Thinking Like a Social Worker: Examining the Meaning of Critical Thinking in Social Work

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Critical thinking is frequently used to describe how social workers ought to reason. But how well has this concept helped us to develop a normative description of what it means to think like a social worker? This critical review mines the literature on critical thinking for insight into the kinds of thinking social work scholars consider important. Analysis indicates that critical thinking in social work is generally treated as a form of practical reasoning. Further, epistemological disagreements divide 2 distinct proposals for how practical reasoning in social work should proceed. Although these disagreements have received little attention in the literature, they have important implications for social work practice.

In 1991 John Seelig argued that the concept of *critical thinking* was the best way to answer the question of how social workers ought to think (p. 21). Since the publication of Seelig's article, critical thinking has become the dominant way of describing desirable forms of reasoning[1] in American social work. Other authors began to promote critical thinking in social work at approximately the same time (Gambrill, 1990; Gibbs, 1991; Witkin, 1990), and the term caught on quickly. In 1992 the Council on Social Work Education (CSWE) began requiring that baccalaureate and master's programs teach students to "apply critical thinking skills" in professional social work practice (CSWE, 1992a, 1992b, as quoted in Gambrill & Gibbs, 1995, p. 194; Huff, 2000, p. 400). More recently, the CSWE's *Educational Policy and Accreditation Standards* (EPAS) made critical thinking one of 10 core competencies that all bachelor of social work (BSW) and master's of social work (MSW) programs should cultivate in their students, presenting a guiding description of the concept that emphasizes "principles of logic, scientific inquiry, and reasoned discernment" (CSWE, 2008; see Figure 1). Thus critical thinking has become a major goal of every social work curriculum in the country.

However, as Deal and Pittman (2009) pointed out, the scholarly literature on critical thinking in social work is still quite spare. We know very little about whether or how social work education teaches students to think critically, let alone the extent to which such education affects

[1] In the literature on critical thinking, both in social work and more broadly, the terms *thinking* and *reasoning* are used interchangeably. Although I recognize that distinguishing these two processes is helpful in many contexts, I follow that convention here.

> **Educational Policy 2.1.3—Apply critical thinking to inform and communicate professional judgments.**
>
> Social workers are knowledgeable about the principles of logic, scientific inquiry, and reasoned discernment. They use critical thinking augmented by creativity and curiosity. Critical thinking also requires the synthesis and communication of relevant information. Social workers
>
> • distinguish, appraise, and integrate multiple sources of knowledge, including research-based knowledge, and practice wisdom;
> • analyze models of assessment, prevention, intervention, and evaluation; and
> • demonstrate effective oral and written communication in working with individuals, families, groups, organizations, communities, and colleagues.

FIGURE 1 Statement on Critical Thinking from the Council on Social Work Education's *Educational Policy and Accreditation Standards* (2008).

social work practice. Moreover, few scholars have examined what aspects of critical thinking, as theorized by philosophers and education scholars, are most applicable to social work. Most attention has been directed to improving students' critical thinking skills, with relatively little consideration of what is meant by the term, or whether all authors are working from the same definition of critical thinking. Many seem to agree that critical thinking is the best way for social workers to think, but do they agree on what they mean by critical thinking?

This article aims to address this question by looking for patterns in the ways social work scholars have taken up the term. Most of the authors reviewed here do not make the conceptualization of critical thinking a primary aim. Nonetheless, the ways they employ the term, both in their definition sections and elsewhere, reveal conceptual features particular to the field of social work. Critical thinking in social work is not critical thinking in philosophy, education, or even nursing; its use in social work sheds light on purposes, problems, and conflicts unique to the field. Thus, through an analysis of what the social work literature has taken critical thinking to mean, this review can also inform discussion of how social workers ought to think.

BACKGROUND: THE CRITICAL THINKING CONCEPT IN AMERICAN EDUCATION

Historically, conceptualizations of critical thinking have drawn on both theories of cognition in psychology and theories of reasoning in philosophy. Philosophically, John Dewey's pedagogical emphasis on reflective thought is one of critical thinking pedagogy's most influential antecedents; the connection he drew between reflective thought and experiential learning is at the heart of most definitions of the term (e.g., Kurfiss, 1988; Paul, 1990). In *How We Think*, Dewey (1910/1997) argued that the most important part of a child's education was learning to reflect on perplexing aspects of his or her own experiences. Because all humans had the capacity for reflective thought, the primary work of the schoolteacher was to guide children in developing this capacity (pp. 168, 169). Moreover, the scientific method was merely a more formal elaboration of this basic learning process (p. 84). Thus, according to Dewey, students who

mastered reflective thought could extend their education beyond the classroom, partaking in the scientific process of learning directly from the empirical world.

In the mid-20th century, Edward Glaser (1941) and Robert Ennis (1962), similarly motivated to develop educational interventions that would improve students' thinking processes, moved conceptualizations of critical thinking into the realm of empirical research by associating definitions of critical thinking with standardized tests designed to measure it. Their work was the seed of the modern critical thinking movement, which initially comprised a network of education scholars and philosophers who sought to reform curricula by focusing on reasoning processes.

