

An Overview of Critical Realism and its Relevance as a Philosophical Approach to Research in Nursing and Nurse Education

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Abstract

Researchers need to clearly identify the philosophical assumptions that underpin their work if they are to ensure it can be exposed to appropriate academic scrutiny. This paper identifies the ontology, epistemology and methodology associated with the philosophical perspective known as Critical Realism and briefly explains the differences between this approach and other realist perspectives, such as Positivism. It highlights the growing interest in Critical Realism as a foundation for healthcare research. This interest is attributed to its pragmatic approach to knowledge acquisition and understanding in respect of complex social phenomena, combined with its emancipatory aspirations, which are particularly well-aligned with the professional values espoused by those working in the fields of nursing practice and nurse education. Finally, it acknowledges some of the potential problems associated with adopting a Critical Realist approach to a research study and the safeguards which may ensure a robust academic investigation.

Keywords: *Critical Realism; Ontology; Epistemology; Methodology; Research; Nursing; Nurse Education*

Introduction

According to Wainwright [1], “ontology is what exists, epistemology is how we can come to know about it and methodology is the means of acquiring this knowledge” (p.1263). To determine whether a philosophical orientation has been appropriately selected to address a given research question, a researcher must demonstrate appreciation of its fundamental assumptions about the nature of the world and how knowledge can be acquired [2] as well as articulate and justify its application to their study [3]. Nevertheless, some investigations located within the nursing discipline fail to detail, or demonstrably even consider, the origins and key assumptions of the approach which underpins their work.

Critical Realism, also known as ‘Neomodernism’ [4], ‘Transcendental’ or ‘Complex’ Realism [5], was developed by British philosophers Roy Bhaskar and Rom Harré in the late twentieth-century [6] and today many research studies are founded upon this scientific philosophy [7,8]. Critical Realism “has already been endorsed by a range of disciplines” [9] (p.1) and is “steadily gathering support for its unique ways of categorizing, highlighting and interpreting phenomena” [2] (p.100). Indeed, it is described as having “prominence as an alternative research framework particularly in the social sciences but also in nursing” [10] (p.62) and offering a useful approach to healthcare research [11]; perhaps due in part to “its usefulness and philosophical fortitude” [4] (p.419). This paper explains the key principles of Critical Realism, its broad relevance to research within both nursing and nurse education and its specific value and potential limitations as a philosophical basis for investigation within the discipline.

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Critical realism: Relationship with related philosophical perspectives and its ontology, epistemology, and methodology

Philosophers identify two distinct forms of realism, namely 'Direct Realism', also termed 'Naïve' or 'Scientific' Realism, and 'Critical Realism'. A researcher adopting a Direct Realist position would argue that sensory experiences provide an accurate representation of reality and are therefore a valid data source. In contrast, a Critical Realist researcher believes that such experiences are subjectively mediated and so individual accounts cannot necessarily be relied upon to accurately reflect reality; hence there is also a need to consider what underlying structures and relationships affect observed phenomena [4,5].

In common with Positivism, which is arguably the most common realist perspective underpinning research studies in the social sciences, Critical Realism "offers a shared ontology and epistemology for the natural and social sciences" [14] (p.169), recognises the existence of a world independent of a researcher's knowledge of it [15-17] and "treats science as providing the most secure source of knowledge" [18] (p.35). Unlike Positivism, however, it asserts that the world is "composed not only of events, states of affairs, experiences, impressions and discourses but also underlying structures, powers and tendencies" [19] (p.223), much of which cannot be observed [20]. Critical Realism proposes two dimensions of knowledge; the 'intransitive', "a reality independent of what we think of it", and the 'transitive', or "our thinking of it" [21] (p.14).

Since it is considered impossible to objectively apprehend reality [22], "ontology does not depend on epistemology" [23] (p.6) and science must rely on socially produced theories to enhance understanding of this intransitive dimension [14]. Moreover, McGhee, *et al.* [24] argue that "all human beings gather and understand information through a worldview which includes histories, prospects, narratives, mental models and cultural norms" (p.848). It is therefore deemed impossible for social science research to ever be neutral and wholly objective and so, from a Critical Realist perspective, all knowledge, irrespective of the way it has been acquired, is fallible and should be examined critically [9].

