Mixed Methods Article Critique

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1: Introduction

Mixed methods research allows for the strategic use of both qualitative and quantitative research approaches. This allows for an expanded and integrated understanding of both social and health science issues that are likely encountered within social work practice (Creswell, 2009). However, as is the case with any research, it is still important to critically evaluate the merits of each particular study to determine the credibility of the findings for use within practice.

This paper will critique the following article:


1.1 Organization

The initial sections of this paper will discuss the use of the mixed methods for this study, with Section 2 examining the research question and rationale, and Section 3 examining the research design and theoretical framework. Section 4 will discuss the abstract while Section 5 discusses the literature review. The middle section of this paper will examine data collection and sampling in Section 6. Data analysis will then be explored in Section 7, and the findings are explored in Section 8. Reflexivity, ethics, value of the research, and concluding thoughts are discussed in Sections 9, 10, 11, and 12, respectively.

2: Research Question, Rationale, and Methodology

To explore the use of the mixed methods approach within this article, this section will discuss the research question (Section 2.1); the rationale for the research (Section 2.2); and the appropriateness of the methodology (Section 2.3).

2.1: Research Question

It is clear that the research question within the article involves exploring the role of pediatric oncology social workers in end-of-life and palliative care. The goals of the research were clearly stated to include the following:
1. To identify the current practice methods of pediatric oncology social workers providing end-of-life care to children.


2.2: Rationale for Research

Clear rationale for both the importance and relevance for each of the aims of the research study was provided. As the author states, “the lack of research in pediatric social work in palliative and end-of-life care is consistent with the dearth of research specific to the needs of dying children and their families....consequently, the role of pediatric social work in palliative and end-of-life care is critically understudied.” (Jones, 2005, p.36). Given the unique perspective of pediatric oncology social workers, and the fragile time of life for oncology families at end-of-life, it is clear that a solid understanding of the exact role of the social worker is paramount to working with these families.

While the author provides a solid foundation for the research rationale through exploring current literature bases and adequately describing the importance of understanding in this area, it could have been strengthened through strong definitions of key terms which could include:

1. **Palliative/End-of-Life Care:** While this is a term that is widely accepted within the field of pediatric social work, the paper could have benefited from addressing a key definition for this term. For example, a quote that was shared by a participant spoke of the difficulties of differences between patients and their families seeking life-extending treatment. While end-of-life for this particular social worker meant that treatment options were still being explored, for another social worker it might be defined as being the point where families have firmly decided not to pursue life-extending treatment. It is likely that how the social worker defined end-of-life/palliative care would influence their answers to the questionnaire.

2. **Criteria for best practice:** The aims of the research seek to identify the ideal role or best practices of pediatric oncology social workers in end of life care. However, it is not stated what comparison criteria will be utilized to determine best practices. Therefore, either the criteria for comparing various aspects of practice need to be clearly stated, or the aim of the research should move away from identifying best practices (e.g. towards promising practice).
2.3: Appropriateness of Methodology

The mixed methods approach to this study was appropriate. As the author states, the use of both qualitative and quantitative sources “allows for triangulation of the data and depth of information” (Jones, 2005, p. 39). Given the limited amount of information on the research topic, as well as the need for an-depth understanding of the role of social workers to best support patients and their families, the mixed-methods approach provides enhanced rigor to this study. It particularly helps explore a dimension where evidence based practice best practice is not known. Therefore, the qualitative aspects of the research allows for exploration of the range of potential roles for social workers, and the quantitative aspects assist in triangulating these findings and providing further direction on the scope for social workers.

3: Research Design & Theoretical Framework

To explore the link between the previously discussed aims of the research and the research methods, this section will discuss the research design (Section 3.1) and the theorizing framework (Section 3.2).

3.1: Research Design

The aspects influencing the research design include the following:

1. **Timing:** The article utilizes sequential timing. Qualitative data is collected first through the use of focus groups. In the second stage both qualitative and quantitative data is collected with a survey.

