Methods of sampling a population in order to gain data that is representative of the target population are always a consideration in a research project. One issue that is raised when performing research over the internet is that the sample is by its very nature restricted to internet users, who as a group may not be representative of the population as a whole.

It is important, however, to consider the recruited population in relation to that which would have been available through the use of alternative recruitment methods. In consideration of our study into self-harm, it may be argued that self-harmers who use the internet are not representative of the whole self-harm population. However, in this particular instance, the recruitment method has benefits over many of the alternatives. For example, the use of internet discussion groups allowed respondents to participate whilst maintaining their anonymity, and without the need to interact with other people. Such involvement may gain participation from a number of people who would not be willing to take part had they been contacted in a more personally direct manner.

The method also allowed sampling from a world-wide population rather than a more geographically focused group. Having said this, the questionnaire was written in English, and postings were only made to discussion groups using written English. In addition over half of the respondents (133 of the 243) reported having American nationality.

One issue that researchers who conduct future surveys over the internet may wish to consider concerns the homogeneity of the sample. In our study postings were initially made to groups that were dedicated to the discussion of self-harm. Following this, groups in which self-harm had been discussed, but that were not dedicated to the subject, were also contacted. In retrospect it was felt that although all the groups were associated with
self-harm, dealing exclusively with discussion groups dedicated to the topic under investigation would minimize the possibility of group members feeling as though they are being intruded upon, and would also increase the homogeneity of the respondent group.

Should researchers choose to approach a diverse set of groups (with the potential for heterogeneous data), we would recommend recording the discussion group from which each respondent was recruited. This may, however, have implications for the actual, or perceived, anonymity of the respondent.

**Authenticity of responses**

Issues that arose in relation to the authenticity of responses in our study shall now be discussed. Under consideration here are: the possibility that non-self-harmers may have submitted results; that self-harmers did not reply truthfully (or accurately); that multiple submissions were made resulting in some opinions being over-represented, and; the possibility of other forms of sabotaging the data-set.

The possibility of non-self-harmers having contributed to the data-set may be assumed to be minimal due to the ‘advertising’ having been relatively targeted as only discussion groups that had dealt with self-harm were approached. Therefore, it would seem that only self-harmers, or people with a strong interest in the topic, would have been monitoring, and therefore responding to, the postings. Researchers who choose to adopt a less targeted method of ‘advertising’ may wish to consider the possibility of unwanted respondents contributing to their data-set.

The issue of the accuracy of the gathered data was also considered. Attempts were made to gather as truthful responses as possible. Due to the nature of some of the topics under investigation, it was decided to provide the respondents with the option to select a ‘decline’ option rather than being forced into making a response to all questions. This provision also allowed the distinction to be made between answers where no selection had been made (for example through erroneous omission of responding), and those that respondents had read but chosen not to provide a response to.

The ‘decline’ option was used by some respondents, and in the follow-up questionnaire 53 of 55 respondents indicated that they thought an option to decline answers should be given. In addition seven of the 55 indicated that if faced with a question that they would prefer not to answer, but were not given an option to ‘decline’, then they would not complete the questionnaire. This is a serious consideration for people conducting future research into such areas. If the figure is representative of the actual behaviour of respondents then over 10% may be lost through not providing this option.

Whilst some of the feedback in relation to the response options available may have been anticipated (e.g. that some issues were too complex to be answered on a simple scale), one which was not expected was in relation to respondents’ understanding of their own experience of self-harm. For instance, one aspect of the investigation dealt with people’s feelings before,
during, and after a period of self-harm. One person e-mailed to express that they did not know how they felt during these stages.

In the feedback questionnaire people were asked whether there were any questions to which they did not know the answer, and whether they thought that a ‘don’t know’ response should be available. Of the 55 respondents, 26 indicated that there had been questions to which they genuinely did not know the answer. Furthermore, 50 of the 55 indicated that questionnaires should have a ‘don’t know’ option for people to select. While it is acknowledged that one cannot cover all possibilities of responding, it is felt that the inclusion of the ‘decline’ and ‘don’t know’ options should be considered by researchers.

