

Publishing ethical research: A step-by-step overview.

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Abstract:

To publish ethical research, one must conduct research responsibly, making ethical choices from the inception of the research idea and throughout the research process. Conducting and publishing ethical research is important because of the impact the results will have on the counseling profession. Steps to consider are discussed.

Keywords: academic research | ethical research | ethics | publishing | counseling research | counseling

Article:

Headnote

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To publish ethical research, most researchers immediately think of the process of writing a manuscript, plagiarism issues, and providing authorship and credit to those who contributed. Publishing ethical research is much more, however, than the end product of a study or the aspect of writing up one's results. Not only does it include the actual written manuscript, final results, and authorship credit, but it also entails decisions made during the entire research process. Ethical research, in general, should contribute to the knowledge base of the profession (American Counseling Association [ACA], 2005), respect and inform research participants, minimize risks to participants, use appropriate methodological procedures and data analysis to answer the research question, and appropriately recognize contributors. Ultimately, ethical research requires a researcher to engage in the responsible conduct of research.

The responsible conduct of research is defined as "conducting research in ways that fulfill the professional responsibilities of researchers, as defined by their professional organization, the institutions for which they work, and when relevant, the government and public" (Steneck, 2006, p. 55). The 2005 ACA Code of Ethics provides guidelines regarding ethical issues in research (ACA, 2005, Section G). When engaging in research, a researcher should follow the ethical guidelines of ACA and other organizations with which he or she is affiliated to ensure research integrity and, consequently, the publication of ethical research. Thus, publishing ethical research entails engaging in the responsible conduct of research, as well as ensuring conclusion validity in quantitative research and confirmability in qualitative research.

Conclusion validity refers to the degree to which the findings and conclusions of a study are correct or accurate. Conclusion validity is not typically discussed, and when it is, it is usually discussed only in relation to quantitative research as statistical conclusion validity (e.g., Heppner, Wampold, & Kivlighan, 2008). In qualitative research, researchers discuss the level to which the results make sense, or can be confirmed or corroborated by others, as confirmability (Sharts-Hopko, 2002). For both quantitative and qualitative research, various aspects of a study create threats to conclusion validity and/ or confirmability, including the research question(s), sample, procedures for data collection and data analysis (e.g., "fishing" for results, violation of statistical tests in quantitative analysis, bringing one's biases or subjectivity into qualitative analysis), unreliability of treatment implementation, unreliability of measures, or random heterogeneity of participants (Heppner et al., 2008; Sharts-Hopko, 2002).

Conducting research responsibly and ensuring conclusion validity or confirmability require a researcher to pay heed to decisions from the inception of the research idea. Bersoff and Bersoff (2008) indicated that attention must be paid to ethical issues from the onset of the research process. Although explaining every aspect of ethical behavior in research is outside the scope of this article, I will touch on some of the steps of publishing ethical research. Although this article highlights areas for ethical consideration, researchers should be knowledgeable of the research process in general to be able to recognize threats to the validity of their findings and factors that influence the outcome of a study. Before discussing the steps individually, I first cover ethical principles specifically related to research because researchers need to consider these principles during every phase of the research process.

Five Main Ethical Principles to Consider in Research

To conduct responsible and ethical research, the researcher has to consider many decisions, from human participants to the impact the research will have on the field. There are five main principles that should always be considered. These ethical principles have arisen out of past unethical conduct of researchers (e.g., Nazi war crimes, the Willowbrook study), are included in our profession's code of ethics (ACA, 2005), and are considered by Institutional Review Boards (IRBs) when researchers propose a study. These principles include (a) respect for persons, (b) autonomy, (c) protection of vulnerable populations, (d) beneficence, and (e) justice. The first

principle is the foundation for the other four because conducting ethical research entails having respect for the individuals participating in the study. Bersoff and Bersoff (2008) suggested that ethical issues typically arise when researchers begin to look at their research participants as a means to an end or solely as data points and not as human beings. The ACA Code of Ethics indicates that one of the primary responsibilities of counselors is "to respect the dignity and to promote the welfare of clients" (see ACA, 2005, Standard A. 1. a.). Although most counselors refer to this ethical standard in relation to therapeutic services, it relates to counseling research as well. Thus, at every point in the research process, researchers should respect the individuals they are asking to participate in their study.

