

Review

Online Data Collection from Video Game Players: Methodological Issues

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ABSTRACT

The paper outlines the advantages and disadvantages of using the Internet to collect data concerning both online and offline gamers. Drawing from experience of a number of studies carried out online by the authors and by reviewing the available literature, the authors discuss the main issues concerning data collected from video game players. The paper examines a number of areas, including recruiting and utilizing participants, validity, suitable methods of data collection (i.e., questionnaire studies, online tests, participant observation, online interviews), and ethical issues. It is concluded that online research methods can be a useful way of examining the psychosocial aspects of video game playing.

INTRODUCTION

VIDEO GAME PLAYING is a psychological and sociological phenomenon that is becoming a focus of interest for many social scientists. Increasingly, video game researchers are using online methods to gather their data, rather than traditional research approaches. This paper examines the utility of online data collection for studying video game players by drawing from experience of a number of studies carried out online by the authors,¹⁻⁵ and by reviewing the available literature.

There are a number of very good reasons why the Internet is a good medium to carry out gaming research. For instance, the Internet:

- Is usually accessible to gamers, and they are usually proficient in using it
- Allows for studies to be administered to large scale samples quickly and efficiently

- Can facilitate automated data inputting allowing large scale samples to be administered at a fraction of the cost of "pen and paper" equivalents
- Has a disinhibiting effect on users and reduces social desirability; this may lead to increased levels of honesty (and therefore higher validity in the case of self-report)
- Has a potentially global pool of participants; therefore, researchers are able to study extreme and uncommon behaviors as well as make cross-cultural comparisons
- Provides access to "socially unskilled" individuals who may not have taken part in the research if it was offline
- Can aid participant recruitment through advertising on various bulletin boards and web sites

On a more general level, there is a growing body of material on the Internet which is archived; therefore, time-based research can be carried out. What's

more, the data are automatically transcribed, which suits some particular methodologies (e.g., interpretive psychological analysis, discourse analysis). The researchers do not have to be centred around one geographical location, as long as they have access to the Internet, and this makes international collaborations much more practical. The researcher needs to have some understanding of web design, but this is increasingly becoming less of a necessity as various forms of easy to use web design software become available. For example, here at Nottingham Trent University, there is a facility to produce online surveys that requires little or no knowledge of web design to use (i.e., <http://ess.ntu.ac.uk/autoform/>).

Finally, it is worth noting that experimental computer-mediated communication research has often floundered in the real world, and therefore more qualitative research carried out on the Internet is needed. Of course, there are some disadvantages to online research concerning issues such as confidentiality, validity and truthfulness, self-selection biases, as well as several ethical dilemmas, and these will also be discussed.

RECRUITING AND UTILIZING PARTICIPANTS

One of the biggest problems with any kind of social science research is getting people to actually take part in a study. First of all, there is the problem of finding suitable participants, and then there is the issue of whether or not they will want to be included in the study. It is probably because of these issues that a great deal of social science research utilizes the student population to recruit participants. Of course, students are not necessarily typical of the population at large, and often they may have some idea of what a study is about which may affect their response. Other ways of finding participants may be through a postal request, but these have notoriously bad return rates. Frequently, a survey that is posted out will yield a response rate of around 50%.⁶ This can also be an expensive undertaking, and waiting for replies can take a long time. Alternatives to postal recruitment are placing advertisements in local newspapers and specialist journals, but again response rates are typically low, unless there are sufficient funds available to pay participants to take part, and even then researchers may end up attracting a biased sample.

If participants do decide to take part in a study, assuming it is not a postal survey or a telephone interview, then someone has to travel to take part

(i.e., either the researcher must travel to the participant or vice versa). Either way, it takes time and money before the research can commence, and sometimes participants do not turn up and even more time is wasted. However, participants in online video game studies can usually take part from the comfort and privacy of their own homes, at their own pace, and at a time that is convenient for them. Online research is easy to publicize by posting links on relevant bulletin boards and sending emails to all the people that may be interested with a note to "forward this link to anyone else who may be interested." If the research sounds interesting enough, this snowball technique can be very effective and is not limited to the geographical boundaries determined by the costs usually associated with face-to-face (FTF) interactions. Therefore, using online research facilities can also allow a study to be both international and multicultural in scope. Furthermore, the speed and efficiency of online research means that often the study can obtain much larger and possibly more diverse samples than they could otherwise hope to attain.

