

# Critical realism, community psychology, and the curious case of autism: A philosophy and practice of science with social justice in mind

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## Funding information

Economic and Social Research Council, Grant/Award Number: ES/V012347/1

## Abstract

Community psychology (CP) is a transformative sub-discipline of psychology which aims to address inequality and social injustice and to attend to wellbeing. It has been argued that CP lacks an underpinning philosophy of science. Philosophies of science provide road maps for values, methods, and objectives, thus ultimately framing all research. This study will highlight how traditional philosophies of science such as positivism, interpretivism, and social constructivism fail to support the complexity of CP and often essentialise complex phenomena, such as autism, to the detriment of stakeholders. Critical realism will then be introduced as a promising philosophy of science for CP, which can reinvigorate CPs push for impactful research and social change. The study will highlight how CP provides a platform for appreciating the complexity of autism and for transforming structures of inequality experienced by autistic people, together with autistic people.

## KEYWORDS

autism, community psychology, critical realism, philosophy of science, social action

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## 1 | INTRODUCTION

Community psychology (CP) is a field dedicated to understanding the contexts in which individuals exist and how those contexts influence their health, wellbeing, and quality of life (Orford, 1992). Underpinned by values like social justice, CP is intended to be transformative in nature, aiming to address existing inequalities with social action (Prilleltensky, 2001). CP arose out of the disenfranchisement researchers and practitioners had with clinical and applied psychology, which were described as individualistic, decontextualizing, and responsive to individual crisis, instead of preventative of social crisis (Evans et al., 2014; Orford, 1992). CP has had a strong tradition of multi-method, mixed-method (Campbell et al., 2017), participatory (Jason et al., 2004), and co-produced knowledge (Tebes, 2018).

Despite being a growing field, it has been argued that CP lacks a unified underpinning philosophy of science (Fondacaro & Weinberg, 2002; Tebes, 2016). This should be addressed because philosophies of science act as roadmaps guiding research practice, regardless of whether the researcher is aware of it (Gorski, 2013). A philosophy of science usually involves a constellation of assumptions about ontology (the nature of reality), epistemology (the nature of knowledge), ways in which we can measure reality (methodology and research technique), axiology (the role of values in research) and the main goal in our understanding of the world (objective of the research)—aptly summarized by Markula and Silk (2011):

*Paradigms... provide the boundaries for the researcher's ethics and values, actions in the social world, the control of the study (who initiates the work and asks questions), the voices deployed in the accounts of the research and, indeed, the very basic and fundamental understandings of the world the researcher is investigating. (p. 25)*

According to Gorski (2013), while a good understanding of philosophy of science can improve research, more important is how an erroneous one impedes it. It should be noted social scientists rarely defend the most extreme conclusions of even the most prevalent philosophies of science nowadays, but their presence still lingers on with entrenched methodological animosity (Langhout, 2003) and a need to appeal to positivism (Gorski, 2013). Critical realism may provide a road map for the reinvigoration of social action and justice in CP given that part of its original aim was to address problems in the world (Bhaskar & Hartwig, 2010) and provide a bridge across these animosities.

This article will start by introducing traditional philosophies of science (positivism, interpretivism, and social constructivism), and their underlying assumptions and limitations. I will discuss how these philosophies of science have shaped the autism literature to demonstrate the impact that underlying assumptions have on phenomena. I will then introduce critical realism as a philosophy of science which can support a value-based approach and practice, and support multi-disciplinarity, while centering marginalized communities at the heart of psychology. I will highlight how the ontological and epistemological configuration of critical realism also creates an onus for researchers to engage reflexively with their own work, helping to address the ways in which psychology and science have contributed to violent research. Last, I address how critical realism can handle the complexity of phenomena such as autism and disability in an ethical and transformative way, which when coupled with CP, can provide a powerful emancipatory tool for addressing systemic inequality by and for the autistic community.

