

Full Length Research Paper

Researcher vulnerability: An overlooked issue in vulnerability discourses

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Received 25 February, 2024; Accepted 15 April, 2024

Although widely referred to in research, vulnerability is arguably not well understood by both researchers and research regulators. Authoritative sources including dictionaries, ethics encyclopedia, and esteemed authorities in the field of ethics offer little help; multiple definitional perspectives exist on the subject. Efforts have been made to clarify a component of vulnerability in research – ‘participant vulnerability’. There is no closure on this subject of what participant vulnerability is or should be. Researchers, just as the researched may be vulnerable in some instances. This is designated and discussed in this paper as ‘researcher vulnerability’. While acknowledging the emphases that regulators place on protecting vulnerable study participants, the paper argues that this should not be interpreted to imply that researchers are immune to vulnerability. The paper articulates the many and varied challenges that researchers confront in research. Such experiences speak to the fact that researcher vulnerability may vary in meaning among contexts, but can be contextually defined and understood as a cross-cutting concept.

Key words: Vulnerability, researcher vulnerability, human subjects research, vulnerable populations, vulnerable researcher.

INTRODUCTION

This paper examines the concept that the researcher, and not only the researched can be vulnerable. Although the concept of vulnerability with respect to the researched has been widely acknowledged (Quest and Marco, 2003; Slowther, 2007; Kipnis, 2003; Levine et al., 2004; U.S. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979),

this cannot be said of the researcher (Ballamingie and Johnson, 2011; Downey et al., 2007). Downey et al. (2007), lamenting on the neglect of this concept within the research literature, note that overlooking the negative impact that research can potentially have on the researcher may be a mistaken understanding of who the researcher really is. They further state that, the natural

assumption that power resides within the researcher's domain, and that the research participants are those who are vulnerable and hence need to be protected throughout the research process needs a rethink (Downey et al., 2007). This thinking that it is the research participant and not the researcher, who is vulnerable, is confirmed by the almost overabundance of scholarship and the never-ceasing commentaries on what I refer to as participant vulnerability in this paper (Hill 1995; Quest and Marco, 2003; Slowther, 2007; Kipnis, 2003; U.S. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979).

The Belmont Report of 1979 does not define vulnerability. However, its concept of vulnerable populations in research clearly excludes the researcher (U.S. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). Literature predating the Belmont Report nevertheless seemed to have given some hints on the concept of researcher vulnerability (Cassell, 1978; May, 1980; Trend, 1980). These are explored later in this paper.

In the mid nineties, Hill (1995) had identified a number of issues and ethical dilemmas that researchers face when researching sensitive topics in marketing (Hill, 1995). Davison's explorations of dilemmas in research questioned the perceived eternity of the researcher's power. To Davison, the relationship between researcher and the research participant is one of "shifting boundaries" (Davison, 2004). In other words, the researcher contrary to the general perceived notion is not always in the dominant role; he is susceptible to changing positions of vulnerability throughout the research process.

Given this background, the paper's central argument is that, "researcher vulnerability" as a concept has been largely neglected within both clinical and nonclinical research literature. To destabilize the naturalness with which researchers relegate the concept, this paper initiates a debate on the utility of acknowledging and publicizing the concept. The paper argues that vulnerability in research be conceived as a multi-sided dynamic phenomenon involving the researcher and many other actors in the research process. It draws on available literature, documentary and oral evidence from experiences of other researchers, personal professional experience amongst others. Overall, the paper aims to expose some challenges in research that confirm the existence or possibility of researcher vulnerability. Researchers need to be abreast of these.

Conceptualizing participant vulnerability

Definitions of vulnerability vary, and although there are common themes, these turn to confuse both non-experts and experts alike. In their paper titled "To cry or not to cry: analyzing the dimensions of professional

vulnerability", Davenport and Hall draw on the Compact Oxford English Dictionary of Current English, the Cambridge Dictionary, and the Merriam-Webster online dictionary to reiterate not just the lexico-semantic differences, or the many interpretations of the term, but also the fact that a clear unambiguous definition of vulnerability remains elusive (Davenport and Hall, 2011). From these authoritative guides, the terms that are considered synonymous with the word vulnerable are susceptible, weak, insecure, defenseless, open, threatened, and compromising. The current conceptualizations identify among others; minors, pregnant women, racial minority populations, the poor, the homeless, and undocumented immigrants as vulnerable in human subjects research.