For several decades, the movement had only limited success. A crucial turning point came in 1981, when the California State University system made training in critical thinking a graduation requirement (Paul, 1990). Following this victory, critical thinking was gradually incorporated into education policy and curricula in elementary, secondary, and higher education throughout the nation. The concept's popularity spawned a critical thinking industry focused on designing and marketing pedagogical tools and testing instruments (Facione, 1990).

The emergence of critical thinking as a central idea in education also resulted in a proliferation of competing definitions, and the difficulty of ascertaining where these definitions agree or differ has led to conceptual ambiguity. A notable attempt was made to achieve greater clarity when the American Philosophical Association (APA) convened 46 critical thinking experts to develop a consensus definition of the concept. This definition could then be used to assess the many programs claiming to improve critical thinking (Facione, 1990). However, although the APA definition has been widely influential, becoming the basis for the popular California Critical Thinking Skills Test, it has failed to attain consensus. Indeed, many other definitions remain popular, and scholars still proffer new explanations of the concept (e.g., Bailin, Case, Coombs, & Daniels, 1999; Barnett, 1997; Ku, 2009; Moon, 2008). Moreover, one prominent figure in the critical thinking movement has argued that it is better not to settle on a single definition, but to "retain a host of definitions" to take advantage of the insights and avoid the limitations of each (Paul, 1990, p. 46). Thus critical thinking remains a difficult concept to pin down.

Table 1 displays the APA definition of critical thinking alongside two other definitions from education, those of Brookfield (2012) and Kurfiss (1988), each of whom is widely cited in social work (e.g., Deal, 2003; Johnston, 2009; Kersting & Mumm, 2001; Nesoff, 2004). In certain respects, the definitions are quite similar. For example, Brookfield's "looking at our ideas and decisions from several perspectives" clearly overlaps with Kurfiss' "divergent views are aggressively sought" and the APA's affective disposition of "open-mindedness regarding divergent world views." Likewise, the definitions appear to concur with regard to the importance of taking account of one's own assumptions and of a more-or-less systematic process from inquiry to conclusion.

However, Brookfield's definition is arguably narrower than the others. He explicitly contrasts critical thinking with "being logical," "solving problems," and "being creative" but allows that aspects of all of these may be relevant to critical thinking. Kurfiss' opening phrase, "a rational response," would seem to include "being logical," and it emphasizes the process of exploring and organizing information to reach a justifiable conclusion. The APA definition appears to be much broader, not only indicating the importance of logic with the phrases "evaluation of claims

TABLE 1
Comparison of Definitions of Critical Thinking Frequently Cited in Social Work

Brookfield	Kurfiss	APA Consensus Definition

Critical thinking entails:
1) "Identifying the assumptions that frame our thinking and determine our actions"
2) "Checking out the degree to which these assumptions are accurate and valid"
3) "Looking at our ideas and decisions (intellectual, organizational, and personal) from several different perspectives"
4) "On the basis of all this, taking informed actions"
    (2012, p. 1)
 	
Critical thinking is not:
"the same as being logical, solving problems, or being creative—though aspects of some or all of these are sometimes present when we think critically" (2012, p. 11)
	Critical thinking is:
	"a rational response to questions that cannot be answered definitively and for which all the relevant information may not be available. It is defined here as 'an investigation whose purpose is to explore a situation, phenomenon, question, or problem to arrive at a hypothesis or conclusion about it that integrates all available information and can therefore be convincingly justified.' In critical thinking, all assumptions are open to question, divergent views are aggressively sought, and the inquiry is not biased in favor of a particular outcome" (1988, p. 20)
		Cognitive skills
		• Interpretation of meanings
		• Analysis of relations among representations
		• Evaluation of claims and arguments
		• Inference to conclusions
		• Explanation of the results of one's reasoning
		• Self-regulation of one's thinking process
		    (Facione, 1990, pp. 12–19)
		
		Affective dispositions
		• Inquisitiveness
		• Concern to remain well informed
		• Open-mindedness regarding divergent world views
		• Honesty in facing one's own biases
		• Prudence in suspending, making or altering judgments
		• And more…
		    (Facione, 1990, p. 25)

and arguments" and "inference to conclusions" but also including a host of "affective dispositions" such as inquisitiveness, honesty, and prudence.

It is difficult to determine whether or not such differences are contradictions or merely differences in emphasis because each definition leaves certain crucial terms undefined. For example, does Kurfiss' use of "a rational response" to describe critical thinking mean the same thing as Brookfield's "being logical?" On one hand, inasmuch as critical thinking describes rationality, to say that critical thinking is rational is obvious, if not tautological. On the other, if critical thinking and rationality are equivalent, one would expect "being logical" to be central to critical thinking. Without a clear idea of what these terms mean, it is difficult to know whether, or to what extent, Brookfield's statement that critical thinking is not "being logical" is in conflict with the centrality of "a rational response" or "inference to conclusions" in Kurfiss' or the APA's definitions, respectively. The use of such vague language among available definitions in the education literature makes it hard to say where they conflict and where they overlap.

