Phenomenological Research Needs to be Renewed: Time to Integrate Enactivism as a Flexible Resource

Peter Stilwell1 and Katherine Harman2

Abstract
Qualitative research approaches under the umbrella of phenomenology are becoming overly prescriptive and dogmatic (e.g., excessive and unnecessary focus on the epoché and reduction). There is a need for phenomenology (as a qualitative research approach) to be renewed and refreshed with opportunities for methodological flexibility. In this process paper, we offer one way this could be achieved. We provide an overview of the emerging paradigm of post-cognitivism and the aligned movement of enactivism which has roots in phenomenology and embodied cognition. We argue that enactivism can be used as a flexible resource by qualitative researchers exploring the unfolding of first-person (subjective) experience and its meanings (i.e., the enactive concept of sense-making). Enactive approaches are commonly tethered to “E-based” theory, such as the idea that sense-making is a 5E process (Embodied, Embedded, Enacted, Emotive, and Extended). We suggest that enactivism and E-based theory can inform phenomenological research in eclectic and non-prescriptive ways, including integration with existing methods such as observation/interviews and thematic analysis with hybrid deductive-inductive coding. Enactivism-informed phenomenological research moves beyond methodological individualism and can inform novel qualitative research exploring the complex, dynamic, and context-sensitive nature of sense-making. We draw from our enactive study that explored the co-construction of pain-related meanings between clinicians and patients, while also offering other ways that enactive theory could be applied. We provide a sample interview guide and codebook, as well as key components of rigor to consider when designing, conducting, and reporting a trustworthy phenomenological study using enactive theory.

Keywords
phenomenology, enactivism, enactive approach, embodiment, qualitative research

Introduction
The enactive approach (now commonly referred to as enactivism) is a theory of cognition that is grounded in the philosophical movement of phenomenology as well as the cognitive sciences (Varela et al., 1991). Enactivist frameworks typically view cognition as sense-making, referring to personal significance or meaning that a person generates or “enacts” by interacting in their environment. Since the 1990s, many strands of enactivism have developed and are now rapidly gaining popularity among philosophers and researchers studying sense-making (for an introduction to some varieties of enactivism, see Ward et al., 2017). However, as recently highlighted (Fernandez, 2020; Zahavi & Martiny, 2019), many enactive concepts are rarely used in qualitative research despite their potential to offer novel insight into complex clinical phenomena, including the evolving sense-making of people living with challenging health condition(s) as they engage in healthcare. Further, existing qualitative research approaches under the umbrella of phenomenology are becoming overly prescriptive and dogmatic.

Studies deviating from the approaches outlined by prominent qualitative researchers are being criticized and denied their “phenomenological” status (e.g., see Smith [2018] and van Manen [2017]). Philosophers have also joined these debates; see Zahavi’s 2019c commentary regarding issues with van Manen’s interpretations of phenomenology and its negative impact

1 Faculty of Health, Dalhousie University, Halifax, Nova Scotia, Canada
2 Faculty of Health, School of Physiotherapy, Dalhousie University, Halifax, Nova Scotia, Canada

Corresponding Author:
Peter Stilwell, Faculty of Health, Dalhousie University, 5869 University Ave. PO Box 15000 Halifax, Nova Scotia, Canada B3H 4R2. 
Email: peterstilwell@dal.ca

Creative Commons CC BY: This article is distributed under the terms of the Creative Commons Attribution 4.0 License (https://creativecommons.org/licenses/by/4.0/) which permits any use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (https://us.sagepub.com/en-us/nam/open-access-at-sage).
on qualitative research. Also see Zahavi’s (2019a) commentary regarding Giorgi’s questionable insistence on the use of the époque and reduction. To us, these debates indicate a need for phenomenology (in the form of a qualitative methodology) to be renewed and refreshed, moving away from the overly complicated steps and dogma that are impeding the practical relevance of phenomenological qualitative research. This process paper offers a way to move in this direction.

We start by outlining why qualitative research is vital to better understand the experiences of individuals living with complex, subjective health conditions. While doing this, we explore the concept of “subjectivity” as it is a central concept in enactive approaches to sense-making. We then provide an overview of the emerging paradigm of post-cognitivism and how it contrasts with traditional ways of understanding cognition (sense-making). Enactivism sits within the post-cognitivist paradigm and we outline the philosophical assumptions that generally come with enactive approaches to sense-making. We then argue that enactivism can be used as a flexible resource by qualitative researchers exploring the unfolding of first-person experience and its meanings (i.e., the enactive concept of sense-making). We draw from our own enactive work (Stilwell, 2020; Stilwell et al., 2020; Stilwell & Harman, 2019) that explored the co-construction of pain-related meanings between clinicians and patients, while also offering other ways that enactive theory could be applied in phenomenological research.

Qualitative Health Research and Subjectivity

When considering the top ten leading causes of years lived with disability, five are conditions with strong subjective elements (i.e., they are embodied, first-person experiences involving sense-making): low back pain #1, migraine #2, major depression #5, neck pain #6, and anxiety #9 (Hay et al., 2017). These subjective conditions contrast with conditions, such as iron-deficiency anemia, that are diagnosed through laboratory investigation (e.g., blood hemoglobin value) rather than a patient’s report of their experience. Qualitative research not only explores individuals’ experiences, it also effectively identifies common concerns, preferences, and expectations that patients have about potential or received treatment. This can provide clinicians with an enhanced understanding of these factors, leading to healthcare that improves patients’ experiences and outcomes. For example, qualitative research about persistent pain has included findings that patients feel dismissed and stigmatized, and offer suggestions about how care could be optimized (Bunzli et al., 2013; Holloway et al., 2007; Slade et al., 2009). Ultimately, qualitative research can inform humanistic approaches to the care of those who are suffering.

Qualitative research on subjective conditions is essential due to epistemological constraints related to assessment in healthcare. Peoples’ subjective experiences, such as pain, are from a first-person perspective; these experiences cannot be directly assessed or “seen” through scientific measurement or testing (Stilwell & Harman, 2019; Wideman et al., 2019). Therefore, the person with the experience of interest has an epistemic privilege; their qualitative narrative is the best available proxy for others to infer that they are experiencing the subjective condition of interest, such as pain (Stilwell & Harman, 2019; Wideman et al., 2019). In this sense, first-person (subjective) experience is private. Of clinical relevance, a clinician cannot deny that a person is in pain (for example) when they say they are experiencing it. Nor can a clinician say that a patient is feeling pain when they deny it.

At this point, it is important to unravel the word “subjective” as it is used in different ways and often creates confusion in interdisciplinary work. As outlined by de Haan (2020b, p. 85): “Experiences are of a ‘subjective’ structure . . . (they) are not subjective as opposed to objective, they are subjective as opposed to being views from nowhere.” Further, as noted by Gallagher and Zahavi (2012, p. 21), some mistake phenomenology to be a subjective account of experience; however, they note that “. . . a subjective account of experience should be distinguished from an account of subjective experience.” To try to avoid confusion, we align with the terminology commonly used by enactivist thinkers (Fuchs; 2020; Thompson, 2005). For current purposes, the most relevant terminology is the lived body (body as subject) and living body (body as object). In this sense, the body has a double status of being a “subject-object”: a subjectively lived body and an objective living body (see Fuchs, 2020; Thompson, 2005). The lived and living body are part of the single person in an environment; therefore, as outlined by de Haan (2020a, 2020b), the lived body (subjective experience) cannot be reduced to the living body (physiological processes). Also, physiological processes do not simply “add up” to the lived body, nor can we fully “map” bodily processes (identified through third-person methods) onto the experientially lived body (de Haan, 2020a, 2020b). These ideas are reflected and further unraveled in Figure 1 and toward the end of the paper.

