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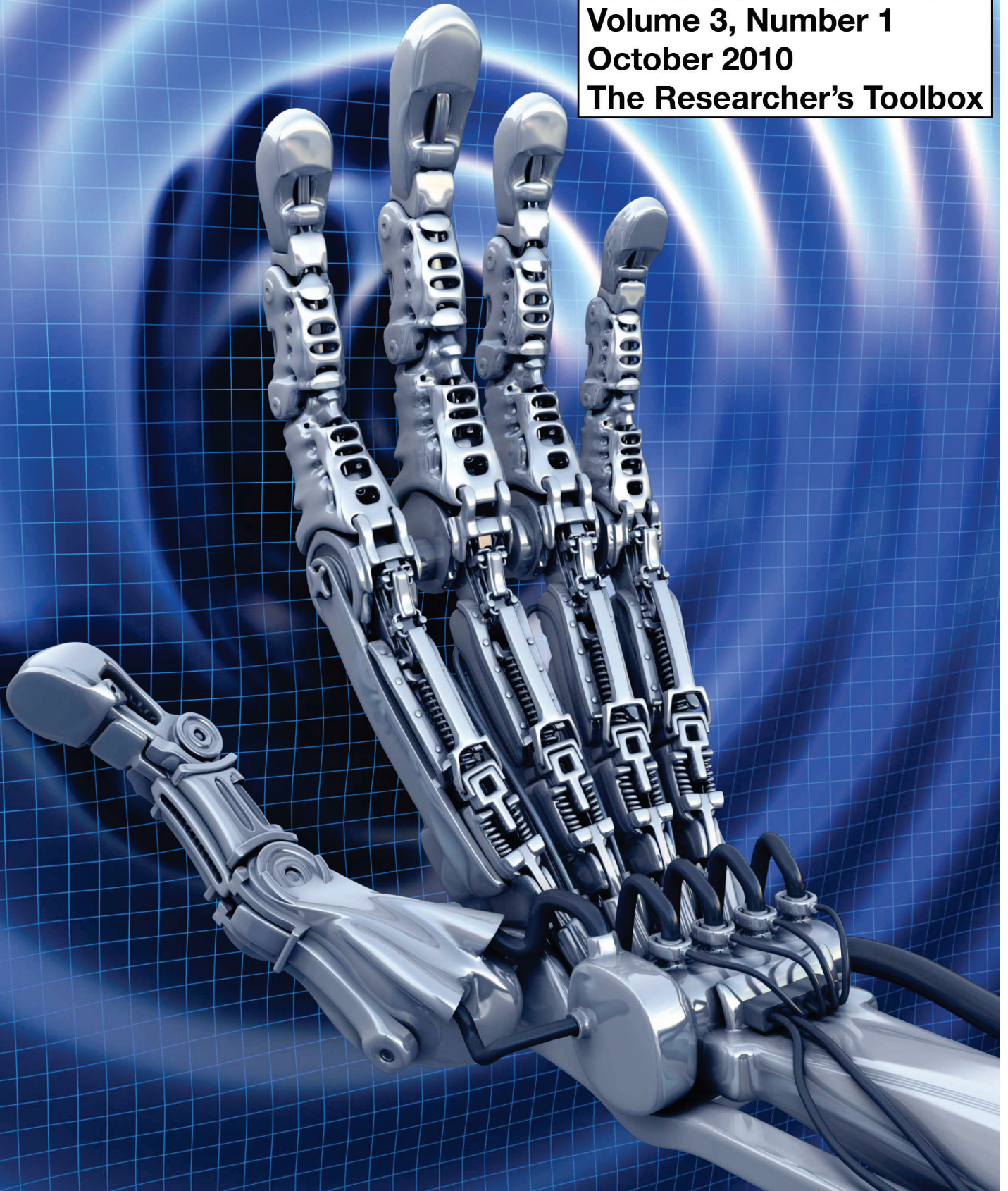
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Virtual Worlds, the IRB and a User's Bill of Rights

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Abstract

Virtual worlds provide a vibrant and exciting new venue for the conduct of social research. New social phenomena have emerged in the context of these worlds as individuals and groups use the worlds' social communication tools to overcome limitations of time and distance. Yet these worlds also pose some novel ethical problems for social researchers who wish to conduct their work in these contexts. The present paper discusses ethical dimensions of research in virtual worlds in order to uncover some of these novel problems. The paper reports and analyzes a case study in which the author participated in a virtual world research study. The paper discusses a preliminary version of a virtual world subject's bill of rights that can serve as the basis for further discussion among social researchers. The paper concludes with recommendations for virtual worlds researchers on strategies for working with their institutional review boards (human subjects ethics review) to obtain approval for their research proposals.