A careful analysis of the discourse on vulnerability indicates that, it is not just the problem of lexical differences; there is also a lack of consensus on the concept by experts in research ethics. Koffman et al. (2009) argue that vulnerability is a poorly understood concept in research ethics, and lament on the frequent alignment of the concept to autonomy and consent. Arguably, one of the significant contributors to the subject is Kenneth Kipnis. Kipnis, in his recent additions to the vulnerability literature presents a 7-level taxonomic delineation of vulnerability. These are cognitive: the ability to understand information and make decisions; juridic: being under the legal authority of someone such as a prison warden; deferential: customary obedience to medical or other authority; medical: having an illness for which there is no treatment; allocational: poverty, educational deprivation; infrastructure: limits of the research setting to carry out the protocol; and social vulnerability, that is, belonging to a socially undervalued group (Kipnis, 2001). Several authors have noted that most of the attempts to define "vulnerability" though vary, have usually referred to individuals with limited cognitive abilities or diminished autonomy (Quest and Marco, 2003; Slowther, 2007; Kipnis, 2001).

Levine et al. (2004) however, argue that the efforts to define "vulnerability" in terms of the status of special groups of research subjects fails to achieve the goal such designation is meant to have - the protection of human subjects. They note that, current definitions are too broad and too narrow at the same time, but did not offer a more suitable definition. Henderson et al. (2004) affirm the critique offered by Levine et al. (2004) citing recent discussions about the disutility of imputing a characteristic for groups in the name of protecting them. Henderson et al. (2004) reechoes Levine et al.' (2004) mantra that, being "too broad," vulnerability stereotypes whole categories of individuals, and everyone might be considered vulnerable; and being "too narrow," vulnerability's focus on group characteristics diverts attention from features of the research project and its environment that might affect subjects. In agreement with DeBruin (2001), Henderson et al. (2004) note in the

concluding arguments of their article that the imposition of a static external label (of vulnerability) to groups, besides being potentially misleading, is highly likely to exacerbate stigma and dependency.

There is no closure on the debates currently raging on the concept of participant vulnerability. An unintended consequence of such preoccupation with participant vulnerability is the lack of visibility of researcher vulnerability. Subsequently, this paper reviews the limited literature on researcher vulnerability, and attempts to conceptualize it.

Conceptualizing researcher vulnerability

The following is a review of available and accessible literature in support of the thesis that, vulnerability is not only an attribute of the researched, but is also of the researcher.

One argument in support of this thesis relates to the concept of relationality. Henderson et al. (2004) in their paper titled “vulnerability to influence: a two-way street”, note that vulnerability is, by definition, relational, and that one is always vulnerable to something, or someone’s influence. By virtue of being relational, vulnerability to influence is potentially bidirectional in all research relationships, they indicated. The primary relationship in this relationality model is between the researcher and the research participant. Such a model requires the examination of both influences by researchers on subjects and influences by subjects on researchers. Existence of secondary relationships such as researcher-researcher, research-sponsor/funder, researcher-community leaders, research-institution interactions are a reality and their implications on vulnerability are worth interrogating. Henderson et al. (2004) thus conclude that applying vulnerability to only one party contributes to conceptual confusion and undermines constructive application of the term.

Recognized among student researchers, research assistants, study coordinators and even seasoned researchers are a host of potential vulnerability issues worthy of discussion. Kidd and Finlayson (2006) examined issues of emotional intensity that arise when nurse researchers effectively co-construct narratives with interviewees. In a paper titled “dilemmas in research: issues of vulnerability and disempowerment of the social worker/researcher”, Judy Davison explored the ways in which researchers working with vulnerable informants may through empathy experience undue conflict and distress (Davison, 2004). Hill (2004) touched upon the impact of role reversal in collaborative research relationships, during which the researcher may experience powerlessness and abandonment.