Throughout the article I focus on autism to highlight the practical and often dangerous limitations of scientific paradigms that (in)advertently lead to essentialism (the idea that things or people have fixed, immutable characteristics regardless of context) and reductionism (the act of reducing something to the sum of its parts). Autism presents an interesting case because of ongoing disputes over who has epistemic authority to describe the reality or experience of autism (Gillespie-Lynch et al., 2017; Hens et al., 2019), due to the often essentialised knowledge production of autism (Milton, 2016), the rapid evolution in the construction of autism (Evans, 2013; Silberman, 2015), and how autism has a marked history of research and ethical violence (Cowen, 2009; Czech, 2018; Gernsbacher, 2007; Rose, 2020). While I address autism and disability, these are two distinct,

overlapping concepts—not everyone who is autistic will consider themselves disabled (Botha et al., 2020; Kapp et al., 2013).

## 2 | MAINSTREAM PSYCHOLOGY AND POSITIVISM

Mainstream psychology has been underpinned by positivism (as well as its successor logical empiricism) and falsification for most of its short history (Leahey, 1992). Positivism is based on ontological realism and epistemological objectivism—objects exist within reality regardless of our interaction with them, and reality is observable, testable and established through application of the scientific method and deduction (Leahey, 1992). The move toward falsification shifted the onus from verifiability to falsifiability (Popper, 2002) but psychology has maintained core beliefs around objectivity, value-freedom, and methodological rigidity. Positivistic work generally avoids all discussion of meta-theory, focusing on method, with an aim to establish view from “nowhere” (epistemological transcendence), whereby the product of knowledge production stands alone from the scientists, completely unbound from cultural and social predilection (Nagel, 1989). As such, scientific knowledge is said to be value free (Breen & Darlaston-Jones, 2010). While social science has generally given up the quest for governing laws, the ghost of falsification, replication, and epistemological transcendence still haunt the social sciences (Gorski, 2013). The idea of value-freedom of science is partly based in the idea of epistemological transcendence (Nagel, 1989), but also based on the naturalistic fallacy: the Humean “fact-value” distinction which rejects any transition from fact (positive statements) to value (normative statements) (Black, 1964). According to Bhaskar (1998), positivism draws an impenetrable distinction between facts and values—this means that the way something is cannot tell you the way something should be.

There are a number of issues that arise with positivism, however. First, although epistemological transcendence is prized, it is not a clearly achievable goal, and the idea of objectivity holds inherent power (Fondacaro & Weinberg, 2002). Positivistic claims to objectivity rest on the notion that when scientists use the scientific method it produces knowledge which is value free (Fondacaro & Weinberg, 2002). Positivistic work never addresses the methods by which transcendence is achieved and it is generally absent of reflexivity (Fondacaro & Weinberg, 2002). The assumptions underpinning the work often have social and cultural values in what is measured, and how it is measured (Zyphur & Pierides, 2019). Despite being claimed to be value free, science and psychology have a strong history of racism (Schaffer, 2007), homophobia (Mohr, 2009), ableism (Scully & Shakespeare, 2019), and sexism (Ruti, 2015), as well as undisclosed data manipulation, and misrepresentation of statistics to the ends of the researcher (Cumming, 2014; Gigerenzer, 2004; Kim & Bang, 2016). Research practices are led by the values and goals of researchers—yet these values go unaddressed. Striving for this idea of objectivity may also, at a practical level, alienate minorities from engaging with the science that affects their lives—they are seen to be “too close” to the subject (Crasnow et al., 2009).

Second, although the Humean fact-value distinction is described as impenetrable, the line between positive statements and normative goals are blurred—facts can be value-laden or contain normative goals (Putnam, 2002). It has been argued that to have a coherent concept of fact, values must be invoked (Pihlström, 2010; Putnam, 2002). Even the goal of objectivity has been described as a value (Williams, 2006). The dangerous result of assumed scientific objectivity and rationality can be seen in examples of mass-institutionalization, eugenic projects, lobotomy, and an instillation of radical self-sufficiency in Western-capitalist cultures (Fondacaro & Weinberg, 2002).

Third, methodological rigidity is inherent to positivism given that the epistemological stance denies subjectivity. An experimental, quantitative approach is traditionally used alongside experimental methods aiming to uncover generalizable laws (Leahey, 1992). It will often involve regression-based, predictive methods and eschews the concept of experiential data, meaning-making, qualitative work (Baker, 1992; Breen & Darlaston-Jones, 2010; Tolman, 1992).

