A Methodology for Critical Science in Nursing

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There is confusion surrounding critical science in nursing. Many studies which could be considered critical do not identify themselves as such. Reasons for this may be the lack of a clear definition of critical science in nursing or the failure of the discipline to identify the defining characteristics of a critical methodology. This article addresses the confusion by defining critical science in nursing in addition to presenting a critical methodology synthesizing 7 common processes seen in critical research. Key words: critical theory, emancipatory, methodology, research

It is clear that there has been an increasing amount of critical science in the nursing literature in the last 20 years. Journals such as Advances in Nursing Science have become recognized sources for critical studies. It is also clear that many studies which could be considered critical do not identify themselves as such. Reasons for this discrepancy may be the lack of a clear definition of critical science in nursing or the failure of the discipline to identify the defining characteristics of a critical methodology for nurse researchers. Because the processes of a critical methodology have been poorly delineated, these studies exist in a context of confusion characterized by inconsistency and, at times, inaccuracy. This article addresses the confusion by defining critical science in nursing, along with the philosophical and theoretical traditions that ground such inquiries. In addition, a methodology for critical science in nursing is presented, which represents a synthesis of 7 common processes in critical research.

Broadly conceived, critical science can be described as any research approach that draws on a critical tradition for its theoretical and philosophical framework. This tradition represents the historical thinking and philosophical positions of diverse scholars including the critical theorists of the Frankfurt School, Jurgen Habermas, and Brazilian educator Paulo Freire. Terminology classification found in the nursing literature for studies satisfying this broad conceptualization includes emancipatory, praxis, action, participatory action, and feminist research. In addition, the critical tradition often informs other methodologies resulting in combined approaches such as critical ethnography.

If critical science can be thought of as any study drawing on the diverse tradition of critical theory represented by the work of an eclectic group of scholars, and if critical science may identify itself in a variety of ways, either as a single approach or combined with more established traditions, then how can nurses identify a critically scientific nursing study? What criteria can they use to evaluate the appropriateness of its methodology? The answers can be found by examining the intent of the study and the common processes used to achieve it.

HISTORICAL DEVELOPMENT OF THE CRITICAL TRADITION

The historical development of the critical tradition goes back to ancient times.
Although examples of critical thought have always existed, most scholars agree that Karl Marx laid the foundation and provided the inspiration for modern critical theory.\textsuperscript{3–5} Marx identified the social order as causing illusions that function to maintain oppression. His dialectical, historical analysis of the development of class struggle, class-consciousness, and revolutionary praxis echoes many features of critical theory today.\textsuperscript{3} Marx had an enormous influence on critical social research and Marxism, in all its forms, remains dynamic and evolving.\textsuperscript{5}

Critical thought has evolved and undergone considerable changes and interpretations. In Europe until the 1960s, these interpretations had been directly linked to adaptations of Marxism.\textsuperscript{5} Western critical theory has been most heavily influenced by the work of the critical theorists of the Frankfurt School, along with Jurgen Habermas, and Paulo Freire.

The Frankfurt School is the more common name given to the Institute for Social Research founded in Germany in 1924. The social philosophy of the Frankfurt School provided an alternative to the prevailing positivistic paradigm as well as a forum, at the institutional level, for the discussion of Marxist ideas.\textsuperscript{3,6} The school had a turbulent history, shaped by strong personalities from differing disciplines, resulting in an eclectic body of work that led far away from classic Marxism.\textsuperscript{3,6} Although there never was a consistent theory coming from the school, the members were united in their critical approach to society.\textsuperscript{3}

Habermas joined the school in the 1950s as a research assistant and is considered the most notable modern or second-generation critical theorist. He called for a far-reaching critique of the coercive nature of society and described emancipation as a process achieved through mutual understanding, critical reflection, and communicative competence.\textsuperscript{7} For Habermas, research with a critical focus is needed to expose concealed domination and oppression. Such research would uncover and analyze hidden power structures and be committed to Liberating change.\textsuperscript{8} Habermas and the critical tradition of the Frankfurt school remain important as the theoretical basis for many critical nursing studies.