2. **Weighting:** Priority is given to the qualitative data over quantitative data. Qualitative data is collected in the focus groups during the first phase. In addition, the qualitative data was also analyzed first from data collection within the survey.

3. **Mixing:** The data was connected, as data from the first phase of the focus groups was utilized to inform the second phase of the surveys.

4. **Theorizing:** The theorizing within the study was explicit as the study addresses the fact that the survey was designed from a grounded theory analysis.

A sequential exploratory methodology is utilized within the study. Given the lack of prior evidence bases on this topic, this is appropriate. As the author states, “explanatory research designs are best suited for
areas where there is little empirical evidence,” (Jones, 2005, p. 38). While this methodology is suitable for the research question, the rational for such a method would have been enhanced through the use of visual models and appropriate notations. Lack of a visual model requires the reader to piece together the two phases of the data collection that is slightly unclear in places. The model would have allowed for a more easily identifiable process method within the study.

3.2: Theoretical Framework

The author does state that the creation of the survey for the study is derived from a grounded theory analysis from the focus groups. Given the aims of the study and the lack of current literature in this area, this is an appropriate theoretical framework. An additional theoretical framework that is not explicitly mentioned, but may also have implicitly influencing the study is a systemic framework. Given that the study is related to social workers and the elements addressed in the questionnaire are systemic, this could also be considered a guiding theoretical framework within the study.

4: Abstract

The abstract clearly describes the research question and the need for exploring the role of pediatric oncology social workers in end-of-life and palliative care. It also clearly states that the findings provide implications for practice, education and research. This does encourage the reader to continue reading the article. However, it only briefly describes the research methodology through identifying the sample size of those responding to the survey. Therefore, the abstract could have benefited from rewording the methodology section to clearly state that a mixed methodology was utilized with data collected from both the focus groups and the surveys.

5: Literature Review

The purpose of a literature review is to assist in identifying current literature bases related to the research question, as well as to identify gaps within these evidence bases. This section will discuss the literature review in relation to the sources utilized (Section 5.1), and the organization and analysis of the review (Section 5.2).
5.1: Sufficient, Relevant & Current Literature

The literature review utilized a variety of relevant and current sources surrounding the research question. The majority of the sources were current (published within the last decade) and came from reputable sources. Many sources were from within social work publications, but this was balanced with sources from palliative medicine, psychosocial oncology, and bioethics. Two of the sources utilized to demonstrate a substantial gap in the evidence bases were very current studies by the same author as this publication. While a closer examination of these publications would be warranted, it does assist in highlighting the need for evidence in this area as the author was able to publish in three different peer reviewed journals.

5.2: Organization and Critical Analysis of Literature

The organization and critical analysis of the literature review was a strength within the paper. It was able to highlight the need for understanding of the role of social workers in palliative care while simultaneously providing strong evidence for the lack of research and understanding within the pediatric oncology world. The identified gaps included lack of information on:

1. The unique needs of dying children and their families;
2. Adequate educational resources for social workers working in end-of-life care; and
3. Appropriate evidence based interventions that blend the unique skills sets of social workers with the needs of families.

Identification of these gaps was then combined with strong evidence on the need for appropriate support and interventions during such a fragile time in the lives of these families. Therefore, the literature review provided strong rational that thoroughly justifies the need for the research.

6: Sampling & Data Collection

As with any research study, the credibility of the study is impacted by the data that is collected. This section will provide an analysis of the article based on sampling techniques (Section 6.1), and data collection (Section 6.2).

6.1: Sampling

Purposive sample was utilized for this study. All participants for both the focus groups and the surveys were members of the Association of Pediatric Oncology of Social Workers (APOSW). While the sample
size for the survey was clear (131 self-selected participants responded from 260 surveys sent), the sample size for the focus groups was not mentioned. In addition, demographics of the sample were clearly identified for the survey, but the paper did not identify the demographics for those that participated in the focus group.