As reflected in Figure 1, we can use some terms interchangeably, such as the lived body and subjective experience. Also, living body, body as object, or reference to physiological or biological processes. Now, Figure 1 can be considered in the context of pain as an example of a common subjective experience. Although there are pain-related physiological measures (e.g., quantitative biomarkers) and people often behave in certain ways when they are experiencing pain (e.g., facial expressions and bodily movement patterns), the experience of pain itself (i.e., the lived body) cannot be found through third-person biomedical investigations of the living body. Therefore, for people who are conscious and have the capacity to communicate, we rely on their qualitative narrative to gain insight into their experience of pain and how their sense-making changes as they navigate health services.

Phenomenological qualitative research is well positioned to explore sense-making, which can inform ways to improve patients’ experiences and outcomes. However, there is a need for methodological flexibility in phenomenological research to open up opportunities to conduct clinically meaningful
research without having to follow overly complicated, confusing, and likely unnecessary procedures. In this paper we suggest that phenomenological research can be conducted in non-traditional ways, moving beyond individual interviews and a narrow view of sense-making that only focuses on what it is like to have an experience. We argue that enactivism offers new theoretical considerations and may help researchers better explore the complex nature of sense-making, while still being attuned to valuable concepts often found in phenomenological research such as embodiment, embeddedness, intersubjectivity, spatiality, relationality, and temporality.

**Post-Cognitivist Paradigm**

Qualitative researchers are expected to consider and report their philosophical paradigm (world view), methodology (sometimes called qualitative design), and methods (Creswell, 2013, 2014). Here we take time to outline post-cognitivism as enactive approaches sit within this paradigm and these ideas are not yet reflected in texts on qualitative methods. The post-cognitivist paradigm is rapidly evolving and starting to take a coherent shape as authors declare the various philosophical assumptions it entails, separating it from some existing paradigms and merging it with others. To understand what has been referred to as the post-cognitivist paradigm (Lobo, 2019), we contrast it with cognitivism.

A key feature of the traditional or classical cognitivist paradigm is that the mind/cognition should be understood through third-person analyses of the brain, downplaying the role of the body and context (Thompson, 2007). This contrasts with the post-cognitivist paradigm that emphasizes the importance of the full living body, context, interaction in the environment, and first-person experience (lived body). In the post-cognitivist paradigm, cognition is broadly understood as sense-making that brings forth (enacts) experience/meaning from a concerned point of view. More specifically, Engel, (2010) outlined core assumptions of cognitivism and post-cognitivism in relation to cognition. These assumptions are summarized in Table 1.

Post-cognitivism builds on many lines of work, especially phenomenological philosophy as is apparent in the terminology in Table 1 (e.g., being-in-the-world, embodiment, and situatedness). Further, Engel referred to the divergence from cognitivism as the pragmatic turn, making reference to the action-oriented viewpoints of those who developed pragmatism. However, these same assumptions apply to what is now being referred to as the post-cognitivist paradigm (Lobo, 2019); therefore, we use this label in Table 1. That said, we do appreciate that post-cognitivism encompasses aspects of pragmatism (see Gallagher, 2017). We also appreciate overlap between the post-cognitivist paradigm and constructivism.

It is important to note that working in the post-cognitivist paradigm does not negate or remove the role of sub-personal systems or mechanisms (Lobo, 2019). Instead, there is an attempt to take into account the role of the brain, the body, and the environment to generate a big picture view of sense-making (cognition) that is richer than the cognitivist view that the brain (mind) is essentially a data processing computer (Lobo, 2019). In other words, post-cognitivists argue that sense-making cannot be fully understood by only looking in the brain (centralist approach) or other tissues in the body (peripheralist approach). Rather, a more comprehensive approach is required to appreciate the complex nature of sense-making.

---

**Figure 1.** Embodiment schematic redrawn and modified from Fuchs (2011, 2020) with inspiration from de Haan (2020a, 2020b). Note. The lived body (subjective experience) is non-reducible; it cannot be reduced to the living body (physiological processes) that can be investigated from a third-person perspective. Yet, as indicated by the arrows, there is influence (circular or organizational causality) between the lived and living body (we discuss this further, including integration of sociocultural influences, later in the paper. Also see de Haan, 2020b). While the living body (by itself) is not the unit of analysis for experience, it certainly limits or allows the types of experiences an individual can have. *It is important to note that the experience of others can only be inferred from a second-person perspective through interacting with them and witnessing their behaviors or verbal reports.
Explanatory strategies typically make reference to inner states of mental states. Computation is thought to occur in a substrate-neutral manner. Intentionality is explained by the representational nature of individual cognitive systems. The processing architecture of cognitive systems is conceived as being largely modular and context-invariant. Computations are thought to be inseparable from its substrate or incarnation (embodiment). System states acquire meaning by their relevance in the context of action. The architecture of cognitive systems is conceived as being highly dynamic, context-sensitive, and captured best by holistic approaches. The functioning of cognitive systems is thought to be a world. Explanations make reference to agent-environment or agent-agent-interactions (situatedness).

Table 1. Point-by-Point Comparison of Classical Cognitivist and Postcognitivist Assumptions Regarding Cognition (Engel, 2010, p. 220–222).

| Classical Cognitivism | Postcognitivism |
|-----------------------|----------------|
| Cognition is understood as computation over mental (or neural) representations. | Cognition is understood as capacity of enacting a world. |
| The subject of cognition is not engaged in the world, but conceived as a detached "neutral" observer. | The subject of cognition is an agent immersed in the world (as suggested by the phenomenological concept of being-in-the-world). |
| Intentionality is explained by the representational nature of mental states. | System states acquire meaning by their relevance in the context of action. |
| The processing architecture of cognitive systems is conceived as being largely modular and context-invariant. | The architecture of cognitive systems is conceived as being highly dynamic, context-sensitive, and captured best by holistic approaches. |
| Computations are thought to occur in a substrate-neutral manner. | The functioning of cognitive systems is thought to be inseparable from its substrate or incarnation (embodiment). |
| Explanatory strategies typically reference to inner states of individual cognitive systems. | Explanations make reference to agent-environment or agent-agent-interactions (situatedness). |

how a person (with a body and brain) interacts with their environment in a particular situational context. While evolution, genetics, and bodily pathology certainly affect and set limits to the types of experiences humans have, in the post-cognitivist paradigm the first-person experience (i.e., subjective, lived body) cannot be reduced to a bodily process (e.g., objective, central or peripheral physiological processes) abstracted from the environment, context, and meaning. Throughout the rest of the paper, we include commentary on decision-making and examples from our exploratory enactive qualitative study of pain-related meanings (see chapter three in Stilwell, 2020) and our related work (Stilwell et al., 2020; Stilwell & Harman, 2019). Working within the paradigm of post-cognitivist approaches, we now outline the decision to integrate enactivism into our research, followed by the specific assumptions of enactivism.

From Phenomenology Frustrations to Finding Enactivism

To contextualize the decision to integrate enactivism into our qualitative research, we provide some background details. Early in his doctoral studies, the first author felt constrained by available qualitative research methodologies (i.e., narrative research, grounded theory, ethnography, case study, phenomenology) when considering the following: his alignment with what is now being referred to as the post-cognitivist paradigm; his specific assumptions about pain; and his desire to study patient-clinician interaction and the co-construction of pain-related meanings. The first author attempted to design a phenomenological study, but struggled when it came to making a decision whether to align with descriptive phenomenology (Husserl) or interpretive (hermeneutical) phenomenology (Heidegger and Gadamer).

To better understand phenomenological concepts (e.g., epoché, bracketing, and the reduction) and connect phenomenology as a philosophy to phenomenology as a qualitative research approach, he began reviewing the work of van Manen who is highly cited among qualitative researchers. He began to note contradicting and confusing advice and felt uncomfortable with van Manen’s unnecessarily complicated procedures and strong views as to what phenomenological research should entail. He felt interpretive phenomenology was the closest methodology aligning with his paradigm and research questions, yet it was missing key elements of interest that he wanted to apply to pain (e.g., contemporary aspects of embodied cognition and enactivism—described in more detail shortly). Further, he had concerns because aspects of his desired qualitative research endeavors were far from what is considered “proper” phenomenology according to prominent authors, such as van Manen and Giorgi as reflected in Zahavi’s recent commentaries (Zahavi, 2019a, 2019c).