Thus in adopting the idea of critical thinking from education, social work has been faced with numerous definitions that are difficult to compare or contrast with one another in any rigorous way. By examining how social work scholars have selected from this diverse field of critical thinking concepts and repurposed them for their own profession, this review aims to shed light on what kinds of thinking are valued in social work.

METHODS

There are three aspects to the interpretive methods used in this critical review: the data sources, the organization and analysis of the data, and the approach to findings as emergent properties of the data.[2]

The primary data source was the *Social Services Abstracts* database, which provides bibliographic coverage of publications on social work research, education, and practice. A keyword search located 125 articles or dissertations published between 1980 and 2011 and containing the terms *critical thinking* and *social work* in their titles, abstracts, or indexes. Based on an initial review of abstracts, the author excluded records that were about disciplines other than social work (e.g., nursing or psychology) or that did not take critical thinking as a central topic. The author defined the latter criterion as either (1) for research, critical thinking had to be either the independent or dependent variable, or (2) for other works, the abstract had to give some indication that the concept of critical thinking would be discussed. Borderline cases were tentatively included in a review of the full text of the remaining records, and those that did not contain at least one paragraph for which critical thinking was the primary topic were eliminated. In addition, a search of references during the reading process located two additional publications that met the inclusion criteria, and these were added to the study. Although textbooks are not included in this review, the textbooks of Gambrill and Gibbs, which contain theoretical discussions frequently cited in the literature, are cited with reference to these authors' influential conceptualization of critical thinking, discussed below. In total, 49 articles or dissertations were included in the review.

The author began the process of analysis by taking notes on all aspects of each record relevant to the question "What does critical thinking mean?" Relevant aspects included not only formal definitions and explicit discussion of meaning but also any choice by an author that implied a commitment to a particular conceptualization of critical thinking. For example, the use of a particular test to measure critical thinking was understood to imply some level of commitment to the concept of critical thinking measured by that test. Data from these notes were entered into a Microsoft Excel spreadsheet, with a row for each article and a column for each type of data that appeared relevant. As the data were entered, new columns were added and column headings were adjusted to improve the fit between the data and the categories. Data were then examined for patterns within each column or category. From this process, three relevant categories of findings emerged: definitions and purposes of critical thinking, theoretical discussions of its importance to social work, and pedagogical interventions. Findings for each category are presented in separate subsections below.

The findings in this review are treated as emergent patterns of meaning in the use of the term *critical thinking* in social work. An emergent pattern is one that results from the interaction of multiple parts, where the whole is not reducible to the sum of the parts. For example, geese fly together in a V-shape, a pattern that is not present in the flight of any single goose, but only in their relation to one another. Similarly, this review identifies patterns of meaning that are not necessarily present in any one use of critical thinking, or in the writing of any individual author, but that emerge from multiple uses of critical thinking by multiple authors when considered in relation to one other. The identification of these patterns as meaningful was an interpretive

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[2] Readers who would like additional detail about the methods used in this study may contact the author directly.

process, fundamentally dependent on inferences by the author. This is not to say that the method was entirely subjective; in an approach akin to grounded theory, the consistency of any apparent pattern was tested against further reading, and only those found to be broadly consistent are presented below. Because interpretation was fundamental to the discovery of the patterns themselves, inferences about the meaningfulness of patterns of use are integrated into the findings.

FINDINGS

Definitions and Purposes

The majority of records (40 of 49) contained some discussion of definitions of critical thinking, referred to here as a "definitional subsection" (exceptions are Balen & White, 2007; Cossom, 1991; Gambrill, 1994; Latting, 1990; Lynch, Vernon, & Smith, 2001; Pray, 2001; Reid, 2011; Witkin, 1990; Zickler & Abbott, 2000). A review of definitional subsections revealed that in social work, as in education, no agreed-on definition of critical thinking exists. Indeed, the definitional ambiguity that social work has imported from education seems to have been exacerbated in the process. Faced with multiple, competing definitions, social work authors have tended toward breadth rather than specificity in the way they consider the concept. For example, Johnston (2009) briefly highlighted aspects of several definitions and, with little discussion of the relation between them, offered a "summary definition" that used terms such as "wide and differing range of reasoning tasks" to retain maximal generality. Thus he treated the definitions cited not as competitive, nor as complementary, but as supplementary. Similarly, although Huff (2000) stated that she was using a definition from the manual of the test she employed in her study, she also discussed several other definitions but did not make clear how these relate to the definition she had selected. Instead, she cited the opinion, mentioned above, that a "host of definitions" should be maintained and argued that "by using a combination of definitions of critical thinking, one can avoid the limitations of each" (Huff, 2000, p. 402). Likewise, when authors cited multiple definitions, they tended to leave the relation between them unclear. This style of presentation reproduced (and, at times, magnified) the ambiguity found in the broader literature.