As the author notes, sampling through the APOSW provided a sample that was both knowledgeable in the area of pediatric oncology social work, as well as motivated to gain an in-depth understanding of the research question. Given the demographics provided, it is clear that membership within the association includes individuals that are both highly educated and experienced within the field. Therefore, it is reasonable to assume that sampling within the association provided a solid base for understanding the research question. While this sampling strategy does not appear to have a direct link within the literature, it does make logical sense that to those sampled would have a reasonable understanding of supports currently being provided to families.

While participants within the study did provide an appropriate sample for determining current practice methods within the field, it could be argued that to determine best practice approaches it may also be helpful to seek participants that included patients and their families. However, given the sensitive nature of end-of-life and palliative experience for families, this likely would have involved a retrospective sample with a more complex research design to include appropriate ethical considerations. Therefore, a sample of strictly social workers was likely the best choice for this identified study.

6.2: Data Collection

The data collection from focus group participants is not described within the article. It is not clear how long the focus groups were, how often they were held, how they were held (e.g. face-to-face, teleconference, or videoconference) or how many participants were in the groups. It can be assumed that the topics within the focus groups related to the identified topics within the survey questions, although this is not clearly stated within the article either. Therefore, further information on the data collection process would be useful in evaluating the validity of the findings.

Data collection from the surveys was more explicitly described within the article and discussed both the quantitative and qualitative data. That is, this information was collected from surveys returned in the
mail. While this method did not appear to be linked to methods described within the literature, it likely was an appropriate method for data collection. It allowed for the most convenient method for sampling from social workers from a wide variety of locations as well as ensured confidentiality and autonomy of the participants.

While the article does link together each phase within the data collection, the description is somewhat scattered throughout the article. Therefore, as described in Section 3.1, a visual model of the research design would have assisted in the understanding of each stage of the data collection.

**7: Data Analysis**

In addition to sampling and data collection, the analysis of the data is equally as important in assessing the merits of a study. This section will discuss the analysis process (Section 7.1) and the presentation of the data (Section 7.2).

**7.1: Analysis Process**

The author does to state the data analysis within the study to be grounded within the literature. However, it did make logical sense given the research design. Again, this likely would have been enhanced through a visual notation model describing the mixed methods design, as previously described in Section 3.1.

Data analysis of the first phase of the research included:

1. **Analysis of focus groups** with members of the APOSW to guide the design of a survey instrument with Likert scales and open-ended questions.
2. **Pre-testing the survey** with three master’s level social workers experienced in end-of-life care that were not pediatric oncology social workers.

The analysis process within the first phase of the research is very poorly explained. No illustrations are provided as to how the data collected from the focus groups informed the development of the survey. In addition, detail is very scarce on the methods for pre-testing the surveys. As previously mentioned in Section 6.1 and 6.2, the article would have been enhanced through a more detailed description of the process from the focus groups to the survey that was developed. However, despite this lack of clarity in the analysis process, the use of focus groups to create the survey was an appropriate qualitative
approach for gathering such information and pre-testing the survey further enhances the credibility of the created survey tool.

As described by the author, data analysis of the second phase of the research included:

1. **Template analysis of qualitative data** from eleven open ended questions. Coding levels stated by the author included:
   - Twelve first level codes, decided *a priori* by topics posed in the questions;
   - 131 second level codes developed using a constant comparative analysis of the data to elicit themes; and
   - Codes developed from the three open ended questions that specifically asked about end-of-life and palliative care that yielded three first level codes and 41 second level codes.

While a richer description of the coding process is warranted to provide further clarity, the author does provide evidence of appropriate coding by detailing the number of codes at each of the three levels.

2. **Principal component analysis** of quantitative data to create coherent subsets of data that exist independently of each other. This included descriptive statistics (frequencies, means, and standard deviations). This was an appropriate choice of statistical testing given the data collected with the survey as it allowed for triangulation with the coding analysis from the qualitative data.