An exploration of the enactive literature led the first author to use enactive theory to guide his qualitative research as it is rooted in phenomenology and contained elements of interest that were not apparent in other phenomenological approaches. This was an unusual strategy as there was no clear alignment with well-known phenomenological qualitative research approaches. As we only briefly introduced enactivism in the introduction, in the next section we provide some historical information and the theoretical assumptions of enactivism that guided our work.

Enactivism

The connections between enactivism and phenomenology are apparent in the literature, making enactivism well positioned as a resource that phenomenological qualitative researchers can draw from. As pointed out by Thompson, Varela first thought of the name “the enactive approach” in the summer of 1986 when he started writing The Embodied Mind. This book (Varela et al., 1991) is credited as introducing the enactive approach, now commonly referred to as enactivism. Yet, before introducing the term “enactive,” Thompson noted that “…Varela had been using “the hermeneutic approach” to emphasize the affiliation of his ideas to the philosophical school of hermeneutics—an affiliation also emphasized by other theorists of embodied cognition at the time (see Varela et al., 1991, pp. 149–150).” (Thompson, 2005, p. 423).

Many authors have expanded on the work of Varela et al. (1991) and applied enactive theory in many ways to various areas, such as: mathematics education (Reid, 1996), architecture (Jelic et al., 2016), brain injury (Martinez-Pernia et al., 2016), schizophrenia (Kyselo, 2016), cerebral palsy (Martiny, 2016), correctional (criminal) rehabilitation (Dent et al., 2020),
memory (Peeters & Segundo-Ortin, 2019), placebo effects (Ongaro & Ward, 2017), autism (De Jaegher, 2013), and clinical reasoning in both physiotherapy (Oberg et al., 2015) and psychiatry (de Haan, 2020a). Further, there are now many published books dedicated to advancing enactivism in different ways (Durt et al., 2017; Gallagher, 2017; Stewart et al., 2010), with some attending to more radical ideas than others (Hutto & Myin, 2013, 2017). Despite its roots in phenomenology, qualitative researchers rarely utilize the rich literature base of enactivism. Although enactivism is relatively new and still evolving as a movement, we suggest it is time for increased integration of enactivism into phenomenological research.

Enactivism builds on and extends phenomenological considerations regarding the mind/cognition and has potential for increased methodological flexibility as compared to existing phenomenological qualitative approaches. Others (Di Paolo & De Jaegher, 2019) have also noted limitations when taking a purely phenomenological perspective (especially Husserl’s descriptive phenomenology) and how phenomenology can be built upon by using enactive theory. With an enactive perspective, experience and meaning are not to be found in elements belonging to the environment/clinician or the internal dynamics of the person alone; instead, they belong to the relational domain established between the two (De Jaegher & Di Paolo, 2007). As outlined by Gallagher (2017), enactivist approaches to sense-making/cognition can be characterized by the background assumptions outlined in Table 2. Regarding Point Number 2 in the Table, to be clear, this is not appealing to subjective idealism; rather, enactive thinkers view the “world” in the sense of the meaningful experience that is always about or directed toward something—the world or umwelt that presents itself to each individual thanks to their sensorimotor repertoire (Thompson, 2007).

Enactive research questions are along the lines of: why does something mean something, for someone, in a particular historical and interactive situation; and what is at stake for this person? (Di Paolo et al., 2018). However, it is important to acknowledge that there is still debate as to how enactivism relates to research (i.e., is it a philosophy, paradigm, research program, methodology?) (Gallagher, 2017). We suggest that enactivism can be used as a flexible resource. We used it as a way to conceptualize pain (Stilwell & Harman, 2019) and we used that work to help shape and test our exploratory enactivism-informed phenomenological study on pain/meaning (Stilwell, 2020). In the next section, we provide more details on the enactive theory that informed our phenomenological study.

### Sense-Making as an E-Based Process

Inspirited by enactivism (including “4E” cognition; see Newen et al., 2018), we proposed an enactive approach to pain, in that pain is a mode of sense-making and that sense-making is a 5E process: **Embodied, Embedded, Enactive, Emotive, and Extended** (Stilwell & Harman, 2019). The 5E process of sense-making is depicted in Figure 2 where each of the Es are interconnected and constitute sense-making. We have described each of the Es in detail elsewhere (Stilwell, 2020; Stilwell et al., 2020; Stilwell & Harman, 2019); however we provide a brief summary here.

In general, **embodied** means that sense-making is only possible by having a body and that different modes of sense-making are shaped by bodily processes and interactions.

---

**Figure 2. Simplified 5E cycle of sense-making that enacts (brings forth) personal significance and meaning (Stilwell & Harman, 2019).**

---

**Table 2. Seven Assumptions of Enactivism Outlined by Gallagher (2017, p. 6).**

| Enactivist Background Assumptions |
|-----------------------------------|
| 1. Cognition is not simply a brain event. It emerges from processes distributed across brain–body–environment. The mind is embodied; from a first-person perspective embodiment is equivalent to the phenomenological concept of the lived body. From a third-person perspective the organism–environment is taken as the explanatory unit. |
| 2. The world (meaning, intentionality) is not pre-given or predefined, but is structured by cognition and action. |
| 3. Cognitive processes acquire meaning in part by their role in the context of action, rather than through a representational mapping or replicated internal model of the world. |
| 4. Enactivist approaches have strong links to dynamical systems theory, emphasizing the relevance of dynamical coupling and coordination across brain–body–environment. |
| 5. In contrast to classic cognitive science, which is often characterized by methodological individualism with a focus on internal mechanisms, enactivist approaches emphasize the extended, intersubjective, and socially situated nature of cognitive systems. |
| 6. Enactivism aims to ground higher and more complex cognitive functions not only in sensorimotor coordination, but also in affective and autonomic aspects of the full body. |
| 7. Higher-order cognitive functions, such as reflective thinking or deliberation, are exercises of skillful know-how and are usually coupled with situated and embodied actions. |
Embodiment includes both the lived and living body as reflected earlier in Figure 1 and encompasses well-known phenomenological concepts including spatiality, relationality, and temporality. Embedded means that an embodied person is always in and of an environment and that sense-making is shaped by a person’s relationship and interactions with their physical and sociocultural environment. Enactive means that embodied, embedded people have a concerned point of view and are action-oriented; sense-making is shaped by possibilities for action and action-perception cycles. In other words, we perceive through bodily action or in terms of “what we can do.” Enactivists commonly explain this theory of perception using the concept of affordances (Chomero, 2003; Gibson, 1977), which are possibilities for action shaped by the relation between a person and their environment. Emotive means that emotion/affection shape or “color” sense-making and we are directed to salient aspects of ourselves and our environment. Extended means that non-biological items and engagement with large-scale institutions (e.g., cultural, academic, scientific, legal, etc.) can be a part of or shape sense-making (see Gallagher, 2018b).

Typically, enactivism is tethered to multiple “Es” and people often talk in terms of E-cognition, E-based theory, or E-approaches. Hutto and Abrahamson (forthcoming) use an effective analogy, suggesting that E-approaches are like a family where sometimes members do not get along with others. For example, some reject the idea that sense-making/cognition is extended but accept the other Es. These practices have led to different mixes of the Es in the form of 3E and 4E approaches. However, we view each of the 5 Es presented above as building on each other and connected and interpreted through an enactive lens. In the context of pain, our consideration of the 5 Es together is referred to as the enactive approach to pain (Stilwell & Harman, 2019). In other words, the enactive approach to pain represents the 5E family, with enactivism at the core.

