DOING PSYCHOLOGICAL RESEARCH ON THE INTERNET

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Abstract: Some advantages and disadvantages of doing psychological research via the Internet are discussed, specifically bias, disclosure, resource utilization, and sampling.

The Internet represents a relatively new and uncharted ocean for psychologists studying the social dynamics of human interpersonal communication and interpersonal relationships. Since all research avenues have their inherent strengths and limitations, it behooves researchers to study and articulate them to understand more fully what psychological research on the Internet can and cannot offer, and when it is appropriate for the research and when it is not.

The purpose of this paper is to describe some of the advantages and disadvantages of doing psychological research on the Internet. It is based primarily on the experience of the first author [Petrohilou 1997], who completed the collection of her data for her doctoral dissertation project via this technological medium, and secondarily on prior online collaborative research conducted by the second author [Collen et al. 1986, Peel et al. 1986].

Synopsis of the Primary Project

The research project [Petrohilou 1997] was a study of long-term heterosexual couple relationships. It required couples to respond to several questionnaires concerning the aspects and quality of their relationship. In total, there were over 500 questions asked of each couple. To obtain the participants, a brief description of the project was posted in Internet news groups and bulletin boards. Potential participants then contacted the first author by email. A consent form to participate was sent by email and subsequently, the questionnaires themselves in an attached file format. Completed questionnaires were received back by email at a rate of 5-10 per week.

Over the period of data collection several advantages, difficulties, and limitations of doing research with this medium became evident. The rest of our paper is a discussion of six issues stemming from our online research experience, which may be of some value to others engaged in or considering research activity on the Internet.

Prescriptive Sampling

The potential for research access to participants seems unlimited geographically as the network becomes more dense and coverage more global. As persons pick up a solicitation to participate in research and respond, concerns can be raised about the demographics of the research sample. Even a few delimiting characteristics communicated in the notice posted may bring a wide diversity of responses along the demographic characteristics left unspecified.

Although we made a decision early in the first author's research to limit the study only to couples residing in the United States, participant demographic profiles ranged widely from a housewife in rural Idaho to a business executive in the city of New York. What one learns quickly from this experience is that the diversity of the sample can mushroom rapidly and uncontrollably. In traditional forms of questionnaire research, the investigators usually decide in advance of data collection: 1] the population from which the sample is to be selected, 2] the sampling plan to be followed, and 3] the criteria to delimit the sample for generalizability and comparative purposes.

Without careful specification, psychological research on the Internet may prove less valuable with diffuse samples about which the researcher knows little. Therefore, one might consider the use of prescriptive sampling, whereby the various selection criteria are clearly posted in advance, so that those who do respond likely fall within the specified parameters, which in any case should be verified in subsequent communications.

Sampling Bias

Psychological research on the Internet necessarily is limited to those who have access and knowledge of the technology. In the first author's research, there were more female participants who were unemployed wives and mothers, and male professionals in employed positions. If such a sample is skewed in the demographics from the population studied, for example, the answers obtained to the research questions may not be representative of the population. Further, different segments of the population use the Internet for different purposes, which may not fit the researcher's interest and selection criteria. And there are likely gender differences on usage as well.

Possible sampling biases bear importantly on the appropriate choice of sampling plan [Babbie 1973], relating back to the first issue discussed above. The demographics of an Internet sample may jeopardize meaningful comparisons with non-Internet samples. Also, there may be unknown characteristics that unify an Internet sample that do not apply to volunteer non-Internet samples, or samples drawn via other media. It seems relevant to determine exactly how different Internet samples are demographically relative to samples obtained by other means. Until a greater proportion of the human population is online, this research issue will leave lingering doubts about the comparability and commensurability of Internet user research findings versus non user findings.

Interestingly, prior to embarking on the data collection, the first author posted questions about the feasibility of doing research on the Internet in International Newsgroups and Mailgroups, such as psycresearch-online and sci.psychology. The responses received from scientists suggested that, although many of them were conducting simple surveys on the Internet, most were reluctant to expand the breadth of their research through this medium. Overwhelmingly, they attributed their reluctance to concerns regarding sampling bias.

Although concerns of sampling bias are understandable, it would be worthwhile to examine whether the sampling bias, that is crucial as a threat to internal and external validity in laboratory and field settings [Campbell and Stanley 1963], also applies as importantly to research on the Internet. The Matrix Information and Directory Services [MIDS] publishes reports on the demographics of Internet users. According to MIDS, the Internet had 30 million users in 1995 and was projected to double by 1996. There were 66% male users and 53% users in the 16-34 age range. Occupationally, 63% were professionals, 30% students, 5% blue collar workers, and 1% retired. Over both the continental United States and Canada 17% of the population had Internet access. Up-to-date demographics of this kind are very useful for a multitude of research related purposes and concerns about validity.