The second and third principles (autonomy and respect for vulnerable populations) are two criteria on which IRBs conduct a cost-benefit analysis (Bozeman, Slade, & Hirsch, 2009). Specifically, to provide autonomy is to provide research participants with the ability to make their own choice about participating in the study and to make certain individuals are not coerced into participating. It is complicated when autonomy comes to vulnerable populations, which include minors, pregnant women, people who are cognitively impaired, people who are terminally ill, and people who are imprisoned. Special precautions should be taken when working with these populations to ensure their safety (ACA, 2005; U.S. Department of Health and Human Services [USDHHS], 2009) and to avoid coercion.

Although avoiding coercion may seem simple, it is not. Coercion can occur from the researchers themselves or from others. One example is a study in which a healthy female employee died. The woman's participation, and resultant death, were related to perceived coercion by her employer who had offered time off of work and compensation to those employees who participated in the study. Compensation and relationships may lead to perceived coercion by research participants (Wolf, 2009). This includes students, colleagues or employees, supervisees, and clients. The ACA Code of Ethics (ACA, 2005) provides two ethical standards regarding student/supervisee (Standard G.2.c.) and client (Standard G.2.d.) participation in research. Specifically, the ACA Code of Ethics suggests researchers should make clear that the decision to participate is voluntary, declining to participate does not have an impact on academic or clinical requirements, and protection from adverse consequences is sought. Coyle and Olsen (2005) stressed that providers of services should not be the evaluators of those services because of the risk of perceived or real tensions felt by research participants. These tensions can include coercion to participate as well as to alter one's responses to questions. This is not to say counselors cannot examine their own effectiveness, but they should be cautious when they do evaluate their own services, or they should collaborate with a consultant or researcher to assist in the process to remove the subtle coercion that may exist for a client or student.

Finally, the principles of beneficence and justice that arise out of the tenets provided by the Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979) should be taken into consideration at each step of the research process. Beneficence entails protecting participants from harm before, during, and after the study

and ensuring that the benefits of the study to the individual and society outweigh the risks to participants. Coyle and Olsen (2005) suggested following the tenet of nonmaleficence, or causing the least harm. The ACA Code of Ethics (ACA, 2005) supports beneficence by indicating participants must be protected and researchers must avoid injury to participants (Section G.1.), and participants have rights to informed consent (Section G.2.).

Justice is defined as ensuring the benefits and risks of a study are fairly distributed among participants (and society). An example would be the case in which one form of counseling is known to be more effective than another form; all participants would receive the more beneficial form of counseling at some point in the study. Another example would be when society or future clients receive the benefit of a study at the detriment of the current research participants. This occurred in the historic Public Health Service syphilis study, also known as the Tuskegee syphilis study, in which hundreds of African American men who had syphilis were studied to determine the effects and consequences of the disease. The study continued for 40 years, even though medical treatment for the disease was available within the first 10 years of the study (Centers for Disease Control and Prevention, 2009). Although the results provided important medical information, the risks to the participants far outweighed the benefits to society. These five ethical principles should be considered throughout the research decision-making process.

Inception of the Research Idea

Rarely does an individual choose to study something he or she is not interested in. Interests may stem from a researcher's own personal life, a client he or she had in counseling, or a situation or occurrence in his or her local community. Regardless of where the idea or research question originated, it must have social validity. Social validity refers to the impact a study will have on the profession or on society. Bruce (2002) indicated that the "best psychological research should inform, amongst other things . . . professional practice" (p. 620). Thus, when selecting a research idea to study, or when formulating a research question, one must ask "so what?" to determine the social validity. If the response is "it would be interesting" or "no one has studied this before," then the social validity of the study is lacking. If the response to that question is that the results would help a client, enhance a teaching method, determine the needs of students in a local school district, expand a theory, or help counselors gain a better understanding of symptoms underlying a particular diagnosis, then the study has an effect on professional practice and will be deemed to have social validity.

Rosenthal (2008) agreed that social validity is important to consider. He stated that if a study would not lead to outcomes that could be used, then conducting the study would spend research participants' time, energy, and money in a way that would not be respectful or beneficial; thus, conducting such a study would be considered unethical. Hence, before it is conducted, responsible and ethical research should have social validity, the result of which will provide information that positively influences the counseling profession and its consumers.