Bhaskar claims reality is differentiated and stratified within three levels. The 'empirical' level includes experienced/observed events, the 'actual' level describes all events which occur irrespective of whether we experience them, whilst the 'causal' level addresses powers, structures and mechanisms which generate events, and which may not be open to empirical measurement [25]. According to Critical Realism, observed phenomena may not reveal the mechanisms which cause them [1] and "the real world operates as a multi-dimensional open system" [22] (p.69). Critical Realist research therefore aims to understand potential causal mechanisms or structures leading to observed phenomena [26,27] and, like Positivism, establish generalisations, although these are based on probabilistic rather than absolute truth [28].

Mingers, *et al.* [29] argue that "events happen within the organizational world not by chance but for reasons" (p.171) and that it is therefore incumbent upon researchers to try and explain why such events occur. To establish causative generalisations, Critical Realists identify and document "harmonious patterns and themes, and the consistent correspondence, or lack of correspondence, of these themes with underlying theories" [28] (p.11). Data is normally analysed via two complementary processes known as 'abduction' and 'retroduction' [30]. Abduction is "a form of inference that uses emerging empirical observations to generate a hypothesis that will account for those observations", although Critical Realists recognise that such inferences do not prove a cause-effect relationship [2] (p.92). Retroduction involves researchers seeking to establish the most probable explanation to account for their findings [31,32] by drawing upon understanding derived from theoretical analysis; since it is this form of knowledge which allows them to question, clarify and challenge the prerequisites or conditions of potential underlying mechanisms or processes which may cause observed phenomena [30]. Where an understanding of such structures or processes already exists, analysis may also involve 'retrodiction'; an activity which involves researchers seeking to confirm whether specific mechanisms can be shown to have a clear, potentially causative, relationship with the observed conditions [33,34].

For Critical Realists, the goal of research is not to formulate universal laws but “develop deeper levels of explanation and understanding” [22] (p.69). The methodology of Critical Realism involves the construction of theory but does so by offering insights into causal mechanisms [1,35], testing explanations of underlying structures/mechanisms and capturing observable relationships between variables [9]. Indeed, causal explanation is considered much more important than description [36]. Critical Realism also asserts that “there are rational criteria for judging some theories as better and more explanatory than others” [21] (p.14) and “the best explanations are those that are identified as having the greatest explanatory power” [6] (p.491). More controversially, based upon explicit evidence and a clear rationale, Critical Realist researchers not only take a position within a debate [37] but may also make value judgements about the way things should be [18,32].

In a Critical Realist literature review, the author seeks “to determine the extent to which previous research has contributed to the critical realist goals of description and explanation” [38] (p.5). Moreover, the individual is expected to present a case which leads the reader through their arguments based on the supporting literature [37] and thereby readily facilitates third-party evaluation of their assertions and conclusions. A traditional systematic review, which is based on Positivist philosophy, emphasises the number of ‘quality’ studies that support or challenge a hypothesis and gives priority to randomised controlled trials [39-41]. A Critical Realist review, however, is more flexible; seeking to create a coherent argument through the identification and organisation of ideas, theories, and logic [37,42,43] as well as highlighting areas worthy of further investigation [32]. This is because the fundamental purpose of such a review is not to provide answers but to stimulate further questions [37]. “In order to produce research consistent with its ontological and epistemological assumptions”, however, studies based on Critical Realism “often find it necessary to review and integrate a large body of abstract philosophical literature” [44] (p.788).

Within a Critical Realist study, data collection methods are determined by the nature of the research problem [22] and the work should always ultimately provide a “theoretical description of mechanisms and structures, in order to hypothesize how the observed events can be explained” [45] (p.3). Not only are qualitative and quantitative methodologies therefore considered appropriate but using both approaches is deemed more likely to enhance understanding of the phenomena under investigation [9,46] and enable triangulation of research findings [11,28]. Rather than being linear, such research adopts an iterative process [32]; hence the destination of the research cannot be known until it is reached [37].