Last, positivism collapses reality into the dimension of what can be measured by the scientific method, committing the epistemic fallacy- the conflation of reality (ontology) with how we can know reality (epistemology) (Bhaskar, 2008; Collier, 1994). Further, positivism assumes that knowledge itself is analyzed as an unmediated relation between reality (the ontic fallacy) instead of acknowledging the cognitive and social mechanism by which knowledge is gained (Bhaskar, 2008).

Positivism has shaped psychology (for better or worse) for the last century, and its influence can be seen in autism research. The vast majority of autism research tends to reside within a positivistic biological framework (Glynne-Owen, 2010; E. Pellicano et al., 2014). It often results in a bio-essentialist, medical model approach, that frames both autism and disability as a naturalistic disorder that emerges at a biological level (Bai et al., 2019; Curley et al., 2011; De Rubeis et al., 2014). This is often claimed to be the scientifically objective, value-free framework for understanding “deviance” from ascribed biological normativity (Fine & Asch, 1988; Pilgrim, 2014). Despite being claimed to be value-free, the psychology of autism is predicated on the value of normative bodies and minds being an ideal state of affairs, which is why it advocates for intervention, remediation and normalization, and rarely acknowledges meta-theory (Glynne-Owen, 2010; Pilgrim, 2014; Reynolds, 2017).

However, autism cannot (yet, at least), be explained as emerging from a strictly biological level, despite the best efforts of positivistic science. A broad array of individual genes in a multiplicity of combinations have been identified as “risk” factors (De Rubeis et al., 2014), while at a neurobiological level, brain “configurations” including connections, and structures, have yet to reliably explain autism—as it has been pointed out, autistic brains are highly heterogenous (Chapman, 2020; Lenroot & Yeung, 2013; Toal et al., 2010). The “symptomology” of autism is so extraordinarily vast and heterogenous that it has been argued a unifying theory of autism is no longer possible or useful (Happé et al., 2006). Indeed, researchers have argued that because autism cannot be explained by positivistic science completely that autism must be many things (Happé et al., 2006), instead of acknowledging positivism's limitations as a philosophy of science for understanding autism. In doing so, researcher instil doubt and uncertainty into the idea of autism as a single category to maintain the idea of the reliability and validity of positivistic theories in the presence of such mixed results (Hollin, 2017). Furthermore, limitations of genetics or biology to explain all of autism are clear without even starting to question the validity of categorizing certain behaviors which are explained by genetics as disorder, given how many behavioral traits are predicted by genetics and are not pathologized (Pilgrim, 2014).

The conception of the bio-essentialism of the “autistic disorder,” and the notion of autism emerging only from a genetic predisposition are part of a simplistic eugenic tradition (Barnbaum, 2008; Czech, 2018; Tantam, 2009). Biological reductionism spurred by positivism has often conflated the outcomes of disabled lives with the disability or condition itself without regard for context (Reynolds, 2017). Suffering has been described in the very nature of autism (Baron-Cohen & Bolton, 1993). Presumed scientific objectivity, positivistic science, and scientific “necessity” have resulted in the tradition of eugenics, mass institutionalization, and lobotomy—all procedures or policies that unduly affect disabled people, and autistic people (Eyal, 2017; Fondacaro & Weinberg, 2002; Pernick, 1996; Pfeiffer, 1994). There is a focus on removing autism, to remove suffering (Barnbaum, 2008).

Methodological rigidity, and arguments of epistemological objectivity have contributed to the dismissal of person-centered or ethnographic accounts of autism, as they are discounted as voices who are too “close” (Glynne-Owen, 2010). Autistic people have been argued to be incapable of forming trustworthy epistemic accounts of autism due to the very “nature” of autism (Frith & Happe, 1999), a debate which rages on (Hens et al., 2019). Ideas of scientific objectivity have allowed for the privilege of hegemonic theories over counter examples or experiences of disabled people, as arguments of proximity are invoked (Schneidre, 1988). Yet often, the “science” of disability does not live up to the experience of disability. Scientists and researchers often underestimate the quality of life available to disabled people and reduce complex biological and social phenomena to an idea of individual impairment (Smart, 2006). Worse so, this “objectivity” has been used to other autistic people in epistemologically violent and dehumanizing ways (Cowen, 2009; Gernsbacher, 2007). Epistemological violence refers to making othering interpretations of otherwise underdetermined data to conclude a group's inferiority (Teo, 2010). Examples of this