Virtual Worlds, the IRB and a User's Bill of Rights

Millions of individuals participate in one or more virtual worlds. Although the specific definition of the term virtual world is in flux, the term includes massively multiplayer online games (MMOGs) as well as general environments such as Second Life™. Because social interaction, textual and oral communication, and economic activity occur in these environments, they comprise a microcosm of the world at large. Whether behavior in virtual worlds is representative of behavior in the "real" world or not, these environments represent a fascinating venue in which to conduct social research (Bainbridge, 2007). A variety of standard, "real world" research areas have parallel manifestations in virtual worlds including small group research, prosocial behavior, counterproductive and deviant behavior, and behavioral economics. In addition, newly emergent areas of social research made possible by new technologies offer a range of novel research opportunities: e.g., virtual collaboration, online community formation, virtual property rights, simulated/game violence, as well as a variety of questions related to creation and management of online social identity.

Just as the Internet expedited the process of doing survey research (Stanton & Rogelberg, 2001), virtual worlds have potential to substantially change the process of doing ethnographic, interview, and naturalistic research. Bainbridge (2007) also notes that in worlds that support building or scripting, one may construct facilities and apparatuses that are necessary for laboratory research. When researchers can instantly access a diverse set of virtual world participants, a range of benefits and pitfalls will appear.

One pitfall that may appear pertains to ethical issues of conducting research in virtual worlds. We have reams of research and shelves of books on social science research ethics in traditional, "real world" environments. While some of this material will certainly inform resolution of the ethical dilemmas that arise in the context of virtual world research, other novel situations will arise that will tax our essential understanding of what activities are permissible and impermissible for researchers working in virtual world environments. This paper provides a first attempt at uncovering and organizing the relevant issues in this area and provides an "alpha" version of a virtual world subjects' bill of rights.

The Research Ethics Context in Brief

Contemporary research ethics in the U.S. have been influenced by the Belmont Report (1978), which was commissioned by the federal government following passage of the 1974 National Research Act. The report, in turn, spurred the development of federal rules, which mandate the use of institutional review boards to examine and approve planned studies. The Belmont Report outlined three principles that apply equally to biomedical and behavioral research: respect for persons, beneficence, and justice. In turn, these principles, when applied to the conduct of research, each translate into an operational requirement: the use of informed consent, the application of risk/benefit analysis, and fairness in the selection of research subjects.

Taking each in turn, the principle of respect for persons finds its operational match in the use of informed consent. Respect for persons derives from the Kantian moral imperative that individuals should only be treated as ends and never as means. The Belmont Report refers to

treating each person as an "autonomous agent" and relatedly, that individuals with diminished autonomy (e.g., children) must receive extra protection against unethical treatment. In operational terms, the use of informed consent ensures that individuals who volunteer to participate in research must receive adequate information on any adverse affects they may experience as a result of participation. Informed consent thus comprises disclosure of information about the research, measures that ensure the individual has comprehended the information, and the opportunity to voluntarily consent to participation.

As a footnote to this consideration of informed consent, Title 45 of the U.S. Code of Federal Regulations, Part 46.116, indicates when the use of informed consent may be waived. These circumstances include situations where risk to subjects is minimal, where the waiver will not adversely affect the welfare of subjects, where the research would be impractical if informed consent were required, and where subjects can obtain additional information about the research afterwards (Kopelman, 2004). Note that this last element, referred to as debriefing, is a standard method of reducing risk by providing subjects with information to mitigate negatives impact that study procedures may have.