3. **Further principal component analysis as a data reduction strategy.** The 22 original items were reduced to six components with eigenvalues over 1. Given the aims of the research and the broad categories with significant overlap that existed within the 22 original items, this appears to be an appropriate strategy to adequately present findings in a clear and useable manner. In viewing the identified overlapping categories outlined in Table 3, it perhaps might be considered that further pre-testing of the initial survey would have assisted in tightening up some of the overlapping categories before the survey was delivered. However, given the poor literature base within this area, and the broad aims of the research question, the ability to collapse such categories prior to this stage in analysis may have proved to be difficult. Therefore, this likely is the most appropriate stage to collapse the categories, making the analysis appropriate.

4. **Paired T-Tests** to compare the mean difference in the most important tasks of the social worker with preparation for those tasks. If the assumption is made that the created survey tool is a valid
standardized measure, then this is an appropriate parametric test to conduct. This test is appropriate for this type of statistical comparison as the dependent variable is being measured at a ratio level and the independent variables do not contain more than two categories.

7.2: Data Presentation

Data was presented in Tables 1-7 based on identified themes of qualitative data and statistical figures from quantities data. Tables were: appropriate labeled; contained headings that provided easy clarification of the purpose of the summary; and were adequately referred to and explained within the results section. In addition, they displayed enough information that the reader is able to verify the summary results stated in the article, which adds to the credibility of the findings. Perhaps the one table that could have been modified to enhance clarity is Table 6, where rank order, importance of task, and preparation of task were presented. While the table does provide clarity within the context of the text describing it, the table by itself is rather confusing given the categories. Perhaps numbering could have been used in relation to rank order to clarify. In addition, the column format within the figure tends to suggest a comparison that adds further confusion, so perhaps a pictorial figure or interlocking circles may have summarized this data in a more appropriate manner.

8: Discussion and Findings

Further analysis of the merits of a mixed methods study is determined by critically evaluating the discussions and findings. This section will discuss: the presentation of the findings (Section 8.1); the trustworthiness of the findings (Section 8.2); and implications of the findings (Section 8.3).

8.1: Presentation of Findings

The author states that the findings from the study indicate that the ideal roles for social workers include:

- Counselor/companion/guide
- Advocate/communicator/coordinator of services
- Resource broker
- Member of the interdisciplinary team
- Ethical consultant

Each of these findings were explicitly stated in the article and supported with qualitative quotations that
reflected the nature of each of the ideal roles for social workers. These findings partially relate to the initial research question, which contained two aims. The first aim was to identify the current practice of social workers and the second aim to identify the ideal role/best practice for social workers. The findings address the topics social workers believe to be the ideal role of social work with this population. However, there is no comparison or criteria that allow these categories to fit within the realm of best practice for social work. Therefore, the findings only reflect a partial relation to answering the research question. However, as previously noted in Section 2.2, this study likely could have benefited from rewording the aim of seeking a best practice comparison.

Despite the lack of addressing all aspects of the research question, the presentation of findings relating to each of the ideal roles of social workers was provided in a clear, logical, and relevant order. The presentation of findings through discussions of each ideal social work role was helpful in establishing credibility for each of the categories. The discussion that included a combination of both quantitative and qualitative data was useful to gain an understanding of the scope of each of the identified categories. This was strengthen by the discussion regarding the preparation of social workers to provide supports for patients and their families in each of these roles as it provided a balance of arguments related to the need for social workers to act in such roles while at the same time identifying the lack of preparation and education to fulfill some of the roles.