Research Design

After a research idea or question has been deemed to have social validity, the researcher selects the research design. To select a research design, the researcher must consider many factors, most importantly, the research question being examined (Heppner et al., 2008). Although some researchers would suggest the "gold standard" of quantitative designs is randomized controlled trials (Coyle & Olsen, 2005), this is not necessarily true. Randomized controlled trials do have a fanamount of control to determine causation and can be helpful and imperative in determining evidence-based practices. If, however, the research question is inquiring about the needs of children in an elementary school to determine the types of programs that need to be implemented or the perceptions of doctoral students in their first year of study, then randomized controlled trials would not make sense and, in fact, would not provide results that would answer the research question. Descriptive quantitative studies or qualitative studies might be better at answering these questions than randomized controlled trials. Therefore, the research methodology and design selected are closely related to the actual research question being asked. As Heppner et al. (2008) pointed out, it is inappropriate to focus only on the merits of any specific design without consideration of other factors, including the research question and the researcher's knowledge of methodology. As Heppner et al. (2008) indicated, a "more helpful question is, 'What is the best research design for this particular problem at this particular time?'" (p. 67).

Inherent in a study's research design are the risks and benefits of a study to research participants. As mentioned earlier, one of the responsibilities of the IRB is to conduct a cost-benefit analysis of the risks and benefits of a study to research participants and society (Dell, Schmidt, & Meara, 2006). All research using human subjects must be reviewed and approved by an IRB (Bozeman et al., 2009; Dell et al., 2006). This requirement was passed into law in 1974 as a component of the Federal Policy for the Protection of Human Subjects With the National Research Act (Bozeman et al., 2009). IRBs have authority to approve, require modification, or disapprove a proposed study (USDHHS, 2009). Although the IRB can determine whether a proposed study can proceed, it is the researcher's responsibility to assess and manage the risks and benefits of a study and to minimize the risks wherever possible. Without IRB approval, a study cannot proceed ethically.

Bersoffand Bersoff (2008) stated that, at times, a research question may need to go unasked because of the risks inherent in the question. At the same time, they agreed that most questions can be asked as long as researchers are creative in altering their study to ensure research participant safety. The^4C4 Code of Ethics (ACA, 2005) addresses the safety of participants by stating that researchers must plan, design, and conduct research in a manner consistent with ethical principles and consultation should be sought by counselors who deviate from standard or acceptable practices to ensure the rights of human participants are protected (see ACA, 2005, Standards G.I. a. and G.I.b.).

As Bersoff and Bersoff (2008) so clearly stated, "research ethics is a methodological issue ? each decision about procedures has potential ethical implications" (p. 387). Poorly designed studies are unethical (Coyle & Olsen, 2005) owing to the lack of social validity of the results, the possible negative impact the results might have on the counseling field, and the risks of potential harm to participants. A poorly designed study could provide results that would falsely influence how therapeutic treatment is offered, what evidence-based practices are implemented, or what medications are provided.

The design of a study includes all aspects of methodology, including selection of the appropriate design to answer the research question, population and sample selection, data collection methods, reliability and validity of instrumentation, analyses conducted, and implementation of all the research procedures. More specifically, for quantitative research, the selection of an inappropriate sample from the population to which a researcher expects to generalize decreases the conclusion validity of the findings for that population. Similarly, random heterogeneity in the sample, sample size (which affects statistical power), the reliability and validity of instrumentation, and the surrounding physical environment of the study (e.g., unexpected extraneous noise during research implementation) all have an impact on conclusion validity. This, in turn, increases the chance of Type I error (i.e., finding a relationship in the sample when one does not exist in the population) or Type II error (not finding a relationship in the sample when one does exist in the population; Heppner et al., 2008). For qualitative research, factors that can influence the credibility and confirmability of the results include selection of an appropriate sample (i.e., one that represents and provides the ability to understand the phenomenon under study); the thoroughness of one's field notes, summaries, and theoretical notes, which provide an "audit trail"; the descriptions of data collection procedures and analysis; and the transparent nature of the biases of the researchers (Sharts-Hopko, 2002; Trochim, 2006).