The second principle – beneficence – refers to efforts to ensure the well being of research participants; it is paired with the operational activity of risk/benefit analysis. Beneficence, as used in the Belmont Report, means avoiding any activity known to cause direct harm as well as minimizing future potential harms and maximizing future benefits. Under this principle, researchers are obliged to analyze the methods and goals of their study and uncover all foreseeable harms that subjects may experience – physical and psychological. Then, the researchers must argue that the expected benefits of their research will substantially exceed the foreseeable harms. The standard baseline for risk in these assessments is the risk of harm from daily activities of normal living. Risks at or below this level are considered minimal, while risks above this level must be justified with respect to the benefits. Many social science studies exhibit only a weak promise of future benefits to individuals or society, so it is fortunate that the majority of those studies also bear minimal risk for participants.

The third principle, justice, was considered critical in the Belmont Report because of a long U.S. history of mistreatment of members of minority groups. In one highly notable case, nearly 400 African American men living near Tuskeegee, Alabama were denied available treatments for syphilis over a period of 40 years as part of their involvement in a study examining the course of this disease. The race and socioeconomic class of these men the basis for their selection into the study. A leak to the press concerning this study in 1972 was a primary stimulus for the National Research Act and the Belmont Report.

In response to this injustice, the Belmont Report explicitly states that all groups in society must equally bear the burden of human subjects research and obtain the benefits of that research. Selection processes for inclusion or exclusion of subjects must consider two interrelated concerns. First, an individual should not be recruited into a project based solely on easy availability or on manipulability (e.g., individuals with mental disabilities). Second, the Belmont Report advocates a kind of "affirmative action" for participant selection: studies should prioritize recruitment based on the risk/benefit ratio in the study. Those individuals who are less privileged

in society should obtain greater opportunities for studies with greater benefit and should be protected from overrepresentation in studies with greater risks.

Summary: Following major ethical problems in research, passage of the National Research Act in 1974, led to the Belmont Report. This report guided development of rules guiding the conduct of research including institutional review boards (IRBs). IRBs now form the backbone of research ethics review in the U.S. Three basic principles inform IRB review: respect for persons, beneficence, and justice. Each principle reflects in an operational aspect of study review and conduct: informed consent, risk/benefit assessment, and subject selection.

Applying the Belmont Principles to Virtual Worlds
When a researcher decides to collect data in the context of a virtual world, a number of novel ethical issues arise. The novelty springs from fundamental differences between a person's "existence" in the virtual world and conditions under which a person might participate in a traditional research environment. In the traditional environment, whether a laboratory or naturalistic environment, the researcher encounters the research participant physically. Even in research that uses mediated communications, the researcher has social cues about the research participant that establish a baseline level of assurance about the researcher-subject relationship. The researcher can verify the subject as an adult individual of a certain age and sex who is capable of voluntarily giving consent for participation, who has comprehended the study description, and who is available for debriefing. Likewise, the participant can judge the veracity of the researcher using cues such as the researcher's dress and demeanor, setting, and appearance of materials or apparatuses.

In contrast, the identity of a research subject who participates in the context of a virtual world is essentially unknowable to the researcher. The subject may be a child or adult, male or female, old or young. Likewise, it is impossible for the researcher to know if the individual is capable of making a consent decision, or alternatively is intoxicated or impaired. The researcher has no straightforward method of ascertaining whether the subject understands the study and no way of ensuring that the subject participates in debriefing.

The subject, in turn, has no way of verifying the researcher's identity or intentions. Dress and demeanor of the researcher are a function of how the researcher has designed his or her avatar. The setting is infinitely malleable, depending on the construction capabilities available in the virtual world, and may bear no resemblance whatsoever to a traditional university or laboratory environment. The apparatus for a study conducted in a virtual world may manifest in software that is invisible to the research participant. Even those objects that do have a recognizable manifestation may not have a function with which the research participant is familiar.