The integrity of the data-set is also dependent upon respondents not being allowed to over-represent themselves by making multiple submissions. Therefore, on a purely practical level, some monitoring of submissions needed to be made. For example, if a respondent makes multiple submissions, wherever possible these need to be identified and removed. In order to achieve this, some indicator of the machine used to submit responses and the time of submission needs to be recorded. In our study it was noted that on several occasions responses were made in quick succession from the same machine. It did not appear that these were ‘malicious’ (i.e. attempted sabotage), rather than they had been made because the initial submission had been made erroneously before the respondent had answered all the questions that they intended to.

**Response rates**

Here, brief mention of the rates of responding by respondents shall be made. Figure 1 shows the response rates to the main questionnaire. The striking feature of the plot is that there are periods showing rapid bursts of data-gathering which tail off quickly. Points A, B, and D on the plot reflect times at which the questionnaire was ‘advertised’. Point A is at the initial posting to groups. Point B is at the initial posting to a second batch of groups. Point D represents the time at which the groups that had initially been contacted were thanked for their participation. At this time the groups

![Figure 1. Response rates to the questionnaire.](image)
were informed that data gathering was continuing, and a further two

groups were informed of the study and thanked in advance for their

participation. For these three points the pattern may be as expected with

people responding close to the time at which they see the ‘advertisement’.

Point C represents a small increase in response rate. It also coincides

with the beginning of the weekend (point A represents a Monday

afternoon, British Summer Time). This seems to indicate that whilst

many respondents were making their responses during the week, a subset of

respondents may only check the discussion groups at weekends (some of

the other weekend increases may be subsumed by their proximity to times

at which the site questionnaire was ‘advertised’).

The point that presents the greatest anomaly is point E. The magnitude

of this rapid increase in response cannot be accounted for by advertising or

a weekend, yet it would seem to have a definite cause as opposed to being

merely the result of a random fluctuation in response rate. A possible

explanation is that an individual who had seen one of our advertisements

may have informed another discussion group which resulted in another

increase in responding.

Data input and analysis

Although it was stated that using a CGI script to record responses to disc

would eradicate transcription errors, one important qualification to this is

that the reliability of the recording of data rests upon the form in the

HTML page passing the expected information to the script, and the script

behaving in the expected manner. Both of these issues are easily dealt with

through checking the HTML document and testing the script thoroughly

before its deployment. For example, when using radio buttons it is

tempting to copy and paste an existing button (which will also copy its

attributes). Here it should be ensured that the ‘value’ attributes of the

buttons reflect their intended, as opposed to copied, values otherwise the

same response will be recorded irrespective of the option selected by the

respondent. In addition, in terms of the CGI script, checks need to be

made that all the data passed from the form is recorded to file by the CGI.

Finally, consideration needs to be made in terms of how the HTML

page is checked. Whilst it is tempting merely to check the page on one’s

own computer with a single web-browser, this approach has many

shortcomings. The same browser may behave differently on different

platforms (e.g. between the Mac OS and Windows). Similarly different

browsers (e.g. Netscape and Internet Explorer) may behave differently on

the same platform. Additionally, if web-design tools are used for the

development of a questionnaire they may use technologies such as Java and

JavaScript that may be implemented differently on different browsers and

platforms. In essence, checks should be made on as many browsers and

platforms as possible. If it is found that there are certain configurations that

are not supported then attempts should be made to convey this information

to potential respondents so that they do not waste time participating in a

study from which their responses will not be recorded. It was for these
reasons that our study employed a single HTML page. Whilst it may have been possible to improve the user interface through the use of other technologies, it was felt that the benefits would have been outweighed by the potential adverse effects of the questionnaire not being available to as wide a population.

**Ethical considerations**

Having discussed the methodological aspects of web-based research, we now contemplate ethical issues. Under consideration here are: approaching internet discussion groups; the anonymity of respondents; protection from harm; data security; and the possible benefits to respondents.