Serving Difficult to Reach Populations

It is well known that there are many smaller communities in North America, which remain largely isolated. Subscription to an online provider has brought access to many members of these communities for research and other purposes. In the project of the first author, 30% of those participating came from such communities in Iowa, Kansas, and Montana.

The incorporation of difficult to access portions of the population brings more opportunity for these segments to have a greater presence and influence in research findings. This is a double edged sword. A disadvantage is a sampling bias in cases of disproportionate representation of these segments, as perhaps noted in the above statistic [30%]. An advantage is that these persons can bring more to the foreground their special needs, characteristics, and qualities that of course are essential contributions to the more comprehensive knowledge and theory base for psychology.

Honesty of Response

From the beginning of the data collection, the first author received unsolicited feedback from participants, covering such areas as the nature of the questionnaires, the anonymity of the researcher, doing research on the Internet, personal self-disclosures, and requests for self-disclosures from the researcher. Consequently, we made the decision to facilitate this post-data exchange to learn more about the participants. The intention was to 1] understand better online research issues, 2] clarify possible participant demographics and delimiting aspects of the sample, and 3] be in a more informed position to assess whether a possible problem existed regarding the credibility, honesty, and validity of the data.

Feedback was requested from all participants, and the request was structured around two axes: content feedback regarding the questionnaires, and process feedback comprised of their thoughts and emotions elicited by the researcher's anonymity and "absence" as a real human being. However, in most cases, participants' responses combined the two axes.

The vast majority [70%] of the participants stated that they were comfortable responding to questions on their computer, and 92% indicated that the researcher's anonymity was "positive." Many participants commented that knowing nothing about the researcher helped them respond honestly to the questions. In the words of one woman, "It was like I was talking to myself or had just turned the tape recorder on. I felt free to think honestly. You weren't there. You didn't matter. You are nobody and I will never meet you. It was liberating."

The remaining 30% participating found the computerized aspect of data collection somewhat awkward. Most of them indicated some unfamiliarity both with computers and the Internet. However, virtually all of these participants also rated the anonymity of the researcher to be "positive." One person said, "I don't like computers much but this was good. I don't even know if you are a man or a woman. It felt good to do this."

In short, from their perception of the medium, interaction with the researcher, and the enduring anonymity of the researcher, we infer that these conditions worked favorably to enhance the honesty of the participants' questionnaire responses. This is an exceedingly important issue for research, because it could be that these online conditions work to encourage responses characteristic of fabrication, dishonesty, false disclosure, and play acting. Furthermore, contrary to expectations, anonymity of the researcher may reduce biased responses linked to participant's knowledge of the researcher. Finally, the anonymity makes it less likely that the researcher can contaminate the data collection process through self-disclosure, hence risks of researcher bias are lowered as well.

However, regardless of the extent of self-disclosure by the researcher, it is likely that the social desirability of participant responding evident in conventional survey questionnaire research cannot be eliminated by use of the Internet. Participants tend to respond to communicate to the researcher a self-image of a good, law-abiding, and psychologically healthy human being. They may also tend to respond according to what they believe the researcher expects for the best results [Orne 1969]. Such response biases contaminate research data with degrees of dishonesty.

Cost and Time of Data Collection

One of the most attractive aspects of conducting psychological research on the Internet is the dramatic reduction in research related expenses and time required for data collection. In this case, the financial expenses to collect the questionnaire data were zero. Monthly provider fees contrast sharply to those ordinarily required in more traditional forms of questionnaire and survey research. In this case, costs of stationary, copying, and mailing were eliminated. Additionally, loss of data and time associated with this loss were markedly reduced with online access to respondents. In the few cases where the respondent omitted parts of their questionnaire or used the wrong rating scales, contact and retrieval of the information occurred efficiently.

The first author's project involved a data collection period of roughly two months for 50 participants to complete and return their questionnaires online. Feedback from other online researchers suggests that for shorter questionnaires and surveys, a response rate of 30 per week is now a realistic and common rate of return.

Expense and time of data collection are two of the more sobering and practical problems researchers face when formulating and implementing their projects. Realistic planning and economic use of limited resources are preoccupations for funding and successful project management. The Internet seems to hold much promise for reducing the cost and time of data collection.

The Online Experience

The experience of virtual contact for many users has a novelty that is unique in their interpersonal relationships. Human activity in virtual reality is attracting increasing research interest in psychology and allied fields. Online research of the second author brings this perspective to our collaborative work on this paper.