Ethical considerations typically require a trade-off in methodology (Bersoff & Bersoff, 2008). Therefore, to protect human participants, a researcher may need to reduce the control of the study. Reducing control of a study may decrease internal validity (i.e., the ability to determine if the treatment caused the outcome); however, lesser control may be necessary so participants' autonomy, beneficence, and justice are protected. When weighing the risks and benefits of a study, a researcher should ask what the risks are to participants, whether the benefits offered by the study are greater than the risks (e.g., a cost-benefit analysis), and whether the inherent risks are necessary. In addition, researchers should give careful consideration to alternative measures where risks may be lower (Coyle & Olsen, 2005). The ACA Code of Ethics (ACA, 2005) discusses some of these considerations, including counseling researchers taking precautions to avoid injury, ensuring minimal interference or disruptions in participants' lives, and considering multicultural aspects in one's research design. Whereas the role of the IRB is to use a cost-benefit analysis (Rosenthal, 2008), the responsibility of minimizing the risks to participants is solely that of the researcher.

Informed Consent

Informed consent is an important aspect of ethical research that later results in publishing ethical research. The need for informed consent arose out of the well-known historic cases in which research participants were unaware of the purpose and procedures of a study, possible risks, and alternative methods of treatment (e.g., the Tuskegee syphilis study, the Willowbrook study). As a result of the misinformed risks taken and the resulting harm to participants, in 1948 the Nuremberg Code and in 1979 the Belmont Report were created to protect the rights of research participants, including requiring participants to be provided with an informed consent document. Informed consent is intended to provide individuals the ability to make an educated decision about participating in a research study. Whereas a researcher must consider and minimize the risks of a study, volunteering participants must be able to make an autonomous and educated decision as to whether they are willing to participate in the study given the risks. The ACA Code of Ethics (ACA, 2005) states, "individuals have the right to consent to become research participants" (p. 17), and in seeking consent, researchers need to use language that is accurate; explains procedures; describes discomforts, risks, benefits, and alternative procedures; offers to answer questions; provides limitations to confidentiality; and instructs participants of their right to withdraw without penalty. This information is typically required by most IRBs in consent forms; however, because of the increasing length of consent forms, most research participants do not understand what they have agreed to participate in (Mann, 2008). Mann reported that when participants were asked questions about the consent form they read, most responded incorrectly. Mann also reported that shorter informed consent forms resulted in greater understanding of the study by participants. It is the researcher's ethical responsibility to ensure that participants understand the procedures, particularly the risks inherent in the study.

There are steps researchers can take to ensure that individuals understand the nature of the study and are able to make an informed decision about participation. These include writing an informed consent document that includes the procedures of the study as well as the ability of participants to withdraw from the study without penalty, which is noted as a necessary part of the informed consent process by the ACA Code of Ethics (ACA, 2005, Standards G.2.a., G.2.c, G.2.d.) as well as a criteria assessed by IRBs (Bozeman et al., 2009). One difficulty that arises with informed consent is that participants who sign the consent form may think they have signed away their right to sue for maltreatment (Mann, 2008), so researchers need to address this concern clearly in their informed consent documents or oral presentations.

In addition to helping participants understand that they can voluntarily withdraw at any time, researchers should also write the consent form in a language understandable by participants ? including appropriate reading level and dialects that participants may use or speak. Finally, researchers should ensure the protection of more vulnerable populations who are unable to provide consent themselves and may be coerced by others to participate (e.g., Glisso, 1996). When working with minors, researchers should seek and receive consent from legal guardians before ever talking to minors or asking them to assent to participate in one's study. Wester, Willse, and Davis (2010) found 7% of counseling professionals (13 out of 187 participants)

reported that they were unlikely to gain consent from a legal guardian before collecting data from an individual under the age of 18. Mann (2008) suggested researchers should include an oral presentation in addition to the written consent form to ensure all participants have a solid understanding of the procedures, risks, and benefits of any study.

Data Analysis

After data have been collected, researchers engage in data analysis, regardless of the design of the study. Attending to different aspects of quantitative and qualitative data analysis is important to publishing ethical research. Just as the design of a research study can affect confirmability and conclusion validity, so can data analysis.