In some respects, a virtual world study is akin to a postal mail or email study in which the researcher never has physical contact with research participants. This analogy is encouraging in the sense that these researchers have learned to overcome the disadvantages of distance and separation from their respondents. The analogy is also a warning in the sense that there are limitations to what kinds of studies are feasible in the absence of a direct physical encounter between researchers and subjects. For example, any study that contains substantial psychological risks (e.g., disturbing scenarios/questions about antisocial/illegal behavior) is difficult to conduct

by mail, because of the researcher's inability to guarantee delivery of the research stimuli to the sampled individual, to gauge the participant's reactions, or to provide debriefing or support after the study.

Another analogy to explore is with the telephone interview. These interviews are synchronous and mediated, two similarities to researcher-subject interactions that may occur in virtual worlds. Telephone interviews usually involve just one subject at a time, however, and most virtual worlds by their nature have transcended this limitation. The telephone interview is rich with social information that the researcher and participant may perceive from vocal cues in the conversation. Virtual worlds that provide voice chat may offer the same benefits. These cues contain information relevant to the ethical conduct of research. The research may infer aspects of the participant's state of mind (such as whether they are mentally capable of volunteering), whether the participant has understood informed consent information, and the progress and effectiveness of debriefing. Likewise, a researcher may use voice cues to know whether the participant is a child and unable to legally give consent.

Risk/Benefit Assessment in Virtual World Studies. In one sense, virtual world studies have a benefit over "real world" studies: there is little potential for direct harm to the physical body. In a similar way, certain psychological risks may diminish, because the ability to teleport out of the research situation can provide an effective method of ending participation, without the necessity of physically extricating oneself from the research environment.

Conversely, however, the risk of psychological harm may increase if the researcher inserts him or herself into an intact social environment to study the inhabitants. Consider the following example: Finn and Lavitt (1994) downloaded, analyzed and published notes from an online support group for sexual abuse survivors, making no request to the group members for permission. This data collection occurred even though the authors reported the existence of a note from the group's moderator saying that interested people who were not sexual abuse survivors were discouraged from joining this group. The exact posting date and time of verbatims from group members, as well as the group's name, appeared in the published results. As Flicker, Hans, and Skinner (2004) noted, one side effect of this publication was that the online group disbanded, because members believed that they had been "exposed" even though no individual identities had been revealed. A cautionary principle here is that a publicly available stream of (communication) behavior does not equal a dismissal of all expectations of privacy or an automatic granting of permission for research use of such data. Another cautionary principle is that communities of all types (including online) are potentially fragile, and researchers may detrimentally affect them through exposure of the community's activities in research results. As Kraut et al. (2004) suggested, "Whether a person conversing online can reasonably expect the communication to be private depends upon legal regulation, social norms, and specific details of implementation, all of which are changing."

Fairness in Subject Selection: Despite increased dispersion of the Internet throughout the world, millions of people do not have access and are therefore absent from virtual worlds. In rural and low-income regions the infrastructure lags significantly behind other areas. Certain groups of potential Internet users (e.g., the disabled, older workers, single-parents) have, on average, lower degrees of access, and, in some cases, skills and knowledge about the Internet (Norris, 2001;

NTIA, 1999; Warschauer, 2004). Finally, many individuals have equipment that is incompatible (e.g., because of outdated equipment or slow Internet connections) with the demands of virtual world servers and clients. As a result, in parallel with traditional research, technologically underserved populations are least likely to enjoy benefits from virtual world research whether these benefits are tangible – e.g., participant incentives – or intangible. Of course, this exclusion has its converse: these populations are also unlikely to be exposed to harms from studies.

Summary: The absence of a physical encounter between researcher and subject increases the difficulty for implementing the Belmont Principles. In traditional research, researchers have overcome some of these barriers. Using analogies of a mail and telephone surveys it is possible to draw some important lessons for the conduct of a virtual world study. These analogies break down when including the immersive and participative aspects of research in virtual worlds. Researchers whose avatars are "present" in an intact social situation must exert extra care not to cause harm. Finally, continuing issues of digital divide factor into sample selection in virtual world research, because technologically underserved populations are not able to participate.

Case Study: Participation in a Virtual World
In 2008, the author participated in an experimental study conducted in Second Life by a faculty member and two Ph.D. students from a research university. The study included an initial contact with a student researcher, exposure to an experimental stimulus, completion of a web-based research instrument, and a final brief contact with the student researcher. All interactions, as well as the research instrument itself, were in English and were textual (i.e., chat) rather than oral. Records of the interactions, primarily in the form of chat logs, provided the basis of the following impressions.