8.2: Trustworthiness of Findings

Factors influencing the trustworthiness of the findings could include:

1. **Credibility/Validity:** The author states that credibility of the qualitative data analysis was enhanced through “peer debriefing with an expert in palliative care, methodological and data triangulation, and member-checking the preliminary results with the APOSW membership,” (Jones, 2005, p. 41). Coding decisions were verified and checked with the qualitative methodological consultant and peer debriefer, which could also add to the credibility of the findings. However, credibility of the findings may also be questioned given the lack of the information on how data was collected, analyzed, and utilized to influence the survey questions.

2. **Transferability/Applicability:** As the author states, transferability outside of pediatric oncology social work is limited, and findings should not be generalized to other end-of-life circumstances. However, the themes regarding end-of-life and the need for further education in this area may
have some potential to be transferable to inform educational programs for social workers.

3. **Dependability/Consistency**: As the surveys were done through the mail, the consistency in collecting the data from the written surveys was a strength of this work and enhances trustworthiness. However, the poor discussion on the focus groups that lead to the creation of the survey should also be considered. Therefore, while data from the surveys may have strong dependability and consistency, trustworthiness is again limited by the description of the process of the focus groups.

4. **Conformability/Neutrality**: The author does not show a strong awareness of bias in her own role as researcher. As previously mentioned, there is some awareness during data analysis to ensure appropriate coding, such as peer debriefing, but there is little evidence that her own role is examined. For example, it is unclear who had lead the focus groups. If it was the author that had done so, her position and academic background may have influenced the discussion within the focus group, and therefore influenced the creation of the survey. Therefore, trustworthiness of the findings would have been enhanced by evidence of awareness related to the role of the researcher.

### 8.2: Implications of Findings

The author stated the following implications of the findings:

1. Identifying both the importance for and absence of appropriate educational programs designed to train social workers to meet the unique needs of this population.

2. The vulnerable position of both patients and their families creates specific ethical dilemmas with this population. Social work can be uniquely suited to addressing these dilemmas and acting as an advocate for these families, which parallels the role of social workers supporting adult populations.

3. There is a clear need for teaching ethics and ethical decision making to social workers supporting this population.

These implications are clearly described, relate to aspects of the research question and are supported through the data analysis. All implications for these findings seek to further explore and enhance the role of pediatric oncology social workers in end-of-life care. A further implication that was implicit within the study was that collaboration between social workers in end-of-life care and pediatric oncology could
assist in providing adequate support to patients and their families.

9: Reflexivity

As with any research study, it is important for the researcher to examine their own role and biases within the research. While the author does mention some member checking and peer consultation throughout the coding process for the qualitative data analysis, very little else is mentioned within the study on the role of the researcher. It is clear that the author is a social worker and therefore may bring potential biases to the research. It is assumed that the author likely lead the focus groups that framed the development of the survey, yet biases within the process were not addressed. Therefore, further credibility of the study could have been established through a more direct discussion of the researcher’s role. This may have been excluded due to space constraints; however, given the extensive discussion within the findings section, it would have enhanced the study to more concisely summarize this section to allow additional space to examine the author’s role in the study.

10: Ethical Issues

Within mixed-methods studies ethical considerations are important, and this is particularly the case when dealing with a topic as sensitive as end-of-life in pediatric oncology. While the study was conducted with social workers as opposed to patients and families themselves, ethical considerations are still paramount.

While it can be assumed that ethical approval was granted for this study given the author’s affiliation with an academic institution, this was not explicitly stated. In addition, the study could have benefited from a discussion on additional evidence of additional ethical standards such as: consideration of post-study effects; informed consent for both the focus group and surveys; and confidentiality within both the focus groups and on the surveys. However, again, it can be assumed that these were addressed in the ethics approval through the University of Austin. Further support for ethical considerations can be seen from the quotations included within the discussion section of the paper. Quotes included enough targeted and detailed information to support the data analysis and add credibility to the findings while at the same time ensuring confidentiality of both social workers and families and families.
Further evidence for ethical considerations relates to value of social good resulting from the research. The need for further understanding of the role of social workers with these patients and families is clear. Evidence of ethical consideration within the study can be seen by the fact that this is an exploratory study. Given the very vulnerable population of patients and families at end-of-life, the study chose to utilize social workers as participants rather than patients and families. This speaks to the awareness of the vulnerability of clients and demonstrates a strong ethical awareness within an exploratory research project.