Just as we (Stilwell & Harman, 2019) advocate to not look at a single factor (e.g., just the brain or a body part) to explain experience, we believe enactivism-informed qualitative research should do the same. For example, when conducting research in the context of healthcare for conditions with strong subjective elements, we need to look at the individual AND the environment, including the broader context (e.g., talk to both the patient and clinician, review clinical and laboratory findings etc.). As done in our pain study (which we will discuss in more detail shortly), we suggest that the unit of analysis in enactive-informed phenomenological research is (at least) the individual with a particular experience with serious consideration of their context, including how each of the Es intertwine and shape that person’s sense-making. We expand upon this in the following section, offering guidance as to how enactivism can inform qualitative methods. We also bring it together at the end of this paper in Table 3. We feel that enactivism/5E theory can be applied to many experiences and processes that researchers are interested in, not just pain as was the case in our research.

Enactive Methods: Observation/Interviews and Thematic Analysis

To best integrate enactive theory into phenomenological qualitative research, we suggest that a combination of observation and semi-structured interviews provide rich, mutually enlightening data. More specifically, we advocate for observation of real-time, real-life interactions between the person(s) with the experience of interest and their environment, including others who may act as scaffolding for the experience (e.g., healthcare provider or others playing an important role in an individual’s sense-making). Also, to explore the extended aspect of sense-making, we suggest exploring engagement with artifacts or what some call material actants (Ellingson, 2017; e.g., medical equipment, medications, assistive devices, tools, etc.). Here, it is important to note that while meaning can be generated in person-person interaction in a specific context (e.g., clinician-patient interaction in a clinical setting), we must appreciate that individual meanings are qualitatively different. We discuss this further in the following sections.

Sampling

When integrating enactivism into phenomenological research, we suggest that a wide range of purposive sampling strategies can be used. Depending on the research question and population of interest, specific cases may be sought out where one or a group of individuals have specific experiences and characteristics. Alternatively, maximum variation sampling (Palinkas et al., 2015) may be used to explore common features of an experience (e.g., pain) across a group with varied characteristics. Sample size will also vary; a priori estimates and rationalizing “saturation” is difficult; therefore, we suggest consideration of information power (Malterud et al., 2016). With this approach the duration of observation and number of interviews will depend on the aim of the study, sample specificity, use of established theory, quality of dialogue/observation, and analysis strategy. Similar to traditional phenomenological qualitative research, a smaller sample size is expected relative to other approaches (e.g., study using grounded theory).

Data Collection

When conducting enactivism-informed phenomenological research, we believe that both observation and interviews are important as together they offer a way to investigate interaction and intersubjectivity between one or more people in a specific context (including embodied-enactive interaction with artifacts). However, the data collection approach may vary depending on the research question, participants, and the environment of interest. We also encourage researchers to take field notes which can be reviewed and incorporated into the analysis (described shortly).

In our pain study (Stilwell, 2020), we audio-recorded clinical appointments between clinicians and their patients with
low back pain, then interviewed each (clinician, patient) to explore individual perspectives, their thoughts about their interactions during the recorded appointment, and their past experiences with other clinicians and patients. This data collection approach allowed us to explore a range of interactions and situations, from relationship formation and breakdowns to relationship repairs and advances; each situation and context shaping patients’ unique meanings and phenomenal experience. Similar to narrative research, we were able to piece together and explore patients’ evolving narratives and sense-making while also taking a phenomenological approach by asking what these experiences were like and exploring generated meanings. This is one example as to how enactive theory guided us toward taking an eclectic approach to explore the complexities and multifaceted nature of sense-making—moving beyond only focusing on what it is like to have a certain experience.

Context-based, 5E interview questions stray from traditional phenomenological lines of questioning, especially those that follow Husserl-based, descriptive approaches focusing solely on the invariant structures of experience. Instead, we suggest that enactivism-informed interview questions have more in common with interpretive phenomenology that emphasizes the importance of context and how we cannot simply study a phenomenon that is removed from background information (Conroy, 2003; Laverty, 2003). However, as we outline below, we do suggest drawing from Hoffding and Martiny (2016) who have both enactive and Husserlian influences.

Hoffding and Martiny (2016) argue that subjectivity cannot be reduced to objectivity; we cannot dismiss or discredit subjective experience with second- or third-person data. Yet, different types of data can mutually inform each other (we come back to this point later in the paper). Further, Hoffding and Martiny (2016) note that an exploration of subjectivity directly confronts us with the embodied, enactive, and embedded aspects of experience. Researchers may not need to always explicitly ask about each of the 5 Es to be given information that is 5E-rich (e.g., a question not directly asking about emotion may elicit a narrative about and imbued with emotion). We discuss further inspiration from Hoffding and Martiny (2016) in the next section (Making Data Collection Fully Enactive).

For those looking for a starting point when developing an enactive/5E-based interview guide, in the Supplemental Material we provide some sample pain-related interview questions directed at patients; these questions were informed by the E-based literature, Hoffding and Martiny (2016), as well as phenomenological interview tips provided by Gallagher and Francesconi (2012). These questions can be adapted for other subjective conditions and contexts. That said, we also encourage researchers to draw from the enactive literature to generate their own questions. This includes drawing from theory that is rarely touched on in qualitative research, such as the extended mind thesis and its enactive development (see Clark & Chalmers, 1998; Gallagher, 2018b; Thompson & Stapleton, 2009). For example, consideration of the transparency constraint (see Thompson & Stapleton, 2009) can guide interview questions regarding when and how artifacts or material items (such as assistive supports, wheelchairs, prosthetics, and the many rapidly evolving health wearables) become intimately coupled to a person and play an important role in shaping their experience and engagement in the world.

In our pain study (Stilwell, 2020), in addition to drawing from the interview-based resources described above, our interview questions were guided by enactive/5E theory found in Stilwell & Harman, 2019. With this, we explored patient-clinician dynamics, the clinical context, and each patient’s unique situation. This included discussions (with both clinicians and patients) regarding clinical findings and laboratory results (e.g., spinal imaging reports). While we explored both clinicians’ and patients’ culture, past experiences, incoming knowledge, and expectations—we focused especially on clinicians’ pain-related explanations and clinician-patient interactions as potential scaffolding for patients’ experience of pain and pain-related meanings. In the individual patient interviews, we aimed to better understand patients’ evolving sense-making, including their experiences of receiving explanations for their pain, prognosis, and treatment. This included enactive-inspired (Di Paolo et al., 2018) questions, such as what/why pain-related meanings were significant to them (patients) given current interactions with their healthcare provider, their past experiences (e.g., receiving pain-related explanations from other clinicians), and their expectations of the future. In the following section, we provide more in-depth interview considerations that have data analysis implications.

Making Data Collection Fully Enactive

Enactive qualitative research reveals the particular shape or manifestation of participants’ experience, and this includes the researcher’s participation in the process of sense-making. In other words, the unfolding of an interviewee’s experience in qualitative interviews is not a reifying recapture of “objective,” pre-reflective, past experience. Meanings are not always apparent to participants and new meanings can unfold through interview questions, participant reflection, and the elicitation of narratives. This aligns with the process described by Varela and Shear (1999) where non-conscious or sub-personal phenomena may be perceived pre-reflectively without people being consciously aware of them. Then, with prompting during an interview, shapes and manifestations of experience can surface while pre-reflexive phenomena unfold allowing the interviewee to then verbally describe it. In this sense, we also suggest borrowing from Hoffding and Martiny (2016) which will now be briefly discussed.

Hoffding and Martiny (2016) state that some researchers might think that congruency is needed between an experience and its description. In other words, that they need to seek to capture (through data collection) a description of an experience that corresponds to the person’s actual past experience. However, Hoffding and Martiny (2016, p. 6) describe how this belief reflects a confusion between objectivity and subjectivity.
as it: “. . . presupposes that an experience is like any object—an apple, car or planet.” They argue that considering an experience as an object will lead one to an approach in which the descriptions of experience can be final or complete, treated as static data subject to reliability or reproducibility. Our perspective, and in particular with regard to pain, is that a person’s experience is not something to be objectified, but to be understood. It is dynamic and can change with reflection and exploration. Guided by enactive theory, the goal of interviews (and analysis) is not to verify the accuracy of participants’ descriptions. Rather, as described above, the aim is to explore the shape or manifestation of experience/meaning—which is fluid and context dependent.