Critical realism: Its relevance to, and limitations in, nursing research

Positivism tends to regard “qualitative data as ‘handmaiden’ or ‘second best’ to the quantitative data” [47] (p.457); yet in much nursing research the former data type may be a more important way to establish the intransitive powers, structures and mechanisms which shape human experience than the latter. Positivist research has therefore been described as less appropriate for the study of the social world [48]; not least because of its inability to capture many unobservable and non-measurable concepts [36]. In contrast, and unlike many philosophical approaches, Critical Realism supports academic enquiry in which a diverse range of expert opinion, quantitative and qualitative evidence can be used to better understand phenomena [49,50] and so reconciles the differences associated with alternative research methodologies [51] which have been widely debated since the start of the ‘paradigm wars’ over 40 years ago. Moreover, unlike Positivists, Critical Realists assert that, “there is not, even in principle, a ‘God’s eye view’ that is independent of any particular perspective” [52] (p.15).

Modern nursing practice and, by implication nurse education, is “embedded within complex social situations” [11] (p.1). For example, clinical placements in which nursing students commonly acquire their practice learning experiences are widely regarded as multi-dimensional, intricate, socio-cultural entities [53-57]. Critical Realist research can provide deep explanations rather than surface descriptions [5,58] and make judgements regarding the situation under investigation [59], so is regarded as superior to Positivist investigations within nursing [1]. Studies founded on Critical Realism also have the ultimate, and arguably desirable, goal of facilitating emancipation [23,36,60] by providing new knowledge to overcome unjust or oppressive systems, structures, or behaviours [61]. It is argued that “Critic-

cal Realism therefore appears a particularly relevant philosophical framework on which to base investigations within socially embedded, complex, empowerment focused, practice-based fields” [62] (p.203).

Nevertheless, when undertaking a research study founded on Critical Realist principles it remains important to recognise, consider and respond to the criticisms directed at this philosophical orientation. The eclectic, values-based approach of Critical Realism has been condemned by Positivists as “advocating subjectivism, irresponsible relativism and lack of standards which work against conducting proper research” [19] (p.213). Bisman [28], however, identifies various techniques available to reduce bias, termed ‘critical multiplism’, within Critical Realist research, including implementing different data collection methods, using multiple sources of data, and underpinning a study with several theoretical perspectives. Arguably, with the implementation of such safeguards Critical Realism still offers a robust research approach.

Concerns have also been expressed regarding the lack of detailed guidance translating Critical Realist philosophy into applied research methods [9] and the limited advice available on how to deal with conflicting data encountered within a study [50]. Perhaps most importantly, Hammersley [63] (p.7) argues that “social scientists, whether realists or non-realists, have no distinctive expertise to determine what is good or bad about the situations they seek to describe and explain”. Within nursing and nurse education it is therefore of utmost importance that any value judgements derived from Critical Realist research are the product of compelling arguments founded on extensive and varied evidence if the ultimate goal of enhancing care provision is to be achieved.

Conclusion

All too often, nursing researchers do not clearly articulate the philosophical perspective which underpins their work, and this severely limits the extent to which others can fully evaluate the approach adopted to their investigations. Whilst Positivism, Direct Realism and Critical Realism share some common ontological and/or epistemological assumptions, it is argued that Critical Realism offers a more appropriate framework to address many research questions related to the multifaceted problems commonly encountered within nursing and nurse education. Moreover, using data collection methods determined by the purpose of the investigation, striving to identify causative mechanisms (even where these may not be directly observable), and emphasizing the importance that research should be emancipatory are Critical Realist principles which appear wholly aligned to core nursing values.

As a comparatively new approach to conducting research in nursing and nurse education, Critical Realism inevitably has a more limited body of knowledge to which investigators can refer compared to other philosophical perspectives. Nevertheless, it is argued that the flexible and pragmatic basis of this alternative conceptual framework is one which nursing researchers should consider adopting to better establish potential causative factors in respect of the unresolved education and practice issues within the discipline and thereby ultimately enhance care. The author hopes that this paper may help both early career and experienced researchers to consider the merits of undertaking an investigation founded upon Critical Realism.

Conflict of Interest

None.

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