For studying video game players, these advantages tend to be more prominent. Firstly, gamers nearly always have access to the Internet, and they are usually proficient at using it. They are invariably interested in what the researchers are studying and often want to take part. Furthermore, they usually know other gamers who will take part and can often recommend good places to post links to contact other gamers. However, all of this "good faith" is based on the premise that the researcher will treat them and their community with respect, something that any researcher should do anyway. However, much of the early research on video games was based around the notion that video games make children aggressive, socially withdrawn, or other negative aspects of gaming. That is not to say that these were not useful studies, but they did not do much for the reputation of social scientists, at least within the gaming community (this is discussed in more detail later in relation to ethics). Today there is a growing body of research that is beginning to examine video game playing as a entertainment and cultural phenomenon in its own right. Furthermore, much of this new research acknowledges that video games are not just played by children and teenagers but by adults and people of all backgrounds.^{3-5,7,8}

One way to maximize the number of gamers who are likely to take part is by explaining in detail who the researchers are and why they are doing the research. Many people are suspicious of unsolicited

requests to take part in studies, and they need to be assured that the research is not a hoax or part of a marketing scam, and that intentions are worthy. Researchers from established institutions have the advantage here in that they are usually identifiable and are more likely to follow a set of ethical guidelines than an individual working independently.

VALIDITY

When gathering online data from video game players, the researcher cannot always be sure that people are who they say they are (and that they only take part once), or that people are answering truthfully. However, this is also the case for any other kind of remotely administered study (e.g., postal or telephone). There is also the issue that any type of self-report is reliant on participants answering truthfully, although this is not just limited to online studies but a more general issue. One way to try to maximize truthfulness is to obtain a current email address from participants so that checks can be made at a later date, if necessary. This should also minimize the risk of people taking part in the study more than once, unless they have several email addresses. Often, non-genuine responses become apparent at the analysis stage and tend to be in the form of exaggerated answers. For example, if a participant reports that they play video games for 20 hours a day, this may warrant further investigation and verification before it is included in the data set. Furthermore non-genuine responses tend to be inconsistent. For example, if a participant rates their enjoyment of video games as low, and they say that they do not own any kind of computer or game console, then it is unlikely that they play for many hours at a time, seven days a week. Another way of verifying the data is to ask a sample of participants to complete the study again. Answers can then be compared with their previous responses, and the degree of correlation can be obtained. In such a way, the reliability of the data can also be assessed. However, it is difficult to verify that the participant is, for example, over 18 years old or is female or male. This also poses ethical questions, which will be discussed in more detail later.

SUITABLE METHODS OF DATA COLLECTION

There are various advantages and disadvantages for the types of data that can be collected online.

Much of the data gathered is going to be based on self-report measures, and this has its own set of limitations (for a full discussion, see Howard⁹). There are several types of video game data that particularly lend themselves to online collection, such as survey-based studies, psychological tests (e.g., IQ tests), aptitude tests (e.g., reaction times), participant observations, and interview-based studies. This is not an exhaustive list, but it represents the most commonly used methods for online gaming studies.

Survey-based studies

Surveys are probably one of the most useful applications for online research involving video game players. They tend to be primarily text-based, are cheap to produce, are generally easy and quick to complete, and the data can automatically be input into a statistics package (e.g., SPSS) for analysis. The online survey saves time in terms of administration and data inputting, not to mention paper and other resources. Large numbers of participants can take part with no increased consequences in terms of expenses. Such studies can be performed quickly and efficiently, and can be particularly useful in gauging opinions at any particular point in time. For example, participants could be contacted soon after a new game has been launched, for their initial impressions, and then contacted again at a later date when they have had more experience of the game. The online survey may be particularly useful for the discussion of sensitive issues that participants may find embarrassing in a face-to-face situation. The nature of this media means that a relatively high degree of anonymity can be maintained, and participants may feel more comfortable answering sensitive questions on their computer than in a face-to-face situation. (Note that anonymity may be compromised if participants are required to provide an email address.) However, care should be taken when discussing sensitive issues (e.g., sexual harassment in online gaming communities), as there may be an increased likelihood of causing offense or distress, due to a lack of non-verbal cues or ambiguity in wording. This may be minimized by careful phrasing of the questions, proof-reading by colleagues, providing a good explanation of the content of the survey, and encouraging participants to contact the researcher should they wish to. Providing links to self-help groups or therapists may also be worth consideration in some cases (e.g., the Samaritans, AA). Of course, these measures would be in addition to the standard ethical procedures adopted by researchers in general.