dehumanization include autistic people being compared unfavorably to great apes, monkeys with brain damage, or robots (Bainbridge, 2008; Pinker, 2002; Tomasello et al., 2005), or arguments that autistic people lack personhood, the same right to integrity as nonautistic people, and that they are incapable of community (Barnbaum, 2008; Russell, 2012). Epistemological violence has been highlighted in the fact that even when autistic people perform better than nonautistic people, in “desirable” skills or traits, it is still framed somehow as evidence of deficit (Gernsbacher et al., 2006). Arguments proposing eugenic methods of eliminating autism have been described as just being scientifically, ethically, and objectively rational (Barnbaum, 2008). By prioritizing nonautistic voices as objective and deeming autistic people as too close to the topic, it also leaves very little room for autistic people to contribute ontic or epistemic accounts of autism which challenge the predominant bio-essentialist views of autism.

This is not to say that autistic people and scholars have not risen to the challenge of producing accounts which call into question such narrow, bio-essentialist views—critical autism studies (Davidson & Orsini, 2013; Woods et al., 2018) and critical neurodiversity studies (Bertilsdotter Rosqvist et al., 2020) evidence that autistic people (among other disability scholars) have. Rather, it is to say that structures within positivism do not actively facilitate such contributions. Naïve realism, or the “thin” reality that positivism endorses, over-simplifies a highly socially embedded set of events, powers, and interests involved in psychiatry and psychology which give rise to autism (Pilgrim, 2014)—such is the challenge of accurately capturing the “reality” of autism as a naturalistic object (Chapman, 2020). Autism is a “moving target” that is not determinable outside of time, culture, and social norms which makes the biological element just one fraction of autism (Chapman, 2020; Hacking, 2006; Hollin, 2017).

### 3 | INTERPRETIVISM AND SOCIAL CONSTRUCTIVISM

The main counter philosophies of science to positivism are interpretivism and social constructivism. Both critique the claim that there is a single, readily observable and measurable reality, that science and social science can be value-free, and to differing extents, that objects exist outside of our interaction and mental representation of them (Gorski, 2013). Interpretivists argue that positivism holds for “natural” sciences, and instead draws a distinction between natural and human sciences, arguing (wrongly, according to Gorski, 2013) that social life is multiple, and dependent on meaning. In this way, interpretivism rejects ontological realism for social life—that is, social life is composed of many realities depending on our interaction and interpretation of it—termed “ontological relativism” (Pham, 2018). This means that “Truth” is impossible for ontological reasons: it is intersubjective, complex, and constituted in meaning-making. Interpretivists disavow the kind of positivistic empiricism of neo-behaviorist psychology (Schwandt, 1994). Ultimately, this results in a rejection of causality in favor of a focus on lived experiences (Schwandt, 1994).

Constructivists share the emphasis on intersubjectivity, and the importance of understanding the world as a lived experiences which are undergone by “social actors” (Schwandt, 1994). However, constructivists further extended this argument by asserting that both social and natural science are linguistically constituted and therefore just another part of social life which are governed by discourse and powers (Gorski, 2013). As such, constructivists are usually deeply committed to epistemological, and ontological relativism. Objective truth and knowledge is perspective (Schwandt, 1994). Latour and Woolgar (1986), for example, make the argument that scientific facts bear the imprints of the social and conceptual life that they are borne from—objects do not have essential characteristics outside of mental activity.

Critical or community psychologists may embrace interpretivism or constructivism as a response to the clear limitations of positivism (Parker, 2007), and the violence and disenfranchisement that positivism and logical empiricism have facilitated (Fondacaro & Weinberg, 2002). Both interpretivism and constructivism explore the construction of knowledge and how it is situated within perspective (Gorski, 2013). The methods that are traditionally used are hermeneutical, qualitative, and deconstructive—and eschew any quest for causality, because there is no reason or justification for a referent to be caused (Gorski, 2013).