By context dependent, we are referring to the changing situations that afford different modes of sense-making based on relations and interactions between an acting individual and their environment (physical and sociocultural). Like other situations, research interviews are in a sociocultural context and there is a co-generation of knowledge (Hoffding & Martiny, 2016; Zahavi & Martiny, 2019). This co-generation of knowledge between the interviewer and interviewee has been described as “fully enactive” (Thompson, 2017, p. 43).

Data Analysis

After organizing the collected data, it is helpful to read the transcripts and listen/watch the audio/video files. This provides the opportunity to get a feel for the data and to generate initial overall impressions. Before coding, this also allows researchers to reflect on tone, silence, hesitation, and other nuances that may shape interpretation during data analysis.

In addition to the post-cognitivist and enactivist assumptions detailed earlier, enactive data analysis can draw inspiration from the various sources that formed the foundation of enactivism, as well as contemporary enactive literature. In the analysis phase of our pain study, we drew from, among other resources, phenomenology (e.g., Heidegger, 1927/1996; Merleau-Ponty, 1962), enactive-ecological psychology and psychiatry (e.g., Gibson, 1977; Fuchs, 2005), and the intersubjective-focused approach to enactivism called participatory sense-making (De Jaegher & Di Paolo, 2007). Further, Figure 2 in Stilwell and Harman (2019) was referred to throughout the analysis.

As suggested by Zahavi (2019c), we believe that enactivism-informed phenomenological research can avoid abstruse and excessively complicated (unnecessary) phenomenological considerations and practices that are advocated in the qualitative methods literature. This may allow researchers to maintain relevance to their area of inquiry without getting weighed down in analysis processes that may confuse and muddy, rather than improve the clarity and relevance of qualitative research. Additionally, we suggest that pre-existing knowledge (pre-understandings) and use of theory should be harnessed, rather than contained as advocated by some qualitative researchers (see Zahavi, 2019a and 2019b outlining the debate and confusion regarding the use of bracketing, the reduction, and the epoché in qualitative research conducted by non-philosophers).

We suggest that researchers integrating enactive theory into their phenomenological studies can draw from thematic analysis as it is a flexible method that is often incorporated into studies with varied methodologies. Thematic analysis is a heterogenous method; however, it is generally used to identify, analyze, and report patterns (themes) in data. Thematic analysis is widely accepted as a helpful method for “. . . examining the perspectives of different research participants, highlighting similarities and differences, and generating unanticipated insights” (Nowell et al., 2017, p. 2). Although thematic analysis has few structured prescriptions and procedures, we suggest borrowing from the hybrid deductive-inductive approach to coding and theme development described by Fereday and Muir-Cochrane (2006). An a priori codebook can be created using enactive theory, guiding deductive coding. During analysis, new data-driven sub-codes/codes can be inductively generated and incorporated into the codebook. Ongoing integration of enactive theory and associated empirical research can also generate new sub-codes/codes.

An initial version of our a priori codebook from our pain study is provided in the Supplemental Material. Deductive groupings of codes (nodes in NVivo) can be set up for each of the Es (Embodied, Embedded, Enactive, Emotive, Extended). Within each code, sub-codes (i.e., child nodes in NVivo) can be created that explore particular aspects of the E-based construct. It may be helpful to include pertinent operational definitions to continually revisit during coding. Although sub-codes may fit under multiple Es, a best-fit approach can be employed that is subject to change as analysis progresses. For deductive coding, text/video is coded, allocating segments of meaningful text/video to the deductively derived codes and sub-codes from the codebook. As the project progresses, the codebook can be elaborated and refined; this is consistent with guides on developing codebooks, noting that this is often an iterative and team-based process and there is a need for the team to be comfortable with uncertainty as the research progresses (DeCuir-Gunby et al., 2011).

When potentially valuable text is identified that does not sit well with existing codes and sub-codes from the codebook, they can be placed under a code titled “other.” Memos/journaling can be used to constantly track evolving thoughts. New sub-codes can be generated when multiple similar segments of coded text appear or when a content area is deemed to be a relevant outlier that is worthy of further reflection/investigation. Throughout the data analysis process, the researcher(s) looks across the codes/sub-codes and takes reflexive notes regarding connections and new insights. This provides the opportunity to inductively create new sub-nodes in the “other” category or under the Es. New non-E codes and subsequent sub-codes can be created if warranted.

If two or more authors are involved in coding, regular meetings can be arranged to discuss coding, update the codebook, and come to a consensus regarding key themes (this was the case in our pain study). Early in data analysis, meetings can be especially helpful to discuss the reliability of the codes (Fereday &
Muir-Cochrane, 2006). This was also done in our pain study, which helped ensure both authors were applying the codes in a similar manner. Researchers may want to take notes during these meetings; this is a form of audit trail (Nowell et al., 2017). Further, continued meetings throughout analysis can facilitate ongoing reflexivity, consideration of incoming perspectives, and shared interpretive analysis of the data. As well, shared analysis and regular meetings (as well as peer debriefing, external review, and auditing) may increase the credibility and dependability of the research (Nowell et al., 2017).

Throughout the data analysis process, existing E-based theory and empirical data can be integrated into the perspective the data are coded with. Frequently reviewing E-based theory and research can stimulate new considerations of the data. This process can help identify potential influences/contextual factors or taken-for-granted influences that have been overlooked. In the section below titled “Sample Findings,” we provide some findings from our study to demonstrate how the use of enactive theory shaped our interpretations and findings.

In the later stages of the analysis, themes are generated (defined and named) that move beyond the individual codes. This process involves consideration of patterns and the ways the Es interact together to shape participants’ assigned meanings and experiences. It is important to note that initially separating the Es is somewhat artificial; however, in our pain study it helped break up and organize data and forced us to consider how the Es were at play in our data. As analysis progressed and themes started to develop, we had better appreciation for relations between the Es and moved beyond the individual codes within each of the Es. In our pain study, we found that a clear separation of the themes was not realistic; therefore, we ordered and reported on them in a specific sequence—each theme building on the previous one(s). By the end of the last theme, there was an overall narrative about the entire data set that was specific to our research aim. Similar to Thorne (2020) we suggest that analysis does not simply stop at theme identification; rather, researchers should engage in critical reflection and further integrate theory to enhance insight and add value to the literature and the author(s) respective field(s). This process continues during the writing phase, and when sharing and discussing findings and their potential application.

**Write, Share, Discuss, and Reflect**

Systematically organizing and documenting the research process and decisions will help when it comes to disclosing and reporting study details to others so that they can judge its credibility, dependability, and confirmability (Nowell et al., 2017). During the analysis and writing process, it can be helpful to discuss and present preliminary results and challenges with others (e.g., colleagues, supervisors, conference attendees). This is a form of peer debriefing and a means of establishing trustworthiness. Further, it can provide the opportunity to consider the practical relevance of the findings/themes. When presenting themes and the overall findings, discussing with others and referring back to the literature can create a more robust narrative (Nowell et al., 2017). In the end, providing detailed findings (thick descriptions) can help others judge the potential transferability of the research findings (Nowell et al., 2017).

In relation to our pain study, the first author presented preliminary findings at conferences and at an international philosophy summer school for doctoral students. Also, both authors presented findings and discussed enactive theory on podcasts, and during an online webinar and live question and answer. This all led to new considerations of the findings. For example, the first author sought out and incorporated additional literature; the concept of corporealization as described by Fuchs (2005) helped us better describe a theme through an enactive lens. We expand on this in the “Sample Findings” section below.