In qualitative research, the results of the data analysis need to be trustworthy, credible, and dependable (Creswell, 2005; Trochim, 2006; Yeh & Inman, 2007). Ethical qualitative research is written in such a way that all aspects of the analysis are transparent to readers so they understand what occurred throughout the research process. This includes showing how potential researcher bias was controlled for and/or acknowledged throughout data collection and analysis. To increase validity or verifiability of qualitative findings (thus increasing credibility), the researcher should state his or her possible biases up front (before data collection begins). Then, after data collection and during analysis, the researcher should describe the steps taken to ensure the data analysis was conducted with trustworthiness, credibility, and dependability in mind. Depending on the qualitative tradition used (e.g., phenomenology, grounded theory), this can include triangulating data (i.e., corroborating findings across different sources such as researchers, types of data collected, or previous research), checking with members to determine accuracy of the account, and conducting an external audit (i.e., engaging an individual outside of the study to review different aspects of the research and findings; Creswell, 2005).

In ethical quantitative research, various aspects of data analysis need to be considered. These include ensuring the sample size was sufficient to have enough power. Power is defined as the probability of correctly finding a significant relationship if one actually exists (Heppner et al., 2008; Myers, 2008). Power is related to the sample size (e.g., a larger sample size typically produces greater power), effect size, and significance level selected (p value typically .05 in social and behavioral sciences). Lower power increases the chance of a Type II error. In addition to power and sample size, the assumptions of statistical tests need to be met (DiLalla & Dollinger, 2006). Each statistical test has its own assumptions (e.g., normal distribution); when these are violated, then Type I errors are more likely to occur, decreasing conclusion validity. Fishing for results, that is, when a researcher runs multiple statistical analyses to find a significant result to present and publish, is also unethical and decreases conclusion validity (Heppner et al., 2008).

Data analyses in quantitative data should be based on the research question, as well as the variables in the study. For example, if a researcher is inquiring about the relationship between

two or more variables, then the analysis should be one that assesses for relationships (e.g., correlations, regression, path analysis), ensuring that all assumptions for each test are met. If the research question inquires about differences, however, then data analysis that examines differences should be used (e.g., chi-square, t test, analysis of variance, discriminant analysis). Once the type of analysis is determined, the variables need to be considered (e.g., dichotomous, continuous, nominal; Scherbaum, 2006). When a researcher conducts multiple analyses with the hope of finding a statistically significant one, the odds suggest they will eventually find one (e.g., approximately 1 in 20 statistical tests will find a significant result even if one does not truly exist in the population; Heppner et al., 2008), thus increasing the chance of Type I error and decreasing conclusion validity.

Finally, although mistakes in analysis can occur unexpectedly and unintentionally (e.g., forgetting to check for an assumption, reporting an incorrect number from analysis), more serious problems can arise when researchers fabricate data or falsify the results (Steneck, 2006). These behaviors are considered research misconduct and can have serious implications for the counseling profession. The ACA Code of Ethics (ACA, 2005) states, "Counselors do not engage in misleading or fraudulent research, distort data, misrepresent data, or deliberately bias their results" (Standard, GAa.). In a study of 1 87 counselor educators and doctoral students, Wester et al. (2010) found 3% reporting the likelihood that they would falsify data to receive a grant and 3% would falsify data to get published. Falsification of data has serious implications for clinical practice and is contrary to publishing ethical research.

Writing for Publication

Finally, after a study has been conducted and results have been attained the researcher typically writes up the study for publication. To ensure ethical publication, researchers still need to pay attention to ethical details. First, authors need to ensure they give credit where credit is due. This includes citing previous research that has been published and not plagiarizing others' work (see ACA, 2005, Standard G.5.b.). This also entails giving credit to individuals who have provided substantial assistance in the study, as well as not providing ghost authorship to those who have not contributed to the study. Credit may entail authorship or acknowledgment in a footnote depending on the amount of work the individual provided to the study.