Critical science in nursing is often connected philosophically and methodologically with the work of Paulo Freire, a Brazilian educator best known for his book \textit{Pedagogy of the Oppressed}.\textsuperscript{9} Freire followed a Marxist tradition, believing that people must emancipate themselves and overcome the false consciousness caused by oppression. In his theory of emancipatory education, liberation is a process of dialogue, problematization, and increasing critical consciousness or conscientization.\textsuperscript{9} Arousing the critical consciousness of the poor was found threatening by the ruling class of Brazil and Freire was jailed and later forced into exile.\textsuperscript{5}

Although Habermas and Freire are the most common theorists cited in critical nursing studies, there are others. Some hold that French philosopher Michael Foucault was a critical theorist\textsuperscript{10,11} However, he is most often identified as a poststructuralist. Because of his focus on discourse and power, his work compliments critical theory, but it is not completely reconcilable because of his rejection of the concept of ideology in analysis of social structures and his failure to link critical analysis to any explicit normative agenda.\textsuperscript{6}

It is most common in the nursing literature for studies representing themselves as critical to identify with the critical tradition of the Frankfurt School or the critical theory of Habermas. Studies grounded in the work of Paulo Freire or others such as Foucault tend to use more diverse terminology such as emancipatory research or participatory action research. The confusion created by the differing labels in nursing research is unnecessary since each of these types of studies has been adapted to achieve an emancipatory aim and could make use of an identical methodology.
Perhaps nurse researchers choose to label their studies in other ways because of the negative connotation of the word critical. The word itself invites confusion since it has many differing meanings. It may imply simply fault finding, or may, as in the case of critical science, have a much deeper meaning. The word critical is derived from the Greek word krinein, which means to judge or discern, but in the context of nursing science it is far more complex than an authoritative evaluation or judgment. In this context, the critical view illuminates dimensions of meaning not always obvious to the casual observer. To be critical, according to Robert Cox is to stand apart from the prevailing world order and ask how it came about. It involves a mode of thinking and acting, which focuses on deliberation and reflection and argues against the limited notion of critique in both the empiricist and interpretive approaches to research. Critical theory in this unique sense is designed to involve and inform people, especially marginalized or oppressed populations, about actions necessary to promote their emancipation. It involves patterns of thought and action that challenge institutionalized power relations.

The goal of science informed by critical theory is the creation of a more just society resulting from change brought about by education and praxis resulting in the emancipation and liberation of the oppressed. Thus it is committed to expose, critique, and discard false consciousness resulting from overt and covert power imbalances sustained through social structures. By historicizing the sources and motives of prevailing ideas and practices, it critiques ideology while remaining intensely skeptical of surface appearances. Digging beneath the surface provides a means by which people can radically alter any false self-conceptions. Habermas, whose philosophy informs many contemporary critical studies, identified the ultimate goal of critical science as “emancipation to the point where the self-consciousness of the species has attained the level of critique and freed itself from all ideological delusion.”

A significant amount of critical nursing science has been informed by postmodern and poststructural thought. Rejecting positivism and the belief in a universal truth, both traditions inform critical science by their process of deconstruction and their belief in multiple and contradictory realities. While critical scientists agree that reality should be deconstructed to expose hidden oppressions and develop contextual understanding, they have difficulty reconciling the critical goal of reconstructing society in an emancipatory manner with what they believe is the inaction and the failure to address persistent social injustices resulting from postmodern/poststructural thought. Critical science insists that, although reality is socially constructed, some situations are more just than others and that injustices are not acceptable.

EMANCIPATORY APPROACHES IN NURSING SCIENCE

Action and participatory action research studies in nursing are typically grounded in critical theory. While these specific methodologies are not inherently critical, they are used frequently in nursing with an emancipatory intent. In addition, most feminist research uses both feminist theory and critical theory as a theoretical and philosophical basis. This again leads to confusion.