Further, we highly suggest taking a fully embodied and enactive approach to knowledge translation. For example, in our pain study we worked with an artist/researcher to develop art pieces (see Stilwell et al., 2020) that reflected the pain-related metaphors we heard clinicians use with their patients. Our experience was that the use of art in presentations and writings helped audience members/readers connect with the work and underlying theory at a deeper level. Using art and connecting with others can also prompt further exploration of theoretical integration, as new ideas, inspiration, and literature may be identified and applied to the analysis.

Preliminary themes can be sent to the participants, asking them to provide feedback if they wish. Guided by enactive theory, this “member checking” is not meant to validate static experiences—rather, it is a continuation of the conversation and an extension of the findings if participants choose to provide feedback. Even when the full manuscript is complete (and shared, published etc.), we suggest not considering it as something final; instead, it is a conversation that is to be built upon.

**Sample Findings From an Enactive Study**

**General Overview**

As noted above, our pain study (see chapter three in Stilwell, 2020) was guided by enactive theory and we focused on clinical interactions involving pain-related explanations and diagnoses. Our analysis focused on the patients’ sense-making in relation to their diagnoses and engagement in healthcare. Here we provide more study details. We audio-recorded appointments between clinicians (physiotherapists and chiropractors) and their patients with low back pain, then interviewed each (clinician, patient). Seven dyads (physiotherapists or chiropractors and their patients) were recruited, resulting in 21 recordings (7 appointments and 14 individual interviews). We identified four themes related to how clinical interactions and their contexts created affordance spaces (Gallagher, 2017) for patients’ sense-making.

Within our themes we found that pain-related metaphors were used bi-directionally and co-constructed between clinicians and patients, shaping patients’ meanings. Patients’ phenomenological experiences of integrating competing pain...
explanations ranged from validation and hope to frustration and anger. Clinicians’ pain explanations either aligned or contrasted with patients’ evolving pain narratives. This sense-making process included inter-bodily touch and movement, anatomical models, and imaging findings. Often, patients were set up to view their bodies as flawed. In conclusion, our findings provided further insight into why and how disabling back pain is partly iatrogenic. Clinician-patient interactions guide the way patients attend to and engage in their environments, shaping perception and meaning. Of clinical relevance pertaining to patient (dis)empowerment and placebo/nocebo effects, we found that clinicians’ taken-for-granted words and interactions can act as scaffolding for patients’ meanings, shaping the experience of pain for better or worse.

Utility of Enactive, 5E Theory

Informed by the enactive concept of participatory sense-making (De Jaegher & Di Paolo, 2007), we found that clinical interactions sometimes took on a life of their own—resulting in unintended meanings that could enrich or impede patients’ therapeutic progress. Our focus on intersubjective clinician-patient dynamics led us to non-dualist, non-reductive, and non-individualistic ways of understanding the generation of meaning and placebo/nocebo effects. In many situations, clinician’s words and the use of anatomical models and imaging findings (X-ray, CT, MRI) formed strong emotive scaffolding for patients’ pain-related sense-making. In some cases, spinal models and imaging findings (in conjunction with clinicians’ pain-related explanations) appeared to negatively and dramatically change the way patients viewed their bodies and how they engaged in the world. In conjunction, we also observed the use of metaphors between clinicians and patients, many of which suggested that the body is a machine to be fixed. In many cases, this led to the body becoming (even more) the focus of the patient’s attention in that it was corporealized; in the words of Fuchs (2005), the body became more of a burdensome obstacle—the body was opaque rather than transparent.

A concurrent exploration of the E-based literature related to language and metaphor revealed the concept of enactive metaphor (Gallagher & Lindgren, 2015), which are metaphors that are acted out or brought into existence through action. Enactive metaphor is not a different kind of metaphor; rather, it is a way of engaging with metaphor (Gallagher & Lindgren, 2015). This literature had a significant impact on the first author’s analysis and contributions to theme development. As a result, the concept of enactive metaphor was integrated into the coding scheme. Then, in the analysis it became apparent that enactive metaphor was often used unknowingly in the clinical interactions that we had recorded and other clinical interactions that the patients described. For example, the use of palpation, movement, and bodily feedback was used by clinicians to “show” patients so-called knotted, ropey, or tight muscles. Elsewhere (Stilwell et al., 2020), we describe how these types of clinical interactions involving enactive metaphor may be a powerful, yet overlooked learning mechanism that can shape patients’ agency and affordances (i.e., their possibilities for action). We identified some situations where enactive metaphor was unhelpful as it linked the living body (body as object) to the lived body (body as subject) in overly simplistic and reductive ways (e.g., the patient was shown, through the use of touch and movement, that they have persistent pain because they have knotted muscles, slipped spinal discs, or no core stability—rather than considering pain as complex and multidimensional).

Using enactive theory also helped us better understand how diagnoses can result in dual meanings in that sense-making could be simultaneously shaped in both positive and negative ways. In our study, many patients were relieved and felt validated when they received an explanation for their pain that they deemed to be credible and that aligned with their evolving sense-making. However, we found examples where these same explanations were simultaneously noceboic, unknowingly to the clinician and patient, relaying inaccurate views of pain (e.g., injury or nociception has a linear relationship with pain, tissues are not healed until pain dissipates, pain is permanent or not malleable, etc.).

Without recordings of clinical appointments and interviews with clinicians, we believe that we would not have fully appreciated patients’ contexts, including the specific diagnoses and pain explanations received and how these were often “lost in translation”. Unintended negative meanings were often generated, shaping patients’ sense-making in suboptimal ways. The use of enactive theory also directed us to consider the importance of action or action possibilities (i.e., affordances) in relation to diagnoses and pain explanations. In many situations, it appeared that pain-related explanations limited patients’ affordances, leaving them in ineffective treatment programs and possibly compounding pain-related disability. Some patients viewed their bodies as flawed leading them to continue on a search for a fix and to invest time (and money) into long-term passive care, rather than engaging in guideline-based recommendations, such as self-management.

Our findings led us to describe enactive therapeutic approaches that may help clinicians avoid some of the suboptimal practices identified in our study. This demonstrates the depth of the enactive literature and how it can be used. For example, the idea of working to therapeutically “open up” or reconstruct a patient’s affordance space is found in recent enactive literature (for example, see Gallagher, 2018a). Viewing rehabilitation in terms of shaping affordances is a novel way to approach care and aligns with contemporary, evidence-based views on rehabilitation and health (e.g., Buchbinder et al., 2018; Huber et al., 2016) that recommend focusing on patients’ strengths rather than weaknesses, and guiding patients to adapt to achieve meaningful activities and goals that they have personally identified. When thinking in terms of a patient’s affordances, we are simultaneously directed to consider both the patient’s body (lived and living) and their environment which offers a range of invitations to act, depending on the patient’s concerns, skills, and abilities. This leaves us to consider multiple data sources which offer rich insight into a
Addressing the Integration Problem

Gallagher has outlined some of the challenges that arise when integrating enactivism into research initiatives and clinical practice (Gallagher, 2018a, 2020). As detailed above, enactivism does not focus only on the brain, environment, or behavior; rather, there is focus on dynamics between the person and environment. This is a challenge as it is impossible to take into consideration all factors at once in a robust way. This same issue is apparent in interpretive phenomenology as indicated by van Manen: “to do hermeneutic phenomenology is to attempt to accomplish the impossible: to construct a full interpretive description of some aspect of the lifeworld, and yet to remain aware that lived life is always more complex than any explanation of meaning can reveal” (van Manen, 1990). We have to appreciate that all phenomenological research (regardless of the approach taken), requires an appreciation that full or final descriptions are unachievable and no single theme can completely unlock full meaning (van Manen, 1990).