Online testing

Online testing relates to any number of tests, including psychological testing (e.g., intelligence tests, personality tests) and aptitude tests (e.g., measuring reaction times). Many of the advantages (as mentioned previously with surveys) also apply to online testing (e.g., economical to administer, to gather data, and to analyze), but of course the same issues about validity (as mentioned earlier) will also apply. Furthermore, there have been various studies that have found high degrees of validity for online tests compared to their pen and paper equivalents.^{10–12} Online tests also have the advantage that they can be more standardized than “pen and paper” tests in terms of the instructions given and the time allowed to complete the test. Results can be given back to the participant immediately, automatically added to an ongoing data bank, and summary data such as average responses can also be given back to the participant.

Such tests may be used for examining the psychological profiles or aptitudes of different types of gamers, or for comparisons of gamers versus non-gamers. However, they are not very useful for examining video game playing culture or personal experiences of game playing. There are also issues of copyright to consider when publishing established tests online. Permission usually has to be sought from the publisher, and this may not be forthcoming, or may incur a fee. Furthermore, publishers may be concerned that an online test is liable to be reproduced or distributed by some participants for their own purposes. However, we would argue that in practice it is probably not much easier to copy an online test than a paper version of the same test. Document formats such as pdf can limit the use of electronic copying, and printing off a copy is no different than being given a paper copy in the first place. Furthermore, as Barak¹³ points out, unless a person has the scoring key, there is not much advantage to be gained in copying the test anyway (for a full discussion of online psychological tests, see Barak¹³).

Participant observation

Participant observation as a psychological research method grew out of the philosophy of phenomenology and the writings of Edmund Husserl (1859–1938) and was concerned with people’s experiences and how events are perceived. Many anthropologists and sociologists have employed the ethnographic method as a means of understanding and describing in detail different cultures. This method

has many advantages for studying video game playing online. Firstly, any kind of online research will always have a subjective and interpretative element to it. The behaviors in question cannot be observed from outside of the framework within which it exists. That is, by going online, the researcher becomes a part of the phenomenon that is being studied. Furthermore, personal experience of the domain of investigation can be a distinct advantage in many ways. For example, understanding what playing the games feels like, knowing game playing etiquette, and experiencing the actual dynamics of the game can all be very insightful and may sometimes be essential for the design, implementation, and analysis of video game studies. Also, as mentioned before, gamers may be suspicious of a researcher’s motives and are likely to be reassured if they are aware that the researcher is also a participant and has an understanding, and perhaps an appreciation, of what they are studying.

Such insight will inevitably reduce the likelihood that the study will misrepresent the gamers or gaming phenomenon in question. Participant observation requires that the researcher make explicit their own biases and influences during the research, and is a method that relies on lengthy description and attention to detail. Participant observation is subjective, but subjectivity does not necessarily equate to bias. The researcher must make clear, when writing the report, their role within the study and provide enough detail that the reader can draw their own conclusions, or at least, see how the researcher arrived at theirs. Many of the people who study video games do so because they first developed an interest in the subject by playing games themselves. In this sense, there are probably not many researchers who can approach the study of video games from a completely neutral standpoint. As long as what they do is explicit and detailed, then this does not have to be a problem.

The academic rigor of such studies can also be made more robust by applying a number of procedures during the research. Standardized questions can be used when talking to other gamers, or standardized procedures can be used when actually taking part in a game. Detailed logs provide a record of events and can be re-visited after the event itself has finished. Screen captures can be taken and used as examples or related back to the logs. Several researchers can be employed to gain different perspectives and to compare notes on a phenomenon to gauge inter-observer reliability. Periods of self-reflection may also be useful to examine one’s own moods, feelings, and attitudes in relation to any occurring events, and these too can be detailed

in a log. Finally, results can be posted on bulletin boards, and other participants can be asked to comment on the accuracy of the descriptions, and for any other observations that they may have. This also helps to empower the participant and ensure that they are not so likely to be misrepresented. In short, whilst participant observation is very subjective, it can provide very detailed and insightful accounts. Such accounts can be useful in themselves, and/or they can be used to develop further studies, perhaps utilizing other types of method. For example, the experience and information gained may be useful for constructing a survey or developing an interview schedule. For a good detailed example of online participant observation, see Suler's¹⁴ study of *The Palace* discussion group.