The Publication Manual of the American Psychological Association (6th ed.; American Psychological Association [APA], 2009) has guidelines on providing authorship based on the work performed, including those who have written portions of the manuscript or who have made substantial scientific contributions during the study. APA provides a listing of what substantial considerations include. In the Wester et al. (2010) study, 15% of the study respondents ($n = 28$) indicated they insist on being first author on a student's research project (e.g., dissertation), regardless of the student contribution. This goes against the ACA Code of Ethics specific to student research (ACA, 2005; Standard G.5.f.) and APA's (2009) guidelines and suggestions for order of authorship. In addition, the ACA Code of Ethics recommends authors "give credit

through joint authorship, acknowledgment, footnote statements, or other appropriate means to those who have contributed significantly to research or concept development in accordance with such contributions" (ACA, 2005; Standard G.5.d.) and continues by stating the order of authorship should be determined by amount of contribution. Disputes over authorship and acknowledgment can be avoided by having conversations in advance of conducting the research and throughout the research process (ACA, 2005; Standard G.5.e.; APA, 2009).

Another important aspect during the process of writing or presenting results is confidentiality of participants. The ACA Code of Ethics (ACA, 2005) addresses this concern by indicating participants should be told about the limits to confidentiality in the informed consent, and researchers should pay attention to confidentiality when reporting results or sharing original data so participants' identities are disguised if the participants did not authorize their identity to be shared. This may be particularly true in qualitative research where identifying a participant by age, gender, and ethnicity could make that person's identity known to other people in that community, given the small number of participants in many qualitative studies. Wester et al. (2010) found that 8% of counselor educators and doctoral students ($n = 15$) were not likely to remove participants' identifying information when sharing data, and 3% ($n = 6$) were not likely to remove identifying information when presenting or publishing results. A problem that arose in another published report was a lawsuit that originated from a client whose counselor reported information of alleged child sexual abuse in a case study (see Geis & Loftus, 2010, for a discussion of the case *Taus v. Loftus*, 2003). Publishing the identities of research participants is unethical and should be avoided, including providing enough information so readers can make assumptions about who the participants are, unless the participants have been clearly informed and understand, based on the informed consent and questions from the researcher, what limitations may exist to upholding confidentiality at various stages of the research and publication process.

Finally, ethically published research is neither published elsewhere (APA, 2009) nor "salami sliced" or published in the "least publishable unit" (Hoit, 2007). The ACA Code of Ethics states, "manuscripts that are published in whole or in substantial part in another journal or published work are not submitted for publication" (see ACA, 2005, G.5.g.). APA (2009) discusses the need for any authors who have selfpublished their work online or uploaded their unpublished paper to the Internet to inform journal editors so editors can make an informed decision as to whether they deem the paper to be previously published or not. As Abraham (2000) stated, "Publication of a manuscript in any form, electronic or print, in a journal or scientific booklet of a conference, and in any language, constitutes a prior publication" and thus should not be submitted for further consideration as a publication elsewhere.

"Salami slicing," or publishing in the least publishable unit, entails duplicate or redundant publication of a paper or study that overlaps in hypotheses, sample characteristics, methodology, results, and conclusions (Abraham, 2000). Researchers in other fields have found approximately 17% of published manuscripts would be considered "covertly duplicated" (i.e., salami sliced;

Raju, 1994; Tramer, John, & Reynolds, 1997). Publishing similar results from the same study in multiple publications overloads the field with irrelevant information or inflates the findings of the study (Abraham, 2000). It takes researchers and counselors longer to search through published material to find relevant results, and it can make the outcome of a treatment seem important when a counselor finds five studies with the same positive outcome when in fact only one study was conducted. This can sway treatment offered to clients and cause detrimental outcomes if the treatment really does not work.

Conclusion

Publishing ethical research means conducting responsible and ethical research from the beginning to the end of the research process. This entails studying a socially valid research question that will have an impact on the profession and/or its consumers, as well as making ethical decisions in selecting the research design, protecting human participants, analyzing data, and making results public. There are many steps involved in publishing ethical research and ensuring a researcher's conclusions are correct (i.e., conclusion validity or credibility). Not all steps in the research process that affect conclusion validity and confirmability, as well as the social validity of a study (e.g., selection of instrumentation), are covered in this article; however, each step and decision of a research study can influence the counseling profession, its consumers, and society. Therefore, the welfare of research participants and the counseling profession need to be considered from the outset of the research idea through the publication of results.

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