Enactivism also aligns with interpretive phenomenology’s non-reductive approach; the end goal is not to reduce an experience to the sum of its parts, as this is impossible. Instead, there is an attempt to understand the expression of the whole, while still considering the parts (van Manen, 1990). Yet, an enduring challenge that we have struggled with, both clinically and academically, is how to best connect different types of data when investigating first-person experience (i.e., the so-called integration issue). As outlined by Thorne (2016, p. 138), pain researchers have long recognized the difficulties in fully reconciling “…the relationship between subjective and objective knowledge”. For complex human issues such as pain, Thorne suggests that it shouldn’t be an either-or situation regarding attending to either subjectivity or objectivity. She warns that we cannot simply draw conclusions about how people feel by observing how they behave, yet she also notes there are limitations to interview data. Similarly, Sandelowski (2002) has noted the seduction and limitations of just using patient interviews. Therefore, she argues that qualitative health research can benefit from supplementing patient interviews with observation, communication with clinicians, and review of medical records. This is what we did in our study (Stilwell, 2020) and it was prompted by our exploration of enactive theory. However, the integration challenge remains; how can we best integrate various data while fully respecting participants’ experiences. Further, we have to appreciate the “blind spot” (Frank et al., 2019) of science: scientific knowledge is built on and filtered through the first-person perspective (i.e., experience has primacy; science cannot step “outside” researchers’ lived experience). While different techniques have been proposed over the years to “triangulate” data to address the integration issue, de Haan’s recent enactive framework (2020a, 2020b) for psychiatric conditions offers a promising solution.

de Haan based her framework on the enactive, life-mind continuity thesis (Froese & Di Paolo, 2009; Maturana & Varela, 1992; Thompson, 2007) and outlined how there are four connected/continuous, yet non-reducible dimensions in the single person-environment system. These four dimensions are: physiological, experiential, sociocultural, and existential. Expanding on the description we provided in Figure 1, we can consider the connections between the four dimensions by considering circular or organizational causality, while maintaining that experience cannot be reduced to physiological processes (living body). Appealing to complexity theory and dynamical systems theory, de Haan refers to experiential processes as being more global, while physiological processes are more local. Further, she notes the asymmetry in global-to-local and local-to-global interactions: experiential processes necessarily include physiological processes (changes in experiential processes always include changes in some physiological processes); yet, not all changes in physiological processes involve or “add up” to changes in experiential processes (de Haan, 2020b).

She suggests that clinicians and patients can collaborate to construct personalized network models that map out potential connections across the four dimensions and how this may be shaping a patient’s health concern (de Haan, 2020b—see Chapter 8 for example models). We feel this type of approach is not just relevant for clinical practice, it could also be integrated into enactive-informed phenomenological research; the
is also a strength in that it could encourage the construction of
across the four dimensions and then use this information to
the researcher(s) to have the ability and expertise to collect data
ever, we recognize that this is a challenging task and requires
the patients in our study, we encourage others to try this. How-
phenomenological research.

This leads us to, as de Haan argues, a convincingly non-dualist
and non-reductive approach to exploring experience.

For example, a personalized network model could contain:
relevant lab and clinical exam findings (physiological dimen-
sion); the patient’s self-reported experience, such as anxiety,
pain, worry, etc. (experiential dimension); the clinician’s diag-
nosis and advice/education (sociocultural dimension); and the
patient’s reflections and stance on the diagnosis (existential
dimension). Then, connections could be drawn between the
dimensions (for examples see Chapter 8 in de Haan, 2020b).
Clinical diagnoses, observation of engagement with artifacts,
and other information could be used to shape interview ques-
tions and elicit participants’ reflections and meanings that may
otherwise be taken-for-granted by participants and might not
surface during interviews. With this, we can move well beyond
the methodological individualism that is often found in
phenomenological research.

While we did not specifically draw out network models with
the patients in our study, we encourage others to try this. How-
ever, we recognize that this is a challenging task and requires
the researcher(s) to have the ability and expertise to collect data
across the four dimensions and then use this information to
inform qualitative interview questions and analysis. Yet, this
is also a strength in that it could encourage the construction of
more diverse, interdisciplinary research teams (i.e., involving
qualitative and quantitative researchers, philosophers, clini-
cians, and patient partners).

**Rigor**

If readers of a study are unsure how the researchers analyzed
their data or what assumptions informed their analysis, it is
difficult to gauge its trustworthiness (Nowell et al., 2017).
When integrating enactivism into a qualitative study (or when
conducting any qualitative study for that matter), early consid-
eration and use of the consolidated criteria for reporting quali-
tative research (COREQ) can promote the study’s validity,
transparency, and trustworthiness (Tong et al., 2007).
For example, in our pain study we added a Supplemental File
with the 32-item COREQ checklist—including additional
study details. We also suggest reviewing and incorporating the
themetic analysis rigor components outlined by Fereday and
Muir-Cochrane (2006) and Nowell et al., (2017). We have
discussed many of these rigor components in this paper, includ-
ing: the importance of documentation and reporting, such as
journaling and keeping an audit trail of decisions; shared anal-
ysis, peer debriefing, and regular meetings to increase credibil-
ity; and providing detailed findings (so-called thick
descriptions) so that others can judge potential transferability
of the research findings.
Summary
There is a need for phenomenology (as a qualitative research approach) to be renewed and refreshed with opportunities for methodological flexibility. In this paper, we argued that one way to achieve this is by using enactivism as a flexible resource. We outlined how enactivism sits within the post-cognitivist paradigm and gave examples of ways that enactivism could be integrated into existing qualitative methods. Figure 3 visually depicts the paradigm, methodology, and methods we discussed. When integrating enactivism into phenomenological research, as visualized in Figure 3, we can call this methodology “enactivism-informed phenomenology,” or more broadly “an enactive phenomenological approach” when referring to both methodology and methods.

In Table 3 we summarize one way to conduct enactive phenomenological research. Although 14 steps are presented in sequence, this is not a linear process—many of the steps are iterative in nature and can be modified or adapted.

Conclusion
In this process paper, we presented enactivism as a flexible resource that can be integrated into phenomenological research. We provided examples from our own study that integrated enactivism into existing methods (observation/interviews and thematic analysis with hybrid deductive-inductive coding guided by E-based/5E theory). This approach to qualitative research offers novel ways to explore conditions and situations with a subjective element (i.e., experiences of living with a health condition such as pain, depression, or anxiety and engaging in health services). Integrating enactivism into qualitative research is still in early stages. We encourage qualitative researchers to explore what we have presented, and we welcome collaboration with philosophers and qualitative researchers to help refine and adapt these ideas.

Acknowledgments
Dr. Stilwell would like to thank Dr. Brenda Sabo of Dalhousie University for guidance and support during his PhD studies from which this manuscript stemmed. The authors also acknowledge the anonymous reviewers for their contributions, especially regarding how to best position enactivism within qualitative research. Thanks to slidehunter.com for the free use of the iceberg template used in Figure 3.

Declaration of Conflicting Interests
The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding
The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: We received funding from the Canadian Chiropractic Guideline Initiative and the Faculty of Health Research Development Fund for conducting the research this process paper was based on.

ORCID iD
Peter Stilwell https://orcid.org/0000-0002-2858-9588

Supplemental Material
The supplemental material for this article is available online.