Action research can be traced back to the work of Kurt Lewin, a psychologist who developed the approach as a way to solve social problems. It involves a cyclical process of planning, acting, observing, and reflecting. As originally conceived, action research was committed to the improvement of a situation or the solving of a social problem and not the empowerment of participants. Elements of self-determination and liberation were missing in Lewin’s conception of action research. Action research was most
concerned with its product, finding a solution to the problem it focused on. It was not process oriented as originally conceived. While action research is not inherently critical, today these studies are frequently associated with Freire, Habermas, and the Frankfurt School and use a participatory design. As a result of these theoretical foundations, action research in the nursing literature frequently focuses on the oppressed with a goal of empowerment and emancipation and may be considered a form of critical science. Currently, nursing studies that classify themselves as action research, but ground themselves in the critical tradition and seek empowerment from oppressive realities would be more correctly classified as critical studies.

Participatory action research (PAR) in nursing is most usually associated with the critical tradition and the work of Freire. It is collaborative in nature, contextually based, and focuses mainly on marginalized communities. It seeks to empower participants through critical reflection and consciousness raising.

The scope of the change in PAR is frequently limited to the individuals involved and is not necessarily the wide sweeping political change envisioned in critical theory. Most scholars agree, however, that participatory action research can be included under the critical umbrella and labeling these studies as critical would lessen the confusion.6,16,18,24-26

The diversity seen in critical theory is seen in feminist theory as well. Feminism can be seen as a family of theories, which, like critical theory, form the foundation for inquiries that are emancipatory in intent. While differences exist at the theoretical level, the methodological approaches are compatible. Both use critique in a contextual, relational approach to uncover and transform oppressive realities. However, a difference exists in their focus. Although feminists could argue that critical research is a generalized form of feminist research, for the purposes of clarifying what can and cannot be included under the critical umbrella, feminist research in nursing can be seen as a gender central, focused form of critical science.6,28

**A CRITICAL METHODOLOGY FOR NURSING**

Although the terms *method* and *methodology* are frequently used interchangeably, they should be thought of as distinctly different concepts when considering critical science. Harding identified only 3 methods for gathering data in social research. One can either listen to what people say, observe what they do, or conduct an historical inquiry. Therefore, method is only the technique used for data collection and is irrelevant to this discussion. Most scholars agree that there is no inherently critical method for collecting data.5,16

Methodology can be defined as the way in which theory and epistemology are utilized in a specific study. It is a more philosophically value laden concept than that of method and reflects the overall conceptual approach of the inquiry.30 It is the way in which the phenomena are approached and interpreted and not the method of data collection that defines critical studies, since they operate at the level of methodology and require contextual decisions instead of technical ones.5,6 However, methodology in critical science has not been clearly articulated. This is problematic since it is through the methodology that critical science can be identified.

Regardless of all of the confusion resulting from the diversity of labels, theories, and methods, 7 foundational processes are consistently seen in critical studies. When synthesized, they form a methodology for critical science in nursing which can be recognized in studies regardless of how they represent themselves. They include

- critique
- context
- politics
- emancipatory intent
- democratic structure
• dialectic analysis
• reflexivity

When each of these processes is present and the study grounds itself, at least in part, within the critical tradition, the study can be considered critical. These processes are not meant to be discrete steps to follow when conducting a critical study. Instead, it is the synthesis of these processes that constitutes a critical methodology for nursing research.

Critique

Critical theory is based on the assumption that people have a desire to be liberated from oppressive realities and that they can engage in social critique and political action as ways to achieve liberation. Critical theory, as it is used in critical science, evolved from the concept of immanent critique forwarded by Horkheimer of the Frankfurt school. This exclusively internal critique was thought to be insufficient by Habermas because he believed that for social critique to be liberating, it must confront the ideology and structures of society on which power and domination are maintained. Therefore an external critique of ideology and social structure, in addition to an internal critique of consciousness, has become foundational to critical science. Some amount of critique may be present in many types of research, but in critical science, it is integral to the process and at the heart of the investigation.