Ballamie and Johnson (2011) draw on their field experiences as doctoral researchers to give elucidation on some of the challenges and issues related to

researcher vulnerability among graduate students. Dreyfus and Rabinow’s visitation of Foucault’s multidirectionality concept of power contributes to this discussion (Dreyfus et al., 1983), and so does Tindana et al. (2006) perspectives on power relationships in a rural Ghanaian community. Cassell’s (1978) tale of a researcher trying to live safely in a ghetto educates immensely on the possibility of research vulnerability. The growing dependence of researcher on sponsors/funders and its vulnerability-inducing effects is captured by Trend (1980). Even though, these insights may not be sufficient to theorize the inevitability of researcher vulnerability, they are supportive of the view that the researcher is not immune to vulnerability.

These works are looked at in detail. First, Foucault’s multi-directionality concept of power (which says that power can operate from the top down and also from the bottom up) – re-narrated by Dreyfus and Rabinow (1983) lend support to this paper’s argument. That is, if power play truly shapes the vulnerability dynamics, as is currently perceived, then Tindana et al.’s indication of power fluctuating unpredictably between the researchers and the chiefs in rural Ghana is also supportive of this paper’s arguments. This implies that researchers in the said community can be vulnerable to the chiefs. In other words, the all-powerful researcher at about 7am in his air-conditioned four-wheeled Sport Utility Vehicle could suddenly become vulnerable at 10am at the chief’s palace when presented with the unfamiliar traditions he has to follow in order to be permitted to conduct his research.

Other writers have also talked about the power relationships that create vulnerability in the researcher. Cassell (1978) example of a researcher trying to live safely in a ghetto should be a reminder to researchers that there are times when they are not the powerful players in the field. They may, in fact, have little of the power that matters most in such a setting. May (1980) wrote of researchers being vulnerable to the “sweet talk of outside money”. The ever-unpopular 10/90 gap in global research and development may be a good exemplar in support of research-sponsor/funder power relationship. The 10/90 gap refers to the finding of the Global Forum for Health Research that only 10% of worldwide expenditure on health research and development is devoted to the problems that primarily affect the poorest 90% of the world’s population. Thus, while the vast majority of researchers do know the priority research areas, they find themselves helplessly playing to the tunes of the funding agencies. Such helplessness was recognized over three decades ago. Trend (1980) note that when a sponsor is responsible for funding a researcher’s forays into a setting, it is the funding agency that holds power over the researcher.

A further delve into the sociological literature also provided some ideas on this subject. Hamilton et al. (2006) in their paper titled “A sheep in a Wolf’s Clothing:

Exploring Researcher Vulnerability” draw on Berger and Kellner’s sociological concept of “*a certain debunking angle of vision*” – a frame of reference, which looks beyond the visible, and the obvious to what is latent, or hidden) (Berger and Kellner, 1981). Drawing on this, the paper argues that both the obvious vulnerability of the researched as well as the obscured vulnerabilities of the researcher should be perceivable. Davison (2004) notes that the potential to feel isolated, vulnerable and distressed (*which is human; the emphasis is mine*) does not magically disappear because researchers assume their role of researchers. Kirsten Crowder Tisdale’s discussion of vulnerability as either an a priori description of peoples’ positions or a posteriori interpretation of those positions (that is, created within the research process) also demonstrates that power depletion can arise during the research process (Tisdale, 2004). Given these developments, it may not be a significant departure from objective reality to hypothesize the researcher, just as researched can be placed in harm’s way during the course of the research process.

Presented below is an exemplar from colonial Ghana that may help elucidate the inherent vulnerability of the clinical researcher – vulnerability due to limitation in knowledge.

“Hideyo Noguchi was a prominent Japanese bacteriologist who discovered the agent of syphilis as the cause of progressive paralytic disease in 1911. After an illustrious research career in the United States, he travelled in 1928 to Africa in an attempt to prove his findings about yellow fever. While working in Accra, Ghana, he died from yellow fever on May 21, 1928”. His last words were: “I don’t understand” (Kantha 1989).

Those words – ‘I don’t understand’ is pregnant with meaning as far as researcher vulnerability is concerned. This is one of many examples of the vulnerability of the researcher with respect to limitation in knowledge. Like Hideyo Noguchi, most, if not all of the current day researchers will not perceive themselves to be vulnerable, but can instantaneously become vulnerable during the research process.