Nonetheless, the definitional subsections did help to clarify certain aspects of the critical thinking concept as it has been taken up in social work. Many definitional subsections included statements about the purposes of critical thinking in social work, which revealed clearer, more consistent patterns than could be found in the definitions cited. The four purposes most commonly noted in the literature analyzed for this review were avoiding errors in decision making (23 of 40), practicing in accordance with social work values (19 of 40), applying research knowledge to practice (14 of 40), and dealing with messy or complex problems in social work practice (12 of 40). Emphases on the importance of critical thinking for avoiding errors and applying research knowledge were frequently coupled with one another. With a few exceptions (e.g., Deal & Pittman, 2009), purposes of avoiding errors and social work values were usually not coupled, or else much greater emphasis was given to one as the primary purpose of critical thinking. The fourth frequently mentioned purpose—dealing with messy or

complex problems—was sometimes associated with an emphasis on avoiding error and sometimes with an emphasis on values.

The most striking finding here is what all of the presented purposes share: a focus on action or practice. This indicates some consensus that critical thinking in social work is a form of practical reasoning, that is, reasoning about what one ought to do (Walton, 1990). Although the aim of theoretical reasoning (i.e., reasoning about what is) is correct explanation or prediction, practical reasoning aims at correct action. All of the purposes authors give for critical thinking in social work are of the latter sort; they all aim at the correct action of social work practitioners. Within this broad consensus, there are tensions—most notably, that between emphasis on avoiding error in decision making and on practicing in accordance with social work values. Nonetheless, as illustrated by Table 1, such a focus on practical reasoning is narrower than the conceptualization of critical thinking in education; of these three prominent definitions, only Brookfield's takes "informed action" as an end. Thus this common emphasis on correct action as the purpose of critical thinking sets its conceptualization in social work apart from the education literature.

Theoretical Discussions of the Importance of Critical Thinking to Social Work

Two distinct conceptual strains emerge from theoretical discussions of the importance of critical thinking to social work. Each strain attempts to use the concept of critical thinking to address a different perceived challenge in social work practice. The first, which focuses on the challenge of avoiding logical errors in clinical decision-making, is best represented by the work of Gambrill and Gibbs (Gambrill, 1993, 2012; Gibbs, 1991; Gibbs & Gambrill, 1999, 2002; Werner & Gibbs, 1987). For Gambrill and Gibbs, critical thinking is synonymous with scientific reasoning, and it should be employed as a complement to evidence-based practice (EBP), a framework that aims to maximize the likelihood of good decisions (Gambrill, 2000). The second strain, which focuses on the application of social work values in dealing with complex problems, is best represented in articles by Witkin (1990) and Gibbons and Gray (2004). For these authors, critical thinking is closely allied with social constructionism and aims to help social workers identify the values inherent in any particular understanding of reality to construct analyses and make decisions consistent with social work values. Thus the contrast between the two conceptual strains hinges on differences in the roles each assigns to facts and values in the practical reasoning process.

For Gambrill and Gibbs, the practice of critical thinking consists primarily of decision-making strategies that mimic a specific conceptualization of scientific reasoning (Gambrill, 1997, 2012; Gibbs & Gambrill, 1996). Like Dewey, Gambrill and Gibbs aimed to bring the apparently progressive and self-correcting qualities of scientific method into other domains of reasoning—in this case, into the practical reasoning of social workers. For these authors, however, the crucial link between scientific reasoning and critical thinking is found in Karl Popper's "critical rationalist" philosophy of science (Popper, 1963). Popper argued that science progresses through the elimination of false hypotheses rather than through proving true hypotheses. In Popper's ideal scientific process, researchers attempt to falsify, rather than justify, their own and each other's hypotheses (p. 37). A hypothesis is never conclusively demonstrated to be true, but those hypotheses that no one has thus far been able to falsify can, for the time being, be accepted as true. In the same way, objectivity is possible because "no theory is exempt from

criticism," and theories are accepted as valid not because they seem right from a particular perspective but because they have not yet been contradicted by available evidence (Popper, 1992, p. 67, cited in Gibbs & Gambrill, 1999, p. 20). Working from Popper's theorization of scientific reasoning, Gambrill and Gibbs (1999) conceptualized critical thinking in social work as an analogous process that works to eliminate erroneous assumptions and biases and thus leads to more accurate decisions.