11: Value of the Research

A final assessment of this mixed methods study will include an evaluation of the research. This will include a discussion of: the contributions to an existing body of literature (Section 11.1); identification of further necessary research (Section 11.2); limitations of the current study (Section 11.3); and transferability of the research (Section 11.4).

11.1: Contributions to Existing Body of Literature

As stated by the author, this explanatory study "contributes to the growing knowledge about pediatric palliative and end-of-life care by offering a previously unheard perspective to the national dialogue...this research offers a beginning understanding of the current practice methods of pediatric oncology social workers providing end-of-life care to children, and the ideal role/best practices of pediatric oncology social workers in end-of-life care for children" (Jones, 2005, p. 60). Therefore, the research clearly adds to a rather small body of existing literature and provides a clear foundation for further research in this area.

11.2: Identification of Further Necessary Research

As noted by the author, further research is likely necessary in the following areas:

1. The perspective from children and their families on the ideal role of social work; and
2. Perspectives from other interdisciplinary professionals on the ideal role of social work.

While these are certainly areas for further research, given that this was an exploratory study, the authors could have provided some additional areas for future research that were further outside the scope of the study as well. Further research could have also included topics such as:

1. The effects of collaboration between end-of-life social workers and pediatric oncology social
workers;

2. The difference in role of social workers based on the individual needs of the dying child, their siblings, parents, grandparents, and additional support persons during the process;

3. The balance and interactions of each of the five ideal roles identified within the study and how these fit within cultural diverse groups;

4. How the ideal roles of social workers identified within the article differ in pediatric oncology social workers new to the field (e.g. less than 5 years of experience) and those that are experienced within the field (e.g. 15-20 years of experience); and

5. The comparison between what social workers view as the ideal role for social workers and what patients and their families view as the ideal role.

11.3: Limitations of Current Study

Limitations as noted by the author include:

1. The study was utilized to elicit the perceptions and experiences of pediatric oncology social workers. Therefore, limitations relate to generalizing outside of this specific area.

2. The survey included qualitative questions that followed the quantitative questions. Therefore, the closed ended questions could have influenced the responses to the open ended questions. However, it also could have allowed participants to express ideas that they may not have otherwise thought out. Therefore, limitations exist in knowing how the two components of the survey influenced the responses.

3. The questionnaire was not validated prior to use.

All of these limitations described within the study were both well stated and explored. While the first two limitations were likely appropriate given logistical constraints, the third limitation (lack validating the questionnaire prior to use) raises concerns regarding the credibility of the study. Given the concerns from data gathered in the focus groups used to create the survey, this is a major methodological limitation affecting this study.

11.4: Transferability of Research

The author states that the transferability of the study may be limited outside of the field of pediatric oncology. Caution should be used when generalizing to other areas within end-of-life such as in sudden traumas and illness with different disease trajectories and treatments than cancer. While this speaks
very adequately to the transferability of the research, considerations should also include those as outlined in Section 11.3 regarding the limitations of the research that also effects the generalizability of this study.

12: Concluding Thoughts

Mixed method research articles often lend themselves to exploring a more in-depth phenomenon than qualitative or quantitative research. The research question contained within the article is very appropriately addressed through the mixed methods approach to gain an understanding of a topic with little consensus and evidence bases, the role of pediatric oncology social workers in end-of-life care. However, as identified in this paper, several methodological limitations within the study lead to very limited use of the findings. Further credibility of the findings could have been enhanced through additional considerations and an enhanced description of the research design elements from the focus group to design the surveys. Therefore, while the findings within the article are relevant and important for social workers, pediatric oncology patients, and their families, they should be considered with a caution.
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References