Having presented both general and specific arguments in support of researcher vulnerability, the paper presents anecdotes, and instances drawn from personal professional experiences and those of other researchers. These will cover vulnerability in international collaborative research relationships, government-sanctioned research, research assistants, study coordinators, and student researchers.

Vulnerability in collaborative research relationships, and government-sanctioned research

For a variety of reasons, the global research community

currently promotes a model of collaborative research that involves researchers from the global north and their counterparts from the global south. South-South collaborative initiatives exist and are equally encouraged. There is no denying the fact that such could help develop a research process that is more ethical, and cost-efficient. This is usually touted as empowering; rather than exploitative, and meets the needs of both the researcher and the researched communities. While a collaborative model may empower, there are arguments currently that this empowerment model does not necessarily benefit researchers from the global south. Some have argued that it relegates local researchers to roles of informants.

It is worthy of note that researchers from the global north can also be vulnerable in these relationships. Researcher vulnerability emerges when at the end of a collaborative research, requests are made by the community leaders or politicians to the researchers not to publish their findings or to delay publication for reasons including such political ones as ‘*so as not to undermine local initiatives*’. This can situate researchers in a position of unexpected vulnerability. Delay in the publication of the results can cost the researcher dearly.

On another level, after committing enormous time and financial resources, key social actors can deny researchers access to research participants for a variety of reasons. Community access may be limited based on unethical or culturally inappropriate practices of previous researchers. While contractual agreements are binding between the researchers, they may not be to the politicians or community leaders. As such, when such declarations are made by the community leaders, the researcher can be helpless, even within meticulously drafted contractual documents.

What about government-sanctioned research? It is this paper’s view that in some instances, researchers implementing government-directed research (security-related or otherwise) can be vulnerable to their ‘employers’. Were not some of the Nazi Researchers vulnerable to their government? What about modern day government-sanctioned torture research endeavors? As argued earlier, if power is such an important variable in these relationships, are governments not more powerful than the researchers working for governments?

Vulnerability of clinical researchers, research assistants and study coordinators

Described as professional vulnerability, Davenport and Hall (2011) note that vulnerability is embedded throughout the landscape of clinical, academic, and research environments. Malone (2000) for example, talks about two notions of vulnerability dominating in the nursing literature. Malone’s first notion, which can be likened to participant vulnerability, had earlier been

described by Rogers (1997) as a public health model of vulnerability, where vulnerability is equated to susceptibility to particular harmful agents, conditions, or events at particular times. The second view regards vulnerability as the common condition of all sentient beings (Malone, 2000).

Drawing on personal experiences as a research assistant, a graduate researcher, and currently a faculty engaged in research in both the global south and north, it is demonstrated that study coordinators and research assistants could be particularly vulnerable. As a student researcher in a community that was described as the epicenter of Ghana's HIV epidemic, and as such had been over-researched, the community members openly communicated their unwillingness to welcome new researchers during the community entry procedures. After an intervention by Professors from the author's institution and the Resident Physician, the research was allowed. However, when the field work begun both potential study participants and enrolled participants made the researchers feel powerless in a number of ways, including very high non participation, high interview termination rates, and lost to follow up. Davenport and Hall's (2011) work on the many interpretations of the vulnerability identified the following synonymous - susceptible, weak, insecure, defenseless, open, threatened, and compromising. Although the researchers in this case were unquestionably made insecure, powerless, threatened, current discourses on vulnerability do not recognize them as vulnerable.

Another group of vulnerable researchers are study coordinators. Usually but not always nurses, study coordinators have been shown to be very vulnerable in recent times. To illustrate, the case of a 2004 University of Minnesota (The U) Drug Trial death (Elliot, 2010; 2012), and the subsequent sanctions that ensued is cited (Olson, 2012). In this case, only the Study Coordinator of the trial was issued a "corrective action" as a result of errors, which many believe are attributable to the Psychiatrist/Principal Investigator of the trial (Olson, 2012).