In contrast, for Gibbons and Gray, critical thinking in social work should begin from a social constructionist epistemology, which "presumes that each person constructs or makes sense of his or her own reality; is able to recognize the limits of his or her knowledge; and to see knowledge as ever-changing, even shifting and unstable" (2004, p. 21). More than a decade earlier, Stanley Witkin (1990) suggested a similar connection between critical thinking and social construction-ism in social work education. According to Witkin, constructionism challenges the notion that the scientific method is capable of achieving a "morally neutral, value free stance of scientific objectivity," which he argued is "more a 'storybook image' than a descriptive account of science" (p. 44, citing Mahoney, 1976). In this view, critical thinking is a process of challenging the values and interests reflected in the theories underpinning scientific explanation (Witkin, 1990, p. 42). Like Witkin, Gibbons and Gray argued that "critical thinking, rather than claiming objectivity, is value-laden thinking," as opposed to the "logical, analytical, and value-free thinking" commonly associated with science (2004, pp. 36, 37). This is not to say that either Witkin or Gibbons and Gray believe critical thinking is opposed to science; rather, the social constructionist view of both science and critical thinking stresses the centrality of values in both domains. Thus these scholars present a clear contrast to Gambrill and Gibbs, for whom both science and critical thinking aim at bringing about an objectively accurate understanding of reality.

Although opposed in certain respects, these two conceptualizations of critical thinking are not necessarily incompatible. Both sets of authors retain broad definitions of critical thinking, some-times citing the same sources, and the contrast between the two conceptualizations should be understood as a difference in emphasis, rather than a polar opposition. For example, Gambrill and Gibbs urged social workers to attend to the role of vested interests in knowledge production and to question the politics of some scientific categories, including the psychiatric disorders in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (*DSM-IV*) (Gambrill, 2000, p. 52; Gibbs & Gambrill, 1999, p. 21). However, their concern is primarily that such interest-driven and value-laden categories receive an "aura of science," when they are, in fact, not backed by strong evidence. Thus, for Gambrill and Gibbs, using categories such as those in the *DSM-IV* would be unethical because the categories are inaccurate, and their use is unlikely to benefit clients. From Witkin's perspective, by contrast, such labels are objectionable because they help to construct an undesirable and unjust social reality (1990, p. 45).

The difference between these two theoretical strains is starkest in their respective treatment of the relation between fact and value in critical thinking. Whereas Gambrill and Gibbs regard critical thinking as a process that helps to distinguish fact from value (Gambrill, 1993, p. 144; Gibbs, 1991), the social constructionist conceptualization of critical thinking blurs this distinc-tion: critical thinking inquires into the values embedded in any scientific fact. Although both processes of critical thinking are concerned with both facts and values, they situate fact and value in relation to one another in very different ways. This is fundamentally an epistemological difference; it has to do with how one knows what one ought to do. Those committed to scientific

TABLE 2
Categorization of Theoretical Discussions of Critical Thinking

Author	Date	What Critical Thinking Is	Sci/Con[a]	Fact/Value[b]
Bronson, D. E.	2000	Scientific reasoning. Opposed to postmodernism and pseudoscience.	Sci	Fact
Deal, K. H.	2003	Uses Gambrill's definition, but with emphasis on contextual basis of knowledge.	None	Fact
Ford, P. et al.	2004	Involves reflexivity, action, and transformation, with an emphasis on values.	None	Value
Gambrill, E.	1994	Not discussed here. Elsewhere analogous to scientific reasoning.	Sci	Fact
Gibbs, L. et. al	1995	Analogous to scientific reasoning.	Sci	Fact
Gibbons, J., & Gray, M.	2004	Openness to multiple perspectives and relativity of knowledge.	Con	Value
Hancock, T. U.	2007	Intellectual values such as clarity and logic that lead to value-laden conclusions.	Con	Value
MacMorris, S. H.	1996	Two competing models in social work: the empirical and the reflective.	None	None
Meacham, M. G.	2007	Deliberate thinking about social problems, with a focus on values.	None	Value
Miley, K., & Dubois, B.	2007	Analyzing complex issues with an emphasis on race, gender, and class.	Con	Value
Pardeck, J. T.	2004	Rational discussion and scientific inquiry. Relates to Popper's thought.	Sci	Fact
Seelig, J. M.	1991	Understood broadly to include creative and critical thinking.	None	None
Witkin, S. L.	1990	One aspect of a social constructionist approach to social work.	Con	Value

[a]Associates critical thinking with scientific reasoning (Sci) or social constructionism (Con).
[b]Treats critical thinking as primarily concerned with the accuracy of facts (Fact) or with social work values (Value).

reasoning describe critical thinking as a primarily fact-oriented form of practical reasoning, whereas the social constructionist conceptualization is primarily value-oriented.

As shown in Table 2, most (8 of 13) records with substantial theoretical discussion can be categorized as aligning with either a scientific reasoning or social constructionist conceptualization of critical thinking.[3] The division is even more consistent with regard to whether authors describe critical thinking as fact-oriented or value-oriented practical reasoning, for which 11 of 13 records fall clearly into one of two categories. Thus the epistemological differences that divide these two proposals for critical thinking appear to be broadly salient in the literature.