The author located information about the research on a public website and contacted the named individual – a student researcher – by email as requested. The researcher set a mutually convenient time to meet in Second Life. The researcher self identified in the email by first name only and did not provide information by email about his or her university affiliation or the nature of the study.

The author logged into Second Life at the appointed time and awaited a teleport request from the researcher, which occurred within the agreed time parameters. The author's avatar followed the teleport request and arrived at a research facility – an unadorned room on an island sponsored by the researcher's university – to meet the researcher's avatar. The gender of the avatar and the typically construed gender of the first name on the email contact did not match; it was unclear whether this was part of the experiment.

The researcher's avatar gave some brief instructions by text chat about how to complete the study. No mention of participant incentives, time duration, or the nature of the study was provided. The researcher's avatar requested, "It is essential for our survey that you do not discuss this survey with others because this would lead to falsification of the data." The author's avatar asked, "Who is running this study?" since that information was not included in the instructions. The researcher's avatar replied, "I am, with the help of a colleague of mine, plus my research supervisor at our university." (Note that avatar responses have been copy edited to protect the identity of the student.) This reply did not contain any further information about real life names

or host institution, but the opening screen on the web-based survey did contain names and email links to two student researchers and a faculty member. The opening screen also contained an estimate of the completion time of the instrument, the number of questions on the instrument, general information about the topic, and the nature of the participation incentives. The opening screen did not describe any risks or benefits to participation.

Prior to taking the web survey, the researcher's avatar provided an assurance about anonymity: "In order for you to take part in the lottery you have to enter your avatar's name. We will not link your avatar's name to your responses, so the survey will remain anonymous." Next, the author's avatar viewed an experimental stimulus. Note that the stimulus was not identified as such by the researcher, but it was evident from the nature of the questions on the survey that it was indeed an experimentally manipulated stimulus, and that the experiment was a between subjects design. The experiment was consistent with the risks of everyday living – that is, the stimulus was similar to other stimuli that one might regularly encounter in Second Life, and was parallel to stimuli that one might regularly encounter in real life. Likewise, the web survey contained no questions of a troubling nature and did not request reports of illegal or unethical behavior. The survey was anonymous, although as noted above, the instrument did request the participant's avatar name for purposes of providing the participant incentive. The survey comprised roughly a dozen initial questions, demographic inquiries including questions about Second Life usage, and manipulation check questions. The author met all eligibility criteria and completed all questions truthfully in order to avoid injecting false data into the study.

Following completion of the survey, instructions indicated that the participant should return to Second Life. The author's avatar returned to the student researcher's location and had another brief encounter with him or her. The researcher's avatar thanked the author for participating: "I wanted to thank you and also ask you if you might have any friends who might want to participate in this study?" The researcher's avatar did not provide a debriefing or any other information about the nature of the study. The author's avatar was dismissed from the facility and the researcher's avatar went offline.

Ethical Analysis of the Case
A general analysis of the experiment described above and the questions in the web instrument suggest that this study contained minimal risk for participants as well as minimal direct benefit. The incentives for participation seemed non-coercive. Participation was voluntary. The sampling technique was open recruitment and snowball sampling, both of which in this case required access to the web and email. Additionally, completion of the experiment required installation and familiarity with the Second Life client application. With these characteristics, most U.S. institutional review boards would either classify the study as exempt from IRB review, or subject to expedited approval. In either case, it seems likely that a proposal describing the study would have passed IRB scrutiny, albeit with minor modifications.

Experimental studies should generally use a debriefing, particularly when deception or disguise of purpose appears in the study design. This study included a mild disguise of purpose, in that the researcher never identified the study as an experiment and never noted the existence of the experimental stimulus. Relatedly, the researcher requested that the participant not discuss the experimental protocol with anyone else, a sure sign that the purpose of the manipulation needed

to remain under wraps. As a result, best practices dictated that the researcher ought to have provided a debriefing.