According to Hurst, even experienced researchers can find themselves vulnerable when the clinical stories of others are explored in detail (Hurst, 2008). The "other" in this sense is the research participant who may be vulnerable because of health conditions, social status, age, gender, ethnicity, or sexual orientation, any of which can create the disparities of poor health outcomes and marginalization. Dickson-Swift et al. (2007) performed a qualitative study to investigate the professional role experiences of 30 Australian researchers. The study revealed that they experienced vulnerabilities in their professional role as researchers. The quote below from one of the researchers after an emotional interview supports my researcher vulnerability thesis:

"And all I'm doing is trying really hard to try and hold back

the tears myself. I mean I burst into tears when I got out to the car—it was enormously distressing" (Dickson-Swift et al., 2007).

Similarly, Scott's research on ritual abuse illuminated such vulnerability on the part of the researcher (Scott, 1998). In that study, the effects acknowledged were both emotional and physical. Scott states:

"The sheer quantity of stories in the research process created a high level of stress. I had dreams about dying, and dreams in which I learned that none of my interviewees had told me the truth. Staying in an unfamiliar house after one interview I walked in my sleep for the first time in my life, and during the weeks of transcription I endured stomach cramps and nausea on a regular basis".

The key point from these examples is that, vulnerability can prevail in the research process, even in the absence of exploitation. The current concept of vulnerability, which overemphasizes 'exploitation', does not recognize these as potentially vulnerability-inducing in research.

Vulnerability of student researchers

Globally, several thousands of undergraduate and graduate students engage in research every year. For many of them, it is a mandatory step towards acquiring a degree and hence future employment. For students, successful and timely completion of such research is often dependent on many factors including adequate funding, and sufficient departmental and faculty support. In settings where the student-professor relationship is nothing less than a master-servant relationship, the student can be extremely vulnerable to the professor. This is in contrast with the perception that those engaging in research are often in positions of privilege. These highly vulnerable students are researchers. Additionally, given that most student researchers tend to be younger and for that matter less experienced scholars, they can be prone to most of the vulnerability scenarios so far described in this paper.

Ballamingie narrates her experience in their paper that examined the existential challenges of doctoral student researchers (Ballamingie and Johnson, 2011). Ballamingie indicated facing a challenge when attempting to interview an aboriginal elders, in spite of having adhered closely to the ethical protocols established by her research institution.

"On meeting in person with the informant, following a verbal introduction, it soon became apparent the interview would not proceed as smoothly as anticipated. According to the interviewees, a researcher from an American university had spent a summer some years

back gathering detailed personal narratives, promising to return the original tapes, transcripts, and video footage. He never did. Based on this previous encounter with an academic researcher, I was met understandably with immediate distrust. I felt truly vulnerable” (Ballamingie and Johnson, 2011).

Limitations of the paper

This paper has a number of limitations which need to be discussed. First, further research is needed to better refine the concept of researcher vulnerability, as well as exhaustively clarify setting-specific measures to be taken to provide support to vulnerable researchers. It is also important to acknowledge the weaknesses in the methodological approaches employed. While undertaking a systematic review of literature on the subject would have been most appropriate, this was highly challenging, most notably because the subject covers every discipline (medicine, health, social sciences, political sciences, marketing, among others). Another challenge in conducting this literature review was the lack of data on researcher vulnerability. Hence, the literature was expanded to include both published reports and grey literature.

CONCLUSIONS AND MITIGATING MEASURES

It was not an objective of this paper to bring to closure the somewhat entrenched arguments regarding what vulnerability is or should be, or which study participant qualifies to be tagged vulnerable. The paper has instead tried to challenge some ‘taken-for-granted’ assumptions that research participants but not researchers can be vulnerable in research. While acknowledging the emphases that regulators and research ethics committees place on protecting vulnerable study participants through time-honored ethical practices, the paper has argued that this should not be interpreted to imply that researchers are immune to vulnerability.

The paper argues further that the concept of vulnerability as currently used in research is too narrow and rigid – overemphasizing only one aspect – participant vulnerability. The paper proposes that vulnerability in research be conceived as a multi-sided dynamic phenomenon involving the researcher and many other actors in the research process.

The paper proposes the following mitigating measures.