Indeed, many authors present more starkly contrasting proposals than those discussed above. For example, some authors take the emphasis on values well beyond that of Witkin (1990) or Gibbons and Gray (2004) by arguing that thinking, to be critical, must align with a particular

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[3]Although MacMorris (1996) does not fit with either category, the dissertation identifies distinct "empirical" and "reflective" models of critical thinking in the social work literature. Like the distinction between scientific reasoning and social constructionist conceptualizations of critical thinking, MacMorris' distinction is fundamentally epistemological, though it was not found to be salient among the records reviewed here.

political stance (Hancock, 2007; Miley & Dubois, 2007). On the other hand, Bronson (2000) called for more critical thinking as an antidote to a constructionist/postmodernist threat to objective knowledge. For such authors, the difference between scientific reasoning and social constructionism is more than a matter of emphasis; they present directly opposed visions for how practical reasoning should proceed.

Given this clear contrast, it was remarkable that no authors of either persuasion acknowledged any controversy over how critical thinking should be conceptualized in social work. As in the definitional subsections discussed above, none of these more thorough theoretical discussions mentioned that the term *critical thinking* has been used in other ways that conflict with the author's own conceptualization. All authors simply called for more critical thinking in social work, not for more of one kind of critical thinking and less of another.

Pedagogical Interventions—Descriptions and Measures

Descriptions of pedagogical interventions.   The most prominent feature of the literature addressing pedagogical intervention (34 of 49 records) was the extreme diversity of pedagogical interventions recommended. The second column of Table 3 presents brief descriptions of each of the interventions. Some of these interventions are much more targeted in focus than others. For example, the argument mapping software recommended by Reid (2011) aims to teach a step-by-step analytical thinking process that can then be reiterated in multiple contexts. The MSW curriculum studied by Tucker (2008), on the other hand, embeds attention to critical thinking in multiple courses without stipulating any single step-by-step process by which thinking should proceed. Other interventions are teaching tools as narrow in focus as Reid's, but target very different thinking processes, such as questioning media bias (Hawkins, 1996), recognizing and avoiding stereotypes (Johnston, 2009), or reflecting on one's own experiences (Johansen, 2005; Nesoff, 2004). Still others are intensive courses that, though much shorter in duration than the intervention Tucker studied, teach a much broader range of thinking processes than any of the teaching tools mentioned above.

It is difficult to find any clear pattern of meaning in this diversity. In particular, the term *critical thinking* seems to be associated with such a wide range of tasks and skills that it is difficult to see how they all hang together, if they do at all. If they are taken together, as the use of a common term implies, then one can infer that the concept of critical thinking must be extremely broad and might better be described as a group of thinking processes rather than a single way of thinking. If they are not taken together, however, then the pattern is simply one of disagreement; one can only infer that there are many concepts of critical thinking in social work, and that their relation to one another is unclear. If this is the case, then the unity suggested by the common use of the term *critical thinking* only masks this multiplicity, allowing very different thinking processes to pass as equivalent.

Methods of measurement.   Of the 34 records describing pedagogical interventions, the majority (21) presented some attempt to measure the effect of the intervention on critical thinking skills. Of these, nine used standardized tests and 12 used teacher-designed assessments.

A review of assessments using standardized tests suggests that the authors are not operating from the same definition of critical thinking. As shown in Table 3, six records adopted standardized tests from education, including the California Critical Thinking Skills Test (CCTST), the Watson-Glaser

TABLE 3
Pedagogical Interventions Aimed at Promoting Critical Thinking

Author	Date	Intervention	Assessment
Clark, H. G.	2002	BSW and MSW education	CCTST
Huff, M. T.	2000	Policy course live and via TV	CCTST
Tucker, T. M.	2008	MSW curriculum focused on critical thinking	CCTST
Plath, D.	1999	Intensive critical thinking course	CCTT, EWET
Ryan, L. G.	1996	Intensive critical thinking course	PTF
Whyte, D. T.	1999	Intensive critical thinking course	PTF
Kersting, R. C., & Mumm, A. M.	2001	Intensive critical thinking course	PRIDE
Hesterberg, L. J.	2005	Problem-based learning	WGCTA
Rogers, G., & McDonald, L.	1992	Intensive critical thinking course	WGCTA
Burman, S.	2000	Pedagogy using Perry's (1970) theory of cognitive development	Teacher-Designed
Carey, M. E., & McCardle, M.	2011	Observing/shadowing professional social workers	Teacher-Designed
Gibbons, J., & Gray, M.	2004	Experience-based education	Teacher-Designed
Gregory, M., & Holloway, M.	2005	Classroom debate	Teacher-Designed
Heron, G.	2006	Higher education in social work	Teacher-Designed
Johansen, P. S.	2005	Online journaling	Teacher-Designed
Jones, K.	2005	Teaching with case studies	Teacher-Designed
Lietz, C.	2010	Supervision of child welfare workers	Teacher-Designed
Lietz, C.	2008	Group supervision of child welfare workers	Teacher-Designed
Mumm, A. M., & Kersting, R. C.	1997	Generalist practice course with critical thinking emphasis	Teacher-Designed
Nesoff, I.	2004	Student journals	Teacher-Designed
Noer, L. O. C.	1994	Teaching literature	Teacher-Designed
Pray, J. L.	2001	Online discussion forums	Teacher-Designed
Prior, J.	2000	Anti-oppressive learning environment	Teacher-Designed
Alter, C., & Egan, M.	1997	Logic modeling	None
Balen, R., & White, S.	2007	Discussion and humor in the classroom	None
Coleman, H., Rogers, G., & King, J.	2002	Student portfolios	None
Cossom, J.	1991	Teaching with case studies	None
Deal, K. H.	2003	Guidelines for clinical supervision	None
Hawkins, C.	1996	Media analysis	None
Johnston, L. B.	2009	Teaching about diversity and stereotypes	None
Latting, J. K.	1990	Classroom discussion	None
Lay, K., & McGuire, L.	2010	Challenging hegemony	None
Lynch, D., Vernon, R. F., & Smith, M. L.	2001	Doing research on the Web	None
Nurius, P. S.	1995	Computer-assisted reasoning	None
Reid, C. E.	2011	Argument-mapping software	None
Vandsburger, E.	2004	Analytical frameworks and social theory	None
Zickler, E. P., & Abbott, A. A.	2000	Teaching literature	None