Online interviews

Online interviews can constitute studies in their own right, or they can be carried out alongside traditional face-to-face interviews, focus groups, and other data collection techniques such as questionnaires. Bampton and Cowton¹⁵ have coined the term "e-interview" to denote e-mail exchanges with research participants. Unlike face-to-face interviews, e-interviews take place in cyberspace, and as such, they can disrupt and transform experiences of time and space. Firstly, the interaction is asynchronous, and secondly, the Internet is a non-physical space so interactions between people are situated differently. However, information communicated in this way should not be seen as inferior data, rather it is different. Holge-Hazelton¹⁶ suggests that oral culture is different from a written culture, and the Internet is different from both. Consequently, it is reasonable to assume that the Internet is able to use both to the advantage of the researcher.

Collecting data via e-interviews means a considerable saving in time for both researchers and participants. The researcher no longer has to make time-consuming (and costly) journeys to visit participants in their homes, and the opportunity to interview participants from other countries becomes a real possibility. Indeed, Bampton and Cowton¹⁵ point out that some researchers might be able to e-interview in a foreign language even if they are insufficiently fluent to do so face-to-face. For the participant, the e-interview can be attractive and convenient, allowing them to respond in their own time. Questions can be "chunked" and asked over a period of time, although this needs to be established at the outset of the study so that participants do not suffer from interview fatigue. However, ground rules as to how long interviews should last,

indicating issues to be discussed, are no different from those in face-to-face studies and constitute good practice. Moreover, there is less pressure to provide quick responses as can be experienced in more traditional interviews (despite researchers stressing otherwise). Rather, the participant has the opportunity to think and reflect at some length on the questions which can produce more considered responses and possibly even richer data. Studies dealing with sensitive issues might also benefit from using e-interviews as feelings such as embarrassment are avoided and a degree of anonymity afforded. However, it could be argued that, despite these benefits, there is a loss of spontaneity in the interview interaction. Nevertheless, this seems a minor and not inevitable drawback, and it is more likely that participant responses will be variously spontaneous or delayed.

In addition to e-interviews, Internet *forums* are an excellent source of rich textual material. Forums are interactive sites where messages can be left or particular topics discussed in real time. These sorts of data can be described as naturalistic and can be collected without identifying oneself as a researcher or even acknowledging one's presence. Collecting data by "lurking" raises some interesting ethical issues that will be discussed later. However, there are many differences in the nature of such forums—some are established communities, whilst others are far more transitory. For example, a recent study by Chappell et al.⁴ looked at forums concerned with the online role playing game, *EverQuest*. The sites accessed provided a space to discuss concerns about excessive game playing from players themselves as well as family members and friends. However, our sense was that most people posted one-off messages and did not engage in extensive dialogue with others.

ETHICS

When conducting video game research online, all usual ethical considerations should be taken. For example, researchers should obtain informed consent, maintain confidentiality, and make participants aware of their right to withdraw. These issues have been outlined at length elsewhere and have resulted in comprehensive professional guidelines by such organizations as the American Psychological Association and the British Psychological Society. In addition to these guidelines, there are some further issues that are specific to online studies. Firstly, researchers have a duty to the research community as well as to their participants to avoid moral panics, or to produce research that only examines the nega-

tive consequences of playing video games. That is not to say that these areas should not be studied, but it is worth thinking about “the whole picture” and the implications of the research before it is undertaken. Related to this issue is the matter of media coverage for which video game playing has always been a particular source of interest. It is important to think about the media implications of the research and the consequences that it may have. It may be that the researchers decide that the cost outweighs the means, or that the publicity may be a positive thing. Either way, it pays to be prepared for media interest and to think about ways of dealing with it. Often if the media are not given an adequate explanation of the research, then they will draw their own conclusions instead, and these may not be wholly accurate. It is also worth considering how such publicity would affect the people who participated in the research. Would they feel betrayed or embarrassed? Would such publicity have consequences for them, perhaps from parents, employers, or even legislators? It is not enough to say that this kind of research is value-free and leave it at that. Video game playing is a social phenomenon, and the findings of such research can have far-reaching implications. These problems can sometimes be difficult to foresee, and hence any research proposal should be cleared by an ethics committee made up of peers who are knowledgeable about the area, and perhaps include representatives from the sample that is likely to take part (i.e., ask some of the gamers for their views).