Even for an exempt study, the identification of the researchers and their institution was insufficient. Most U.S. IRBs require provision of telephone numbers of the researcher and the IRB, in addition to any other contact information provided. The student researcher who conducted the email and avatar contacts should have identified him or herself by first and last name, with a clear indication and provision of the sponsoring institution and faculty member. Given the capabilities of Second Life, it would have been sensible to provide the participant's avatar with a "notecard" at the beginning of the experiment with full contact information and partial study information as well as at the end of the experiment with more complete study information and a debriefing. These notecards should have included information about the IRB approval file number for the study.

Perhaps most importantly, the researcher never requested informed consent from the participant. If the study had been classified as exempt by the reviewing IRB, it is possible that the IRB would have approved "implied consent" – that is, one's actual participation in the study would comprise an indication of voluntary consent. Some IRBs insist on actual consent for any study that includes an experimental manipulation, regardless of how low the risk of participation may be. Even if the reviewing IRB did not include such a requirement for this study, it would have been sensible and would have imposed minimal administrative overhead for the researcher to have stated that the study included minimal risk and that by choosing to continue, the participant was providing implied consent.

Finally, the researcher should have provided information about participant incentives from the point of initial contact with the participant. This information should have included a statement of eligibility for the participant incentives. The researcher referred, obscurely, to a lottery; the survey itself later clarified this with specific information about the prizes offered. No indication appeared concerning the date, notification, or contact strategy for these awards.

In short, the case study presented a number of minor ethical shortcomings that the research team could easily have rectified in designing their protocol. Interestingly, the case indicates that for experimental studies, the analogies between common "real life" practice and research conducted in a virtual world environment are strikingly clear. This provides an important basis for describing a "virtual world subjects' bill of rights" that can provide guidance to researchers and participants with respect to how to conduct virtual world research.

Virtual World Subjects' Bill of Rights: Version 0.01
In the material below, I outline a set of basic rights based on ethical principles outlined in the Belmont report and informed by the case study. Consider these as a basis for discussion rather than a completed work – hence the designation Version 0.01. Undoubtedly, as the research community obtains more experience conducting research in virtual worlds, we will devise refinements to these rights that clarify their meaning, applicability, and functions.

1. *The right to know that I am a subject: If you obtain data from me in a virtual world for research purposes, I have a right to know that I am in your study*. Ethnographers and

other naturalistic researchers will complain – with some justification – that the unobtrusive observation of public behavior does not warrant prior notification. Assuming the researcher is a legitimate witness to such public behavior, the threshold for unobtrusiveness is asking a research question. Before a researcher asks a subject a research question, the researcher must notify the participant that research is occurring.

2. *The right to know you as a researcher: If I am a subject, you the researcher must represent yourself accurately so that I can confirm your identity.* Although this obligation need not compel the researcher to use a photorealistic avatar, the subject must receive sufficient information to trace the avatar back to a specific person working in the context of a specific host institution.

3. *The right to know who approved your study: Before participating in your study, I have the right to know what ethics body, if any, reviewed your research design.* Virtual worlds lack international boundaries, and ethics review practices vary substantially across different countries. Researchers must inform subjects whether their research received ethics review. If a study did undergo review, the subject has a right to know what body performed the review and the results of that review, preferably in the form of an approval file number and a link to the homepage of the ethics review body.

4. *The right to learn the risks: You must warn me if the study includes psychologically distressing material, if there is a risk that my avatar or I may be identified, if there may be a tangible or intangible costs to participation, or if other risks to me or my avatar exist.* Although, the likelihood of physical harm from participating in a virtual world study is low in almost any conceivable research design, the possibilities for psychological harm have the same dimensions as in a telephone, postal mail, email, or web-based study. Further, to the extent that the individual's avatar has a distinctive social identity within the context of the virtual world, there is a risk for disruption of that avatar's social identity and status, particularly if the researcher revealed an avatar's identity in research outputs.

5. *The right to learn the benefits: I want to know why my avatar's participation in the study is desirable, even if the benefits to me are indirect.* In many instances, individuals participate in research expecting that they may receive a reward; they may have little concern for the scientific merits or outcomes of the study. In virtual worlds research it is also unlikely that any physical benefit – such as better health – can manifest as a benefit. Nonetheless, the subject has a right to learn about the full range of benefits from participation in the study, including such intangibles as improving scientific knowledge of a topic.