Key limitations for interpretivism have been described as it having a focus on phenomena, rather than problems related to empowerment within society (Pham, 2018), neglect of issues such as power and agency (Mack, 2010), and a failure to address issues of political and ideological impact in knowledge development (Pham, 2018). Further, much like positivism, there is a methodological rigidity—as there is a rejection of a singular reality, quantitative and experimental or quasi experimental methods are rejected (Schwandt, 1994). Instead, it favors meaning making methods because there is no basis for adjunction between anyone's realities (Gorski, 2013).

While social constructivism recognizes the complex intertwining of power, language, and reality (with more nuanced fashion than interpretivism, and certainly positivism), it fails to appreciate the agency of humans outside of a discursive sense, presenting them as subordinate to some omnipresent power (Gorski, 2013). Yet, humans are what Bhaskar refers to as open systems—capable of communication, creativity, and resistance, and this agency needs to be appreciated (Gorski, 2013). Similarly, there are objects that language cannot account for, and both disability and autism highlight this in their complexity.

Some accounts of autism embrace quite a strong constructivism or interpretivist tradition of deconstructing the idea of an essential autism as an immutable characteristic:

*Given the complexity of what we are dealing with, I doubt one will ever find the 'essential autism' at least without changing the meaning of what autism currently is. Which for me is a social construction (or set of very differing accounts). (Milton & Timimi, 2016)*

However, it must be stated that it is rare to find accounts of autism that lean in the strongest terms into complete interpretivism nor constructivism—most accounts of the social construction of autism begin from the idea that there may be a biological essence that links autism, whether genetic or neurological, but that the condition itself is social constructed:

*...autism, or at least the idea of autism is fundamentally socially constructed. To make the claim that the idea of autism is socially constructed is not necessarily to reject a biological basis for the condition or symptoms that come to be labeled as "autistic". Rather, I use the phrase "socially constructed" to point to the social conditions of possibility for the naming of autism as a distinct disorder... (Nadesan, 2013, p. 2)*

This has spoken to the heart of some issues within the field of autism research—including how the impairment in autism can be culturally bound (O'Dell et al., 2016), the normative assumptions underlying the concept of mental deviance (Pilgrim, 2014), the issue with defining autism as a naturalistic scientific object (Chapman, 2019, 2020), and the role of the State in psychiatry in designating some types of existence as pathological or impaired (Pilgrim, 2014). You cannot distill autism down into its biological components and still understand it (Molloy & Vasil, 2002).

This critical perspective invites and warrants closer investigations and reflections on the social normativity, cultural values, and positivistic science that has created the label or category of autism (Hacking, 2006; Nadesan, 2013). Constructivist and interpretivist accounts situate well with conversations about the social model of disability, removing impairment and disability from individual bodies, and into the realm of social structures, power, and normativity (Brueggemann, 2013; Fine & Asch, 1988; Watson & Shakespeare, 2009). Further, by highlighting that while autism may not be a "biological" or natural category, as a social category it has political utility for a relatively less powerful collective of people—providing positive identity, access to legal recourse, a way of understanding oneself, and support (Chapman, 2019, 2020; Milton & Timimi, 2016). This claim is upheld in accounts of autism from autistic people (Botha et al., 2020).

Constructivism and interpretivism open the door to understanding how autism as a diagnosis is tied up with institutional, societal, and cultural power and its stakeholders. Hacking's (2006) work on dynamic nominalism highlights that the meaning of the diagnostic category is caught up in cultural and societal predilections, how people

diagnosed with a category become ways of “being people,” interact with the category, and come to change the category's meaning (Hacking, 2006). The underlying biological mechanism of autism most likely has not changed, and yet over the last hundred years, the meaning of autism has rapidly evolved and has become a way to “be a person” (Hacking, 2006). This means that although autistic people may have always existed, until we put a label on these behaviors, it was not, as Hacking (2006) says, a way to exist, or understand oneself. Further, social action from autistic people has changed the meaning of autism as autistic people have shaped the way researchers and professionals understand autism (Bagatell, 2010; Evans, 2013; Silberman, 2015).