**Approaching internet discussion groups**

In our self-harm research we took a number of precautions when approaching potential respondents via internet discussion groups. Firstly, our postings did not contain the questionnaire itself but instead gave an indication of the nature of the research and the web-address at which the questionnaire could be found. This was deemed to be the most non-intrusive manner of approaching groups, and on the whole was well received.

In our initial posting we stated that we hoped that it was not inappropriate to make the approach in the manner we had. In fact, nearly all of the comments that we received were supportive of our approach to the discussion groups, with group members being appreciative and welcoming of our research into self-harm.

Throughout the study we only received one e-mail indicating disapproval for making a posting. However, following personal communication with the author of the e-mail they revealed that they simply did not like people making postings of that nature (‘advertising’) to the group. Also there was no indication that they were speaking on behalf of the group as a whole. It should also be noted that this came from a posting to a group that was not dedicated to self-harm which proved to be the source of the issue.

We had originally intended to restrict the invitation for participation to groups dedicated to self-harm, and had decided to send the same, well thought-out, message to all the groups rather than individual messages that may not have been so carefully worded. However, in order to increase the sample size, we later decided to also approach groups in which self-harm had been a topic of discussion. It was only when we received the e-mail that we realized that the original posting addressed its target audience as a self-harm group. The consequence of this being that it appeared as though we were being indiscriminate in the postings (i.e. used spamming). This example of an error is provided in order to highlight the care that needs to be taken with every communication that is made when conducting such research.
Maintaining the anonymity of respondents

An important ethical consideration is to maintain the anonymity of respondents. In our own research, respondents were given the opportunity to enter an identifying name on the web-questionnaire, though they were requested not to use their real name. The purpose of this was that it would allow us to identify their responses should they contact us subsequently to enter into further research so that we would not have to ask them the same questions again.

Personal anonymity may be central to gaining reliable information. The issue of anonymity may be highlighted by reporting that following our recruitment postings, one individual made a posting to one of the groups asking whether respondents had to give their name on the questionnaire. Another member replied that they had completed the questionnaire and that such information was not required. The irony of this being that they could not ask us about this anonymity via e-mail as they would then have disclosed their identity by providing an address through which their true identity could be ascertained. One manner in which future work may tackle this is by formalizing arrangements for interaction with group members in a manner that maintains their anonymity. Perhaps the best manner of achieving this would be through stating that the original posting would be checked regularly for comments that would then be responded to on the group. So long as this is achieved through the following of a thread, this should not impose heavily on the group itself. An alternative would be to set up a dedicated bulletin-board for the study. This would have the advantage of not imposing on group members in any manner.

Protection from harm

Ensuring the well-being of respondents is of paramount importance in any study. When internet research methods are combined with sensitive subject areas this issue is compounded. Two aspects of protecting respondents from harm shall be dealt with here. The first relates to ensuring that the information that the respondents have entrusted to the researchers is dealt with in a sensitive way. The second involves ensuring participation in the study does not affect the respondent in any adverse manner. The relevant considerations in relation to dealing with the information in an appropriate manner are made in other parts of the paper, for instance those that deal with the anonymity of respondents, and shall not be repeated here.

The potential for the act of participation in the study having adverse effects upon the respondent is an important issue deserving of consideration. Whilst the internet allows for the possibility of administering questionnaires in an automated manner to people who may not wish to reveal their identity, there is the possibility that the study may have negative effects upon respondents without the researcher being aware of the effects, or being able to offer support.

The manner in which we addressed this in relation to self-harm was by taking great care in the wording of all communications. Postings
advertising the study mentioned only of the nature of the study, the questionnaire itself was not posted to the site. Additionally, when accessing the web-site upon which the questionnaire was hosted, visitors were provided with an introduction to the study and e-mail addresses that allowed queries to be made prior to being exposed to the materials in the questionnaire itself. Finally, all queries were responded to as promptly and fully as possible. The aims of all these measures were to reduce the possibility of any of the materials providing triggers for self-harming behaviour, and to reduce any anxiety that the study may cause.