The process of critique in critical science is much more complex than the limited use found in nursing research texts. There, critique is used as an objective evaluation of the strengths and weaknesses of a research report. In the context of conducting a critical study, critique should be used to expose forces of injustice and oppression by examining power relationships and imbalances within societal structures. The process should involve oppositional thinking, reflection, analysis, and dialogue. Researchers would examine the phenomenon of interest and ask questions such as “who benefits from this situation?” and “how is this situation maintained?” It must take nothing for granted and should challenge the status quo with a goal of counteracting the effects of oppressive ideologies, overcoming perceptions of reality maintained by false consciousness, and developing a new critical awareness that is emancipatory.

Context

Critical studies situate their phenomena in historical and structural contexts because it is believed that contexts influence and sometimes cause phenomena. Therefore, phenomena are never examined in isolation. Critical studies take the research process to the people who are experiencing the phenomenon. The context of their lives becomes a focus of the research. Critical science takes a broad social view and uses a totalistic approach. The context may be the focus of change in critical science because if the context of the phenomena is not changed, it may continue to result in the same undesirable and oppressive situation. Nurses conducting critical studies should contextualize the phenomenon of interest by addressing the historical, economic, political, and social forces working to sustain it.

Politics

Critical science assumes that knowledge generation is a political activity. Research in general is seen as political in nature because social forces shape its development and affect its dissemination. This can be problematic for traditional science, which strives for neutrality but it poses no problem for critical science. Also called openly ideological research, critical science does not pretend to be neutral. It is an overtly political activity that exposes unequal power relationships in societal structures and ideologies, as well as those inherent in the research process. The research questions are designed to dig beneath surface appearances and are fundamentally political in nature. Nurses conducting
critical studies must understand that it is not possible to critique power and domination and remain neutral. They should use the inquiry to help participants understand and change their oppressive situations by understanding the political forces that have shaped them. To conduct a critical study in nursing there must be an awareness of the political nature of healthcare and nursing, and researchers should make their agendas known.

**Emancipatory intent**

All critical science has an emancipatory intent. Empowerment of the oppressed and liberating social change are fundamental goals. Empowerment is philosophically rooted in the development of critical social theory and emancipation is associated with the work of Freire. Although the intent is emancipatory, the outcome is not guaranteed. Lack of an emancipatory outcome is not sufficient to exclude a study from the critical paradigm because it is the possibility of change, rather than the promise of it, which defines critical science.

Emancipation is defined as "a state of being in which people come to know who they are and have the collective power to determine the direction of their existence." This is achieved by consciousness raising and praxis, both hallmarks of critical science. Consciousness raising addresses both the rejection of Marxist false consciousness and the development of conscientization or a critical consciousness, which works in tandem with praxis to achieve emancipation.

Freire defined praxis as “reflection and action upon the world in order to transform it.” Action and reflection are creative processes, which use dialogue as an essential component. Critical dialogue uncovers hidden distortions that maintain oppression. Action and reflection have a dialectical relationship in which reflection leads to action, but action is only praxis when it is subjected to critical reflection.

**Democratic structure**

Critical science is characterized by a collaborative, nonhierarchical relationship between researchers and participants. It is a democratic, mutually educative and collegial approach characterized by reciprocity. Because participants are actively involved in the process of negotiating meaning and power, and consult in the construction and validation of knowledge, it has been suggested that “agent” is the appropriate label for participants in critical science. As active agents, participants analyze the data without a voice of authority imposing a preferred interpretation. Because critical science attempts to break down hierarchies and unequal power relationships, it is imperative that the inquiry itself is subjected to this critical evaluation. The critical lens must be turned inward to ensure that participants and researchers are involved in a partnership as coresearchers in which the study becomes an instrument of liberation and not a means of conformity.