Questioning the construction and interpretation of autism has laid the ground for areas such as critical autism and neurodiversity studies (Bertilsdotter Rosqvist et al., 2020; Davidson & Orsini, 2013). It provides justification for situated knowledge from autistic people in describing their detailed and rich existences, making room for discourse, and narrative, all of which are regularly shunned by positivism. It recentres attention on how autistic people feel about their own autism—which is often in opposition to how they think society feels about them (Botha et al., 2020). It provides grounds to reformulate autism within a lens of neurodiversity—the concept that autism represents a distributed form of being, or natural human diversity instead of pathology (Singer, 2017). After all, autistic people do not tend to consider themselves as broken versions of neurotypical people, instead they think of themselves as intact autistic people (Botha et al., 2020).

Importantly, social constructivism has also provided the basis for skepticism of objective science, making clear how science is laden with power and enshrined in cultural and social concepts (Schwandt, 1994). This skepticism lives on in the push for participatory methods in autism, as positivistic science has often been devoid of true autistic perspective (Milton, 2014; Woods et al., 2018). Furthermore, it opens the door for critical explorations of the framings we have in autism science, advocacy, and portrayal—highlighting the language we use to “construct” autism as disorder, tragedy, something which makes someone sub-human, something to be defeated, combatted, and erased (Gernsbacher, 2007; McGuire, 2016; Yergeau, 2018). It challenges the normativity inherent in any demarcations around what is deviant, dysfunctional, or constitutes embodied impairments, and further, provides avenues for challenging the homogenous and hegemonic theories which underestimate the quality of life, or worth of disabled people (whether autistic or not).

While not all social constructivism or interpretivism results in boundless relativism (ontological, epistemological, or judgemental), it can slip into it, which results in problematic consequences. Boundless relativism can result in the propagation of harmful myths, because all experiential evidence is considered judgementally relative (i.e., no knowledge is “more” truthful than any other evidence because all evidence is situated and constructed). If there is no metric by which to judge evidence given that everything is completely situated and contextual, then there are no grounds to challenge, for example, the idea that vaccines cause autism—which some parents still believe (Fombonne et al., 2020; Pivetti et al., 2020). If there is no realist underlying ontology, then there are no grounds to challenge this construction (because evidence such as a meta-analysis showing no relation (Taylor et al., 2014) is no more factual than parental accounts). It has been argued that relativistic claims are rendered to be invulnerable to any criticism because they are not claiming to be objective. Latour, having famously deconstructed scientism himself, now acknowledges this issue of antirealism and science skepticism with regard to climate change denial, and how the propagation of harmful myths can happen with a drift toward complete anti-scientism (Kofman, 2018).

Ultimately, even if autism is somewhat culturally bound (O'Dell et al., 2016), not necessarily scientifically sound as a naturalistic object yet (Chapman, 2020), and constituted at least partly in language and discourse (McGuire, 2016; Nadesan, 2013), there are consequences which could certainly be argued to be material. For example, autism is associated with early mortality predominantly via suicide (Hirvikoski et al., 2016), minority stress (Botha & Frost, 2020), an increased experience of victimization (Weiss & Fardella, 2018), employment insecurity (Baldwin et al., 2014), and poverty (Redman, 2009). This is an issue readily acknowledged by scholars (Chapman, 2020; Milton & Timimi, 2016). Thus, regardless of whether autism is “real” or not, there are events that are arguably material that autistic people face. By abandoning the notion of causality or the label “autism,” we abandon the ability to understand or change “real” events that are arguably limiting for autistic people. This may

explain why even those who consider themselves constructivists hold onto elements of reality in their work (Chapman, 2020; Milton & Timimi, 2016).

Further, it has been argued that constructivist and social disability accounts are a rose-tinted view afforded only to “high-functioning” autistic people, and not those who experience suffering, with uncomfortable examples regularly made of autistic people who might be nonspeaking or have co-occurring learning disabilities (Grinker, 2015b; Hughes, 2020; Jaarsma & Welin, 2012). Acknowledging the vastness of the spectrum, Grinker (2015b) argues that a relativist framework cannot account for all suffering or disability experienced by everyone who comes to be classified as autistic. The heterogeneity of autism is said to undermine essentialist social claims too (a claim which I address later in the article).