Data security

Two general issues in relation to the security of data are dealt with here. One refers back to the notion of ensuring the anonymity of respondents, the other to the protection against data-tampering. When responding, it may be assumed by the respondent that: (1) the researcher does not know their identity; and (2) that people other than the researchers will not be able to gain access to the information.

Earlier it was stated that the machine number from which submissions were made, and the time at which these submissions were made, were recorded. This does, however, present a potential problem in relation to anonymity as with this information it may be possible to identify the respondent. The implications of this may be further stressed if the study involves questions of a sensitive nature, or questions in relation to illegal activities (e.g. drug use). This is particularly important if authorities have the power to demand access to data. In such instances there may be implications for the respondent if they can be traced. One way to deal with this would be not to monitor the machine number and time of submission, but this would negate the possibility of detecting erroneous submissions.

The suggested manner of tackling this issue is through the one-way scrambling of the machine-number and time of submission (i.e. encoding it in a manner that cannot subsequently be decoded). The sole requirement is that the scrambling provides a unique number for each machine, and the time of submissions does not have to reflect the actual time of submission (unless this is crucial to the study).

With such a one-way scrambling (and destruction of the algorithm used following the study) the researcher cannot then trace the respondent or provide information that would lead to such tracing. Naturally it may be possible for such information to be intercepted at a higher level, but this is felt to be beyond the scope of the researcher’s responsibilities. It should be noted that securing the data during transit over the internet cannot be guaranteed by the researcher as there are many potential sources of leakage (for example the respondent’s internet service provider may monitor usage). Whilst informing potential respondents of this may lead to a reduction in the number of respondents, transparency of potential issues in relation to the dissemination of the responses they provide is central to good ethical practice.
The final issue to be addressed concerns the security of the data once it has been collected, and the potential for it being tampered with by malicious internet ‘attacks’. There does seem to be a perception that data gathered in internet studies is more vulnerable to attack from outsiders than data gathered using more traditional means (e.g. paper and pencil questionnaires from which data is inputted manually into a software package for subsequent analysis). An aspect of this which is often overlooked is that the vast majority of computers in universities and places involved in research are internetted, and as such are susceptible to attack from other internet users.

Benefit to respondents

Given the personal investment by respondents in our research, we considered it good ethical practice to provide feedback regarding the findings of the study. In the post-data-gathering stage in which groups were thanked for their participation, all newsgroups and bulletin boards initially approached were informed that a summary of the findings would be available at the research web-site in due course. These pages contained the e-mail addresses to be used in case of any queries. Following this, initial data analysis in the form of descriptive statistics were calculated and represented graphically. These summaries were then compiled into a web-site and postings were made to the groups to indicate their availability.

Summary

To conclude, this paper has aimed to outline some of the considerations that other researchers may wish to make when using web-based questionnaires.

Contrary to many reports, this study revealed a number of time-consuming aspects to researching using web-based questionnaires. As example, researchers should be aware of the commitments that they enter into, such as interacting with respondents over e-mail, and should set aside time for this in their schedule. Due to the ‘immediate’ nature of the internet researchers should ensure that such communications are dealt with promptly. This particular consideration may be confined to research into areas of a sensitive nature. In other research areas the need for such quick and deliberate e-mails may not be as important.

From the findings of our research we recommend that future researchers provide an option for respondents to decline to answer each question, and an option for them to indicate that they do not know the answer to a particular issue. Also it is felt that measures should be taken to allow potential respondents an anonymous manner of communication with the researchers (e.g. through the provision of a dedicated bulletin-board). Finally, researchers may relieve some of the burden of responding to individual enquiries by providing a page on their web-site with a detailed account of the study aims.
The internet is still very much in its infancy. In the years to come it is likely to adopt a more central role in western societies. It is hoped that the information provided here is of use to other researchers and may contribute to the development of valid, reliable, and ethical protocols for the use of the internet as a medium for research.

References