6. *The right to know why my avatar was chosen: If researchers contacted my avatar, I want to know how they got my avatar's name and what makes my avatar eligible to participate.* Individuals recruited from sampling lists of any type should receive notification of the origins of the list, the permissions that the researchers obtained to use the list, and the eligibility criteria used in placing the subject on the list and selecting them from the list. In virtual worlds, greeter robots (which often record visitor lists) and

group memberships serve as likely sources of research participants. Researchers need to provide the opportunity for subjects to obtain information about these origins of their lists and what, if any, selection criteria were used.

7. *The right to participate as my avatar: If you recruit me for your virtual world study, I have the right to respond to your study in the identity and role I have selected for my avatar.* One notable characteristic of a virtual world lies in the opportunity it provides for individuals to explore alternative identities and social roles. By conducting a study in a virtual world, the researcher has consciously chosen to study this environment and is thus obliged to let subjects maintain their identities and roles as they have construed them for that particular environment. In short, researchers should rarely admonish an avatar to "respond as you would in real life."

8. *The right to protect my group: If you are studying my social group, I have the right to protect the integrity and continued existence of my group.* In principle, a researcher who studies an intact social group should have consent from all members of that group. Likewise, in principle, if members of the group object to the researcher's presence or use of the group for research, those members should have veto power. In practice, it may be impractical for researchers to obtain active consent from every member of a large group, or from a group that has inactive members. In such cases, legitimate representatives of a group have the vested ability to speak for the group and to provide or revoke permission for any given research activity.

9. *The right to teleport: When participating in your study, I reserve the right to teleport out of the research situation if I am uncomfortable with any of the procedures or questions.* Standard language in informed consent states that the research participant has the right to withdraw from the study at any time without prejudice. In a virtual world, one mechanism of withdrawal is teleporting. Researchers must avoid imposing constraints on teleporting and should inform subjects that they may choose to teleport out of the research situation if they become uncomfortable. One concern raised by this right is that avatars may disappear for reasons other than discomfort – for example, because of a technical glitch. Researchers should develop and describe a method by which the subject's avatar may resume or restart the study in case of such glitches.

10. *The right to debriefing: If you use deception or disguise of purpose in the study, I deserve to learn about it afterwards.* Given the ephemeral nature of "presence" in virtual worlds and the difficulty with ensuring comprehension of debriefings, researchers need to devise effective debriefing procedures in virtual world studies.

11. *The right to be left alone: Following my avatar's participation in your study, whether I completed it or not, I have the right to not be contacted again by the researchers.* Similarly to email and instant messaging, electronic communication tools available in virtual worlds often lack the normal social boundaries that reduce unwanted contacts among people. Once an avatar name is known, a sender may send a message to that avatar, regardless of physical distance or social barriers between them. Researchers must avoid abusing this capability. If a study requires repeated contact with an avatar over

time, this requirement appear at the beginning of the study, and the subject must actively give permission for repeated contacts. Researchers should keep written records of the granting of such permissions, e.g., as a time-stamped chat log.

The catalog of rights listed above reflects some unique elements related to virtual world research and some common elements ubiquitous across all types of research. Presentation of this list does not imply that other rights from traditional research – or the procedures used to ensure those rights – should be neglected in virtual world research. Rather, one should view the list as supplemental food for thought, so that the unique aspects of virtual world research can find a reasonable mapping onto the ethical principles we already know and endorse. By generating rumination and discussion among the community of social researchers, this preliminary virtual world subjects' bill of rights may help to ensure that virtual worlds become an active and vibrant source of information for rigorous and ethical social research.