- 1) The first step toward mitigating researcher vulnerability is to acknowledge its existence or possibility. Doing so may motivate the development of counter measures.
- 2) Given that it is difficult to predict in advance exactly how research will impact on the researcher and what vulnerabilities will be encountered, the issues highlighted in this paper should be considered for every research

study, regardless of whether it involves vulnerable or non-vulnerable study participants or whether the researchers perceive themselves to be vulnerable or not.

3) For administrative and supervisory support to student researchers to be meaningful, it should include counseling on researcher vulnerability.

4) To deal with the issues of non-participation, letter of commitment detailing the promise to disseminate findings to the community, and appropriate community entry procedures may be helpful.

5) Researchers intending to engage in a collaborative research should be willing to give significant intellectual contribution to all the major phases of the research process so to be able to qualify as authors.

Conflict of Interest

The authors have not declared any conflict of interest.

ACKNOWLEDGEMENTS

The author thankfully acknowledges Professors Leigh Turner, and John Song, both of the Center for Bioethics, University of Minnesota, MN USA. Their constructive criticisms of the initial draft were invaluable. The author is also thankful to Krystal Rampali for proofreading of the manuscript.

REFERENCES

- Ballamingie P, Johnson S (2011). The Vulnerable Researcher : Some Unanticipated Challenges of Doctoral Fieldwork. The Qualitative Report. 16:711-729. Available at: <http://www.mendeley.com/research/vulnerable-researcher-some-unanticipated-challenges-doctoral-fieldwork/>
- Berger P, Kellner H (1981). Sociology reinterpreted, Garden City, New York: Doubleday Books.
- Cassell J (1978). Risk and benefit to subjects of fieldwork. The American sociologist. 13:134-43. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/11663086>
- Davenport LA, Hall JM (2011). To cry or not to cry: analyzing the dimensions of professional vulnerability. Journal of holistic nursing : official journal of the American Holistic Nurses' Association. 29:180–8. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/21228401>
- Davison J (2004). Dilemmas in research: issues of vulnerability and disempowerment for the social worker/researcher. Journal of Social Work Practice. 18:379-393. Available at: <http://www.ingentaconnect.com/content/routledg/cjsw/2004/00000018/00000003/art00009>. <http://dx.doi.org/10.1080/0265053042000314447>
- DeBruin D (2001). Reflections on vulnerability. Bioethics Examiner. 5:1-4.
- Dickson-Swift V, James EL, Kippen S, Liamputtong P (2007). Doing sensitive research: what challenges do qualitative researchers face? Qualitative Research, 7:327-353. Available at: <http://qri.sagepub.com/cgi/doi/10.1177/1468794107078515>. <http://dx.doi.org/10.1177/1468794107078515>
- Downey H, Hamilton K, Catterall M (2007). Researching vulnerability: what about the researcher? European Journal of Marketing. 41:734-739. Available at: <http://www.emeraldinsight.com/journals.htm?issn=0309-0566andvolume=41andissue=7/8andarticleid=1616082andshow=html>

<http://dx.doi.org/10.1108/03090560710752375>

Dreyfus H, Rabinow P, Foucault M (1983). *Beyond structuralism and hermeneutics*, Chicago, IL: University of Chicago Press.

Elliot C (2010). The deadly corruption of clinical trials: When you risk life and limb to help test a drug, are you helping science – or Big Pharma? One patient's tragic, and telling, story. *Mother Jones* Sep 2010

Hamilton K, Downey H, Catteral M (2006). A Sheep in Wolf's Clothing: Exploring Researcher Vulnerability. *Advances in Consumer Research*, 33:672-678.

Henderson GE, Davis AM, King NMP (2004). Vulnerability to influence: A two-way street. *The American Journal of Bioethics*. 4:50-52. <http://dx.doi.org/10.1080/15265160490497371>

Hill R (1995). Researching sensitive topics in marketing: The special case of vulnerable populations. *J. Public Policy Marketing*. 14:143-148.