Critical Thinking Appraisal (WGCTA), the Ennis-Weir Essay Test, and the Cornell Critical Thinking Test (CCTT). All of these tests are based on broad definitions of critical thinking and include subscales for more specific thinking skills, among them analysis, interpretation, and inference.

Nonetheless, even these broad definitions differ; one recent study found that college students scored very differently in critical thinking development depending on the test used to measure their skill (Hatcher, 2011). An even sharper contrast exists between these studies and the three records that employed the Professional Thinking Form (PTF) or Principles of Reasoning, Inference, Decision-making, and Evaluation (PRIDE) tests, which are social work–specific tests designed by Gambrill and Gibbs to assess critical thinking as they have conceptualized it (see above). The PTF and PRIDE tests examine a much narrower range of skills than the tests adopted from education, focusing exclusively on students' ability to identify and correct a specific set of social work "practice fallacies" (Gibbs, 1991; Gibbs & Gambrill, 1999; Gibbs et al., 1995). Thus there are at least two competing conceptualizations of social work implied by the standardized tests, and possibly more.

The 12 teacher-designed assessments imply even greater divergences in the conceptualization of critical thinking. Indeed, it was often difficult to see how these assessments tested anything more than an idiosyncratic set of skills or habits that fit the teacher's own assessment measures. For example, Prior (2000) and Noer (1994) both employed content analysis to assess whether their interventions—an antioppressive classroom environment and a literature-based ethics seminar, respectively—were improving critical thinking. In each case, the authors looked for indicators of critical thinking in the ways that students talked or wrote about complex ethical issues before and after the intervention. However, the indicators Prior looked for emphasized attentiveness to questions about social inequality, whereas Noer's scoring method emphasized attentiveness to the diversity of human experience. In both cases, the concept of critical thinking operationalized in the assessment was very closely matched to the content of the course—the independent variable (discussing in ways that attend to social equality or diversity, respectively) and the dependent variable (critical thinking, defined as writing in ways that attend to social inequality or diversity, respectively) were very nearly identical. This raises questions about the validity of these assessments. However, the more important point for the purposes of this review was the narrowness of conceptualization implied by such studies. It is not at all clear that the measures used in teacher-designed assessments were applicable beyond their own classrooms. If not, then the conceptualization of critical thinking implied by such tests is greatly impoverished.

DISCUSSION

Each of the methods employed in this review found that there is no widely agreed-upon conceptualization of critical thinking in social work. Rather, the evidence suggests that the term has multiple conflicting meanings, and that its usage in social work may be even more ambiguous than its usage in education. However, the findings from definitional subsections do indicate consensus on one point: for social work, critical thinking is a process of practical reasoning, aimed at correct action. This distinguishes the conceptualization of critical thinking in social work from its conceptualization in education, where the emphasis on correct action is not integral to most definitions. This is not to say that social work is unique in this respect; all professions can be expected to share an emphasis on practical reasoning to some extent (Tucker, 2013). In nursing, for example, critical thinking has been associated with action in the form of clinical decision-making (Adams, 1999; Turner, 2005; but see Tanner, 2005). Nonetheless, the link between critical thinking and practical reasoning may be an apt starting point for under-standing what is specific to thinking like a social worker.

The two conceptual strains identified in records calling for more critical thinking appear to bolster this point; despite their differences, both describe processes of practical reasoning. However, the two versions of critical thinking recommend very different procedures for determining what one ought to do. For those working from a model of Popperian scientific reasoning, critical thinking separates facts from nonfacts to minimize error in social work practice. For social constructionists, critical thinking recognizes the values inextricably embedded in facts, helping to ensure that practice is aligned with good values. The contrast between these two proposals is paralleled, to some extent, by a contrast between records that describe the purpose of critical thinking as avoiding error or applying research, on one hand, and records that emphasize accountability to social work values, on the other. Thus the literature presents two clearly contrasting visions for how practical reasoning in social work should proceed.