Working with Institutional Review Boards
As the preliminary description of the virtual world subjects' bill of rights above suggests, there are some important ethical considerations for research virtual worlds that do not typically arise in the course of traditional social research (Ess & Jones, 2004; Jankowski & van Selm, 2001). While the membership composition of institutional review boards (IRBs) varies substantially across different institutions, it is safe to say at this writing that few of the members of a typical IRB will have direct experience interacting in virtual worlds, let alone conducting research there. What follows is that virtual world researchers are well advised to educate the members of their IRB on the essential operational characteristics of virtual worlds. This knowledge will help IRB members to understand your arguments about the risks and benefits of research in virtual worlds. Such education can be accomplished in small measure in a research proposal sent to the IRB, but this misses an opportunity to work with the members of the board in advance, and thereby prepare the ground for when the board receives a relevant proposal. All certified IRBs in the U.S. have the capability of inviting researchers into board meetings to answer questions – usually when a problematic protocol has been received – but this same mechanism can be used to provide a brief tutorial on an emerging topic of interest to the members of the IRB (Amdur & Bankert, 2003). Researchers should contact the chair of the IRB or the lead administrator of the IRB to request a time to speak with the board and should then prepare a very brief presentation on the topic (e.g., how individuals communicate with one another in a virtual world) and be prepared to answer questions.

One of the key questions that every board member considers when discussing the viability of a research protocol is risk. As described earlier, the standard baseline for risk in IRB discussions is the risk of harm from daily activities of normal living (Kopelman, 2004). Risks at or below this level are considered minimal, while risks above this level must be carefully justified and weighed against the benefits of the research. Proposed studies that have greater than minimal risk are scrutinized very carefully by IRBs and are likely to take the longest for review. Therefore it is a valuable strategy to design a study, wherever possible, to create minimal risk of harm for participants. As discussed above, harms from virtual world research are mainly psychological rather than physical. In this light, a researcher minimizes risk by not asking questions or observing behaviors that could cause research participants to be liable to civil or criminal prosecution, cause them to lose their jobs or financial standing, cause damage to their

reputations, or cause them to be socially stigmatized. Researchers can also help to avoid these harms by taking as many precautions as possible to protect the privacy of research participants.
In the context of virtual worlds, it is not always easy to connect a researcher's actions to these types of harms. For example, there are whole classes of illegal behavior – such as physical assault – that don't have a direct analog in virtual worlds and therefore are not subject to researcher observation. On the other hand, adverse influence on a research participant's reputational, finances, or employment may be quite salient, as there can be just a thin dividing line between a research participant's work or home life and their "virtual" life. Researchers should take every opportunity to brainstorm with their colleagues – and ultimately even with the chair of the IRB – on inadvertent ways in which behavioral observation or questioning of an avatar may have an adverse influence on a research participant's "first life." In many cases when a problem is identified, a workaround will also become apparent, for example through improving privacy protections applied to collected data. To take a simple example, if a researcher was using screen capture to record the activities of a group of avatars, a simple adjustment to user interface preference could eliminate identifying information while keeping the data usable for analysis.

Finally, actions associated with identifying oneself as a researcher and obtaining consent from research participants prior to involving them in research are central concerns to most IRBs. This issue was identified above in the very first element of the virtual world subjects' bill of rights. Because the involvement of a researcher's avatar in a virtual setting can seem so ephemeral – just pixels on a screen – it may be tempting to forgo consent and identification, particularly if the researcher is just observing and not interacting with other avatars. Countering this argument, though, is the power of teleportation to place oneself socially in an virtual setting where one is neither known nor welcome – like walking into a teacher's classroom unannounced and uninvited. Unless a truly naturalistic research design is the only viable option for a particular research study, researchers should clearly describe in their IRB proposals how and when they will announce themselves as researchers and the mechanisms(s) they will use to obtain informed consent from participating avatars.

Conclusion
Virtual worlds provide a valuable new setting in which social research can be conducted as well a set of fascinating new social phenomena. At the same time, social researchers who wish to conduct their work in these contexts must be cognizant of novel ethical issues that may arise in their virtual world studies. The preliminary virtual world subject's bill of rights presented in this paper may serve as a useful stimulant for discussion and brainstorming about how to create valuable and rigorous studies that carefully preserve the rights of human research participants. Educating the members of institutional review boards to these novel situations is one strategy for helping to ensure that high quality, relevant, and ethical research practices will be the norm in virtual worlds research.

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