Protecting the individual

Protection of the individual can be a far more difficult process than in offline settings. How can we be sure who is actually taking part in the study? Previous research has identified that some gamers will actually switch genders whilst playing,^{3,17} and it is just as conceivable that participants could lie about their age, their location, or any number of demographic variables. For example, consider the news stories about pedophiles who pose as children in chat rooms.¹⁸ This raises problems about the issue of consent, particularly in relation to minors. How can we be sure that our participants are consenting adults? The short answer is that we can never be 100% sure, and thus we should be aware of the implications and consequences should minors take part in our studies. Nevertheless, we should still make it clear that we require participants to state their age and to state that they are over 18 years of age or that they have permission to take part from

their parents. Other issues that arise may depend on the type of method employed and the nature of the study.

Extra care should be taken when researching sensitive issues (e.g., excessive gaming behavior, sexual harassment in online gaming communities). It is often difficult to ascertain in online studies who may be a vulnerable participant, and these people could be in a relative state of isolation sat behind their computers with little or no social support. Providing an e-mail address for correspondence and/or details of support groups (e.g., the Samaritans) may be worth considering, but the researcher must be careful not to provide advice that is beyond their professional knowledge. Furthermore, in any text-based correspondence the researcher should be aware that the lack of verbal and non-verbal cues can sometimes lead to the receiver misinterpreting either the meaning or the context within which the dialogue was intended. Careful attention should be paid to the wording of the correspondence and all the possible connotations that they can carry. The use of text-based expressions may help clarify the tone of the message (e.g., ☺, LOL). Studies involving any kind of psychological testing should consider any possible negative impact that may result from the insights gained as a consequence of taking the tests. Careful explanation of what each test measures and the implication of the results is an essential requirement. One way to provide reassurance and feedback is to set up a web site that provides details of the study, gives summary findings of the results, and lists contacts, support groups or links to any further information that may be of use.

Respecting a participant's right to privacy is a basic ethical requirement of any social science study. However, this issue becomes more complicated when studying video game players online. In general, the rule of thumb is that we should only observe people in a situation where they would ordinarily expect to be observed, such as a public space. In cyberspace, these boundaries become blurred as it is often difficult to ascertain what exactly is the public domain and what is a private domain. For example, if we were to “lurk” in a chat room containing two other people, would this chat room be considered a public domain? What if these people were not aware of our presence and were discussing intimate issues? On some levels, cyberspace is always a public domain unless specifically designated as private. However, can we be sure that everyone thinks this way? It is probably best to assume that people are not aware of our presence

unless we make ourselves explicitly known to them, at which point the situation becomes public, unless they are under the impression that they are in a private correspondence with us. In other words, it is the perceptions of the participant that define the domain as public or private, rather than the physicality of the situation.

The issue of privacy becomes more complicated if the researcher is employed in a participant observation. In such cases, it is usually best to make other participants aware of the situation, unless there is good reason to assume that this would adversely affect the responses of the people involved, and the likelihood of harm to others through covert methods is minimal. For example, if the research aimed to examine sexist language during an online gaming event, detailing these motives could significantly affect people's responses. However, if participant identities are kept anonymous in the report, then no individual harm is likely to result. However, identity in cyberspace can be multiple, and anonymity should be afforded to player's character names or personas as well as their actual names (assuming that these are even known). Other ethical considerations relate to the recording of information such as keeping logs, saving texts, or taking screen shots. We should consider whether or not these actions would be considered as a breach of confidentiality and whether or not the gamers would be comfortable with such recordings taking place. It is probably best to make such information known to the gamer unless it is in a situation where it would compromise the integrity of the study, and assuming that confidentiality is maintained.

CONCLUSION

As we have seen, online research methods can be a useful way of examining the psycho-social aspects of video game playing. They provide an extremely efficient way of gathering data and give the potential for large scale multinational studies to be performed. Furthermore, video gamers' familiarity with the technology and the anonymity of the media may facilitate such studies further. The main disadvantages (e.g., potentially biased sample, validity issues) are in many ways no different than those encountered in more conventional research techniques. The application of rigorous research protocols can help to keep these concerns down to acceptable levels. The main problems that researchers are likely to encounter concern ethical issues; however, these are not (usually) insurmountable. Video gam-

ing is by definition a technologically driven pursuit, and consequently online research methods may constitute some of the most useful and appropriate ways of examining that phenomenon.

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