Notably, however, the distinction between scientific reasoning and social constructionism was not a salient pattern in the review of descriptions and measures of pedagogical interventions. Although some records addressing pedagogical intervention appeared to more closely align with one of these two conceptualizations, these alignments were not consistent. For example, Kersting and Mumm (2001) made use of a textbook and assessment test designed by Gambrill and Gibbs and, thus, appeared to employ a model of critical thinking as scientific reasoning. However, quoting Kurfiss, they also describe critical thinking as "a diligent, open-minded search for understanding, rather than for discovery of a necessary conclusion" (Kersting & Mumm, 2001, p. 55; Kurfiss, 1988, p. 42; Mumm & Kersting, 1997, p. 75). This description appears inconsistent with Gambrill and Gibbs' aims of error elimination and objective accuracy, making it difficult to categorize Kersting and Mumm's study with either conceptualization. More generally, although findings from reviews of pedagogical interventions suggest a lack of consensus among social work scholars about how to define critical thinking, the points of disagreement found did not fit neatly into a division between scientific reasoning and social constructionist conceptualizations.

As mentioned above, the CSWE recently listed critical thinking as one of 10 core competencies to be addressed by BSW and MSW curricula, and its 2008 *Educational Policy and Accreditation Standards* describe the major features of critical thinking in social work. The influence of this document on the meaning of critical thinking in social work is unclear; of the eight records included in this review that were published since 2008, only two mentioned the CSWE's description, and neither of these employed this conceptualization as the basis of its study (Deal & Pittman, 2009; Tucker, 2008). Nonetheless, it is revealing to consider this standard in light of the findings of this review. As shown in Figure 1, the EPAS emphasizes how critical thinking helps social workers use knowledge to arrive at good decisions or "professional judgments" and communicate about those judgments. In other words, critical thinking is described as a form of practical reasoning. In addition, the document foregrounds "logic, scientific inquiry, and reasoned discernment," and the "synthesis and communication of relevant information." Both phrases resonate with the conceptualization of critical thinking as analogous with scientific reasoning. However, in the same document CSWE also calls on social workers to "integrate multiple sources of knowledge, including research-based knowledge, and practice wisdom" but does not elaborate on how these two sources of knowledge should be integrated. Those promoting critical thinking as scientific reasoning have argued that practice wisdom is, at best, a source of conjecture, requiring substantiation by research (Bronson, 2000; Gambrill, 1994), whereas proponents of social constructionist critical thinking give practice wisdom a

much more central role (Gibbons & Gray, 2004). Moreover, it is unclear whether the critical thinking that should inform professional judgment is more concerned with facts or with values. In analyzing models of assessment, for example, should critical thinkers be more concerned with discerning the accuracy of the model or with questioning the values and power dynamics assumed or perpetuated by the model? Thus, although the description of critical thinking in the CSWE's EPAS is consistent with the broader consensus on practical reasoning, its position is ambiguous with regard to the two major proposals for how practical reasoning should proceed.

Although calls for more critical thinking present two contrasting options for how the term should be conceptualized, the theoretical differences between these two conceptualizations have yet to be debated explicitly. Few authors addressing pedagogical intervention could be categorized as consistently aligning with one conceptualization or the other. The same is true of the CSWE's EPAS, which arguably shares with these authors an emphasis on how critical thinking should be taught over how it should be conceptualized. Moreover, even authors who clearly aligned with one of these two versions of critical thinking treated it as the only version, not recognizing that a competing proposal existed. Thus, what this review identifies as a disagreement about the epistemological basis of critical thinking (and, by extension, good thinking in social work) has yet to be recognized as such in the literature.

CONCLUSION

Even though it is clear that social workers do not all mean the same thing by critical thinking, a careful reading of the literature offers, at least, a starting point for answering the question of how social workers ought to think. Not only can we say that social work scholars are primarily concerned with practical reasoning, but we have identified two distinct proposals regarding what specific processes of practical reasoning are appropriate to social work practice. Further debate about the relative merits of these two proposals would do much to enrich the conceptualization of critical thinking as a description of how social workers ought to think.

The contrast between scientific reasoning and social constructionist versions of critical thinking is clearly linked to debates about the role of science in social work and the relation between research and social work practice, but it should not be conflated with those debates. Although the latter have been concerned primarily with the epistemological foundations of theoretical reasoning in social work—that is, how we know what is—the focus of the critical thinking literature is on how we know what we ought to do. These concerns are certainly not unrelated, but the relation between them should itself be a topic for discussion.

The epistemological concerns that divide these two proposals have real consequences for the everyday practice of social work. Although both fact and value are obviously important to social work practice, different ways of theorizing the relation between fact and value will, ultimately, entail differences in what counts as correct action. A student who learns Popperian scientific reasoning will practice differently from one who learns social constructionist reasoning, even if both learn to call their thinking "critical." Moreover, the two proposals highlighted by this review should not be assumed to exhaust the possibilities for

how social workers might bring facts and values to bear in practical reasoning. They should be taken, rather, as setting the stakes for a discussion that has only just begun.

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