**Dialectic analysis**

The dialectic process of understanding society as a totality of contradictory elements is at the heart of critical science. The concept of the dialectic was first introduced by Hegel and used by Marx, resulting in a view of reality that was seen as contradiction. Although there is no specific dialectical method, critical science focuses on contradiction as a starting point in the critique of ideology and social structures. Harvey described the process as “a constant shuttling back between contradictions of social totalities and particular phenomenon, between appearance and essence, abstract and concrete, current and historical, objective and subjective.”

In individual studies, the approach would examine contradictory values, interests, and conditions in a certain social phenomenon. It would examine the contradiction between the way things should be and the way things really are. Nurses would meet with participants over time and ask questions about...
contradictions such as “why is the way we practice nursing today different from the way we wish to practice?” and “who or what is responsible for maintaining this contradiction?” Change is thought to occur in the synthesis and reconciliation of contradiction with resolution only achieved through struggle. The focus on contradiction can be a way of making sense between the differences in subjective and objective realities. The dialectic process usually occurs in group interaction.

**Reflexivity**

Critical science acknowledges the ideological and historical power that dominant forms of research exert over investigators and participants. Researchers use reflexive methods to expose these constraints by considering how the data has been shaped by historical factors, institutional policies, and the researcher’s assumptions and biases. Being reflexive is much more than just merely reflecting on what has occurred. It is an attempt to identify, acknowledge, and do something about the limitations of the research, which may impair the emancipatory goal of the inquiry. Reflexivity involves honesty and relates to validity as well as addressing ethical and political questions encountered in the research process.

**CONCLUSIONS**

Critical science is an important paradigm for conducting nursing research. It offers the profession an opportunity to understand its reality and those of its patients well enough to take collective action to change undesirable situations. It provides a political, economic, and historical context to oppressive realities that may have seemed predestined and promotes agency to facilitate emancipation. The confusion surrounding diverse labels and theories can be minimized by focusing on the intent of the research instead of the name of the theorist or the title that the study gives itself. If all critical science in nursing has an emancipatory intent, and if the word critical has a negative connotation, perhaps the profession would benefit from the use of an umbrella term such as emancipatory research for the paradigm. This seems to be more descriptive and less confusing. Whatever the profession decides, the answer may lie in educating nursing students about the rich tradition of critical thought and the many uses it has in nursing, including research. Presenting critical science as a synthesized methodology, which is always ideologically critical, concerned with transformation, and guided by a vision of emancipation, may help students to identify it in the literature and may encourage them to use this approach for themselves and for their patients.

**RECOMMENDATIONS**

Critical science is research for the people. It is not an elitist paradigm and yet it is not well understood by those who need it the most. The following recommendations are made for helping nurses and students to understand and use this important form of inquiry:

- Present critical science as a synthesized methodology based on the 7 fundamental processes described.
- Include the critical paradigm in undergraduate as well as graduate research courses.
- Introduce the concept of critical knowing as an additional fundamental pattern of knowing in nursing.

Critically, critical research in nursing is infrequently taught in undergraduate research courses, barely mentioned in texts and published in journals read mainly by academics. Nursing as a profession should seek to empower all nurses by teaching undergraduates the emancipatory potential of critical studies. With all the emphasis on critical thinking in nursing education, the status of nursing as an oppressed group, and the marginalization of patients in the current healthcare system, this research approach can reduce the discrepancies between the Western research
tradition and the values of nursing. It seems a logical fit with nursing’s commitment to society. But the word critical does not roll easily off the tongue for those who are members of a profession that focuses on caring. Caring and critical seem, on the surface, to be at odds with one another but in nursing practice they are inseparable. While nurses deliver care, they critique the health of their patients contextually and encourage patient involvement and participation with the intent of empowerment and health. They look for contradiction in what is happening to the patient and use reflection to evaluate their ability to improve care. They gather information by thinking critically about what they are observing. Critical thinking leads to critical knowing. Critical knowing can be used as an additional fundamental pattern of knowing in nursing to introduce the concept to students in a way that portrays critical in the best sense of the word.

REFERENCES

31. Lutz K, Jones K, Kendall J. Expanding the praxis