Hill S (2004). Doing collaborative research: Doing what feels right and makes sense. *Int. J. Social Res. Methodol*. 7:109-126. <http://dx.doi.org/10.1080/13645570210124856>

Hurst SA (2008). Vulnerability in research and health care; describing the elephant in the room? *Bioethics*. 22:191-202. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/18405317>. <http://dx.doi.org/10.1111/j.1467-8519.2008.00631.x>

Kantha SS (1989). Hideyo Noguchi's research on yellow fever (1918-1928) in the pre-electron microscopic era. *The Kitasato archives of experimental medicine*. 62:1-9.

Kidd J, Finlayson M (2006). Navigating uncharted water: research ethics and emotional engagement in human inquiry. *Journal of psychiatric and mental health nursing*. 13:423-428. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/16867126>. <http://dx.doi.org/10.1111/j.1365-2850.2006.00999.x>

Kipnis K (2003). Seven Vulnerabilities in the Pediatric Research Subject. *Theoretical Medicine and Bioethics*. 24:107–120. Available at: <http://link.springer.com/article/10.1023/A:1024646912928>. <http://dx.doi.org/10.1023/A:1024646912928>

Kipnis K (2001). Vulnerability in research subjects: A bioethical taxonomy. In *Ethical and policy issues in research involving human research participants*. Bethesda, MD: National Bioethics Advisory Commission.

Koffman J, Morgan M, Edmonds P, Speck P, Higginson IJ (2009). Vulnerability in palliative care research: findings from a qualitative study of black Caribbean and white British patients with advanced cancer. *Journal of medical ethics*. 35:440-444. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/19567695>. <http://dx.doi.org/10.1136/jme.2008.027839>

Levine C, Faden R, Grady C, Hammerschmidt D, Eckenwiler L, Sugarman J (2004). The limitations of "vulnerability" as a protection for human research participants. *The American Journal of Bioethics* : AJOB. 4:44-49. <http://dx.doi.org/10.1080/15265160490497083>

Malone RE (2000). Dimensions of vulnerability in emergency nurses' narratives. *ANS. Advances in nursing science*. 23:1-11. <http://dx.doi.org/10.1097/00012272-200009000-00005>

May WF (1980). Doing ethics: The bearing of ethical theories on fieldwork. *Social Problems*. 27:358–370. <http://dx.doi.org/10.2307/800254>

Olson J (2012). Sanctions imposed in 2004 University of Minnesota drug trial death. *Social worker faulted over care of a 27-year-old in a U study who killed himself*. *Star Tribune* Updated: November 12, 2012

Quest T, Marco CA (2003). Ethics seminars: vulnerable populations in emergency medicine research. *Academic emergency medicine: official journal of the Society for Academic Emergency Medicine*. 10:1294-8. Available at: <http://www.ncbi.nlm.nih.gov/pubmed/14597508>

Rogers AC (1997). Vulnerability, health and health care. *Journal of Advanced Nursing*. 26:65-72. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/9231279>. <http://dx.doi.org/10.1046/j.1365-2648.1997.1997026065.x>

Scott S (1998). Here Be Dragons: Researching the Unbelievable, Hearing the Unthinkable. *A Feminist Sociologist in Uncharted Territory*. *Sociological Research Online*. Retrieved from <http://www.socresonline.org.uk/3/3/1.html>

Slowther AM (2007). Determining best interests in patients who lack capacity to decide for themselves. *Clinical Ethics*. 2:19-21. <http://dx.doi.org/10.1258/147775007780267183>

Tindana O, Kass N, Akweongo P (2006). The informed consent process in a rural African setting: a case study of the Kassena-Nankana district of Northern Ghana. *IRB*, 28:1-6. Retrieved from <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=3099424&ndtool=pmcentrez&rendertype=abstract>

Tisdale K (2004). Being vulnerable and being ethical with/in research. In: *Foundations for research: Methods of inquiry in education and the social sciences* (D. K, L. SD, and N. J. Mahwah, Eds.) (pp. 13-30). Lawrence Erlbaum Associates.

Trend M (1980). Applied social research and the government: Notes on the limits of confidentiality. *Social Problems*. 27:342-349. <http://dx.doi.org/10.2307/800252>

U.S. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (1979). *The Belmont Report: Ethical guidelines for the protection of human subjects of research*. Washington, DC, USA.