Participation online provides an affiliation with others that is without geographical barriers, and as we are learning, tends to decentralize and decategorize various value judgments people ordinarily make in first contact through most other media. The demographic characteristics of gender, ethnicity, socioeconomic status, and the like are more likely to be leveled—democratized online. There is an awareness of both a psychological and social virtual world. That is to say, the user becomes disengaged from the immediate physical and social surroundings and engaged [plugged-in] to an invisible social world made visible through technology. This is of course one conventional definition of the term "magic." Although Internet is described in terms of information, software, and hardware, from the acclimated user's point of view, these things are often taken for granted, so that logging on means access to a social community. Complementary to the social dimension is the psychological one, for the user dwells largely in his/her own world of thoughts which are shared to some degree online.

Neither the social nor the psychological worlds of experience that emerge through the many hours online can be automatically assumed equivalent to those mental states of being in the real world disengaged from the screen. To self-reflect and contemplate matters over the course of one's day and interact in-person with fellow human beings represent the common states of human existence upon which our knowledge and theory in psychology rest. The meaning and ramifications of virtuality are not yet well understood. Virtual matters introject another layer of study upon the subjects of psychological research. Specifically, the Internet has quickly become a potentially fertile frontier to study a broad range of psychological phenomena to compare their real world and virtual world manifestations and processes.

Conclusions

This paper describes some of the advantages and disadvantages of doing psychological research on the Internet. Sampling diffusion may recommend more prescriptive sampling. Current demographics may help monitor biases in sampling. Difficult to access populations are less difficult to access. Careful engagement may foster participant honesty and anonymity of the researcher lessen researcher bias. Online research reduces certain expenses and time required in established forms of questionnaire and survey research. The online experience has inherent qualities which broadens the subject matter of psychology and opens new areas for psychological research.

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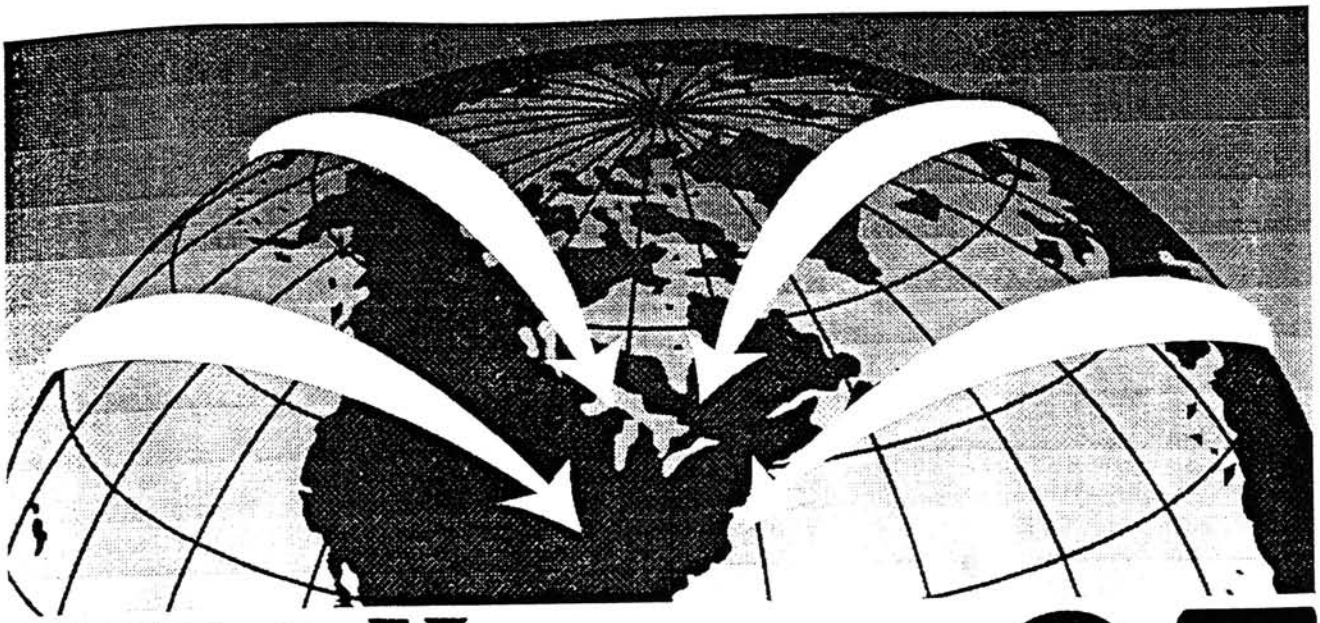

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