References
Buchbinder, R., van Tulder, M., Öberg, B., Costa, L. M., Woolf, A., Schoene, M., Croft, P., Buchbinder, R., Hartvigsen, J., Cherkin, D., Foster, N. E., Maher, C. G., Underwood, M., van Tulder, M., Anema, J. R., Chou, R., Cohen, S. P., Menezes Costa, L., Croft, P., & ... Woolf, A. (2018). Low back pain: A call for action. The Lancet, 391(10137), 2384–2388. https://doi.org/10.1016/S0140-6736(18)30488-4
Bunzli, S., Watkins, R., Smith, A., Schütze, R., & O’Sullivan, P. (2013). Lives on hold. The Clinical Journal of Pain, 29(10), 907–916. https://doi.org/10.1097/AJP.0b013e31827a6dd8
Chemero, A. (2003). An outline of a theory of affordances. Ecological Psychology, 15(2), 181–195. https://doi.org/10.1207/S15326969ECO1502_5
Clark, A., & Chalmers, D. (1998). The extended mind. Analysis, 58(1), 7–19. https://doi.org/10.1111/1467-8284.00096
Conroy, S. A. (2003). A pathway for interpretive phenomenology. International Journal of Qualitative Methods, 2(3), 36–62. https://doi.org/10.1177/16094069030200304
Creswell, J. W. (2013). Qualitative inquiry and research design. Choosing among five approaches (3rd ed.). Sage.
Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches. Sage.

de Haan, S. (2020a). An enactive approach to psychiatry. Philosophy, Psychiatry, & Psychology, 27(1), 3–25. https://doi.org/10.1353/ppp.2020.0001

de Haan, S. (2020b). Enactive psychiatry. Cambridge University Press. https://doi.org/10.1017/9781108685214
De Jaegher, H. (2013). Embodiment and sense-making in autism. Frontiers in Integrative Neuroscience, 7(March), 1–19. https://doi.org/10.3389/fnint.2013.00015
De Jaegher, H., & Di Paolo, E. (2007). Participatory sense-making: An enactive approach to social cognition. Phenomenology and the Cognitive Sciences, 6(4), 485–507.
DeCuir-Gunby, J. T., Marshall, P. L., & McCulloch, A. W. (2011). Developing and using a codebook for the analysis of interview data: An example from a professional development research project. Field Methods, 23(2), 136–155. https://doi.org/10.1177/1525822X10388468
Dent, H., Nielsen, K., & Ward, T. (2020). Correctional rehabilitation and human functioning: An embodied, embedded, and enactive approach. Aggression and Violent Behavior, 51, 101383. https://doi.org/10.1016/j.avb.2020.101383
Di Paolo, E. A., Cuffari, E. C., & De Jaegher, H. (2018). Linguistic bodies: The continuity between life and language. MIT Press.
Di Paolo, E. A., & Jaegher, H. De. (2019). Microphenomenology of first encounters: A sympathetic critique. Constructivist Foundations, 14(2), 185–187.
Stilwell and Harman

Frontiers in Psychology, 7(November), 1–8. https://doi.org/10.3389/fpsyg.2016.01712

Martiny, K. (2016). Embodying investigations of cerebral palsy: A case of open cognitive science (Issue June 2015) [Københavns Universitet]. https://doi.org/10.13140/RG.2.1.1193.7529

Maturana, H. R., & Varela, F. J. (1992). The tree of knowledge: The biological roots of human understanding (Rev. ed.). Shambhala Publications Inc.

Merleau-Ponty, M. (1962). Phenomenology of perception. Routledge & Kegan Paul.

Newen, A., Gallagher, S., & De Bruin, L. (2018). 4E cognition. In A. Newen, L. De Bruin, & S. Gallagher (Eds.), Oxford handbook of 4E cognition (Vol. 1, Issue October). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780198735410.013.1

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. International Journal of Qualitative Methods, 16(1). https://doi.org/10.1177/1609406917733847

Ongaro, G., & Ward, D. (2017). An enactive account of placebo effects. Biology & Philosophy, 32(4), 507–533. https://doi.org/10.1007/s10539-017-9572-4

Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. Administration and Policy in Mental Health and Mental Health Services Research, 42(5), 533–544. https://doi.org/10.1007/s10488-013-0528-y

Peeters, A., & Segundo-Ortin, M. (2019). Misplacing memories? An enactive approach to the virtual memory palace. Consciousness and Cognition, 76, 102834. https://doi.org/10.1016/j.concocog.2019.102834

Reid, D. A. (1996, January). Enactivism as a methodology. Proceedings of the Twentieth Annual Conference of the International Group for the Psychology of Mathematics Education (Vol. 4., pp. 203–210). Valencia, Spain.

Sandolowski, M. (2002). Reembodying qualitative inquiry. Qualitative Health Research, 12(1), 104–115. https://doi.org/10.1177/1049732302355997

Slade, S. C., Molloy, E., & Keating, J. L. (2009). Stigma experienced by people with nonspecific chronic low back pain: A qualitative study. Pain Medicine, 10(1), 143–154. https://doi.org/10.1111/j.1526-4637.2008.00540.x

Smith, J. A. (2018). “Yes It Is Phenomenological”: A Reply to Max Van Manen’s critique of interpretive phenomenological analysis. Qualitative Health Research, 28(12), 1955–1958. https://doi.org/10.1177/1049732318799577

Stewart, J., Gapenne, O., & Di Paolo, E. A. (2010). Enaction. MIT Press.

Stilwell, P. (2020). Exploring pain and clinical communication [PhD Dissertation, Dalhousie University]. https://dalspace.library.dal.ca/handle/10222/78346

Stilwell, P., & Harman, K. (2019). An enactive approach to pain: Beyond the biopsychosocial model. Phenomenology and the Cognitive Sciences, 18(4), 637–665. https://doi.org/10.1007/s11097-019-09624-7

Stilwell, P., Stilwell, C., Sabo, B., & Harman, K. (2020). Painful metaphors: Enactivism and art in qualitative research. Medical Humanities, medium-2020-011874. https://doi.org/10.1136/medhum-2020-011874

Thompson, E. (2005). Sensorimotor subjectivity and the enactive approach to experience. Phenomenology and the Cognitive Sciences, 4(4), 407–427. https://doi.org/10.1007/s11097-005-9003-x

Thompson, E. (2007). Mind in life: Biology, phenomenology, and the sciences of mind. The Belknap Press of Harvard University Press.

Thompson, E. (2017). Enaction without hagiography. Constructivist Foundations, 13(1), 65–108. https://doi.org/10.18322/15265160903013829

Thompson, E., & Stapleton, M. (2009). Making sense of sense-making: Reflections on enactive and extended mind theories. Topoi, 28(1), 23–30. https://doi.org/10.1007/s11245-008-9043-2

Thorne, S. (2016). Interpretive description: Qualitative research for applied practice (2nd ed.). Routledge.

Thorne, S. (2020). Beyond theming: Making qualitative studies matter. Nursing Inquiry, 27(1), e12343. https://doi.org/10.1111/nin.12343

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus group. International Journal of Quality in Health Care, 19(6), 349–357.

van Manen, M. (1990). Researching lived experience: Human science for an action sensitive pedagogy. State University of New York Press.

van Manen, M. (2017). But is it phenomenology? Qualitative Health Research, 27(6), 775–779. https://doi.org/10.1177/1049732317699570

Varela, F. J., & Shear, J. (1999). First-person methodologies: What, why, how? Journal of Consciousness Studies, 2–3, 1–14.

Varela, F., Thompson, E., & Rosch, E. (1991). The embodied mind: Cognitive science and human experience. MIT Press. https://doi.org/10.1111/j.1468-0149.1965.tb01386.x

Ward, D., Silverman, D., & Villalobos, M. (2017). Introduction: The varieties of enactivism. Topoi, 36(3), 365–375. https://doi.org/10.1007/s11245-017-9484-6

Wideman, T. H., Edwards, R. R., Walton, D. M., Martel, M. O., Hudon, A., & Seminowicz, D. A. (2019). The multimodal assessment model of pain. The Clinical Journal of Pain, 35(3), 212–221. https://doi.org/10.1097/AJP.0000000000000670

Zahavi, D. (2019a). Applied phenomenology: Why it is safe to ignore the Epoché. Continental Philosophy Review. https://doi.org/10.1007/s11007-019-09463-y

Zahavi, D. (2019b). Getting it quite wrong: Van Manen and Smith on phenomenology. Qualitative Health Research, 29(6), 900–907. https://doi.org/10.1177/1049732318817547

Zahavi, D. (2019c). The practice of phenomenology: The case of Max van Manen. Nursing Philosophy, July, 1–9. https://doi.org/10.1111/nup.12276

Zahavi, D., & Martiny, K. M. M. (2019). Phenomenology in nursing studies: New perspectives. International Journal of Nursing Studies, 93, 155–162. https://doi.org/10.1016/j.ijnurstu.2019.01.014