#### 4 | THE LIMITATIONS OF POSITIVISM, INTERPRETIVISM, AND SOCIAL CONSTRUCTIVISM FOR UNDERPINNING CP

Returning to a discussion of psychological science generally, there are many aspects of CP that are not supported by positivism, interpretivism, nor social constructivism. Community psychologists openly engage in value-based work; social justice underpins their research goals, practice, and objectives. Community psychologists aim to transform society to address inequality, such as poverty and discrimination, and health inequalities (Evans et al., 2014; Fondacaro & Weinberg, 2002; Kloos, 2005; Prilleltensky, 2001). This is not a tenable position within the positivist philosophy of science, as it contravenes epistemological transcendence, and an impenetrable fact-value divide. While some community psychologists have been described as reluctant to give up the claim of objectivity lest their work be described as partisan complaint, others are openly explicit about their moral values (Fondacaro & Weinberg, 2002) in ways akin to interpretivists and social constructivists, relying on practices like reflexivity and reciprocity to establish the trustworthiness of their work (Carlson & Lewis, 2019; Harrison et al., 2001; Pillow, 2003).

Further, both the fact-value division of positivism, and the issue of boundless relativism of interpretivism and social constructivism are problematic for CP's overarching goal of addressing inequality, systematic oppression, and other social challenges. Within positivism, one cannot move from a naturalistic fact to a value claim, yet that is the core of CP—researchers address social and community issues that affect the wellbeing and quality of life of groups of people under the premise that it ought to be different (Nelson & Prilleltensky, 2010). Within interpretivist and constructivist philosophies of science, which are often underpinned by epistemological relativism, there is an issue with a complete deconstruction of the social issue as an issue. Taken to the logical end of complete relativity, it is hard to justify framing experiences, or events as being “problems,” making the goal of generating change as hard, if not impossible (Wiltshire, 2018).

CP has a rich history of multi-method, mixed method and participatory research which embraces both qualitative and quantitative research methods (Campbell et al., 2017; Tebes, 2005). Ultimately, positivistic frameworks as described, can defend only experimental and quasi-experimental research practices as described earlier—given the assertion that reality is fixed and singular, and discoverable via the scientific method, limiting the justifiable place for qualitative research which aims to focus on interpretation and the linguistic construction of multiple situated realities. Yet community psychologists often rely on narratives alongside numbers to describe the lived experiences of communities they work with (Campbell et al., 2017). Similarly, within interpretivism and constructivism, there is no fully supported place for quantitative research (Schwandt, 1994). Thus, mixed and multi-method research are not defended within either strictly positivistic or the interpretivist and constructivist paradigms. Given that a complete understanding of autism requires multiple methods, a philosophy of science which supports both is required. Critical realism can support the use of multiple method, and thus, enhance our understanding of autism.



## 5 | CRITICAL REALISM

Critical realism is a movement in philosophy of science, developed by Bhaskar (2008), and later expanded on by others (Archer et al., 2013; Collier, 1994; Sayer, 1997). Critical realism posits ontological realism, and epistemological relativism—some entities exist independently of their identification because not all objects are constructed from language or discourse, but all attempts to measure reality are mediated through cognitive subjectivity. As such, while there is one reality, there are multiple interpretations of that reality (Bhaskar, 2008). Critical realism accepts that knowledge is historically, culturally, and socially situated (Maxwell, 2012), avoiding what Bhaskar terms the ontic fallacy—it does not conflate the measurement of reality with reality. Critical realism's support of epistemic relativity does not result in a complete abyss or pointlessness to knowledge by relying on the concept of judgmental rationality—using judgment to determine what evidence is suitable for what claim (Price, 2019).

A defining feature of critical realism is the concept of stratified reality. According to Bhaskar (1998), there are layers of ontic reality: the real, the actual, and the empirical. The real consists of all the causal structures and mechanisms that exist in the world—every entity with their powers and tendencies (all the various levels). The domain of the actual includes all entities and events regardless of whether they have been observed. Last, the domain of the empirical consists of all the phenomena and events which have been activated and observed (Bhaskar, 1998; Gorski, 2013). By creating these strata, Bhaskar acknowledges that not everything that is real can be measured (preventing the collapse of ontology into epistemology). Further these domains are described as out of phase in everyday experiences and thus not necessarily visible (Gorski, 2013). Figure 1 provides a visual representation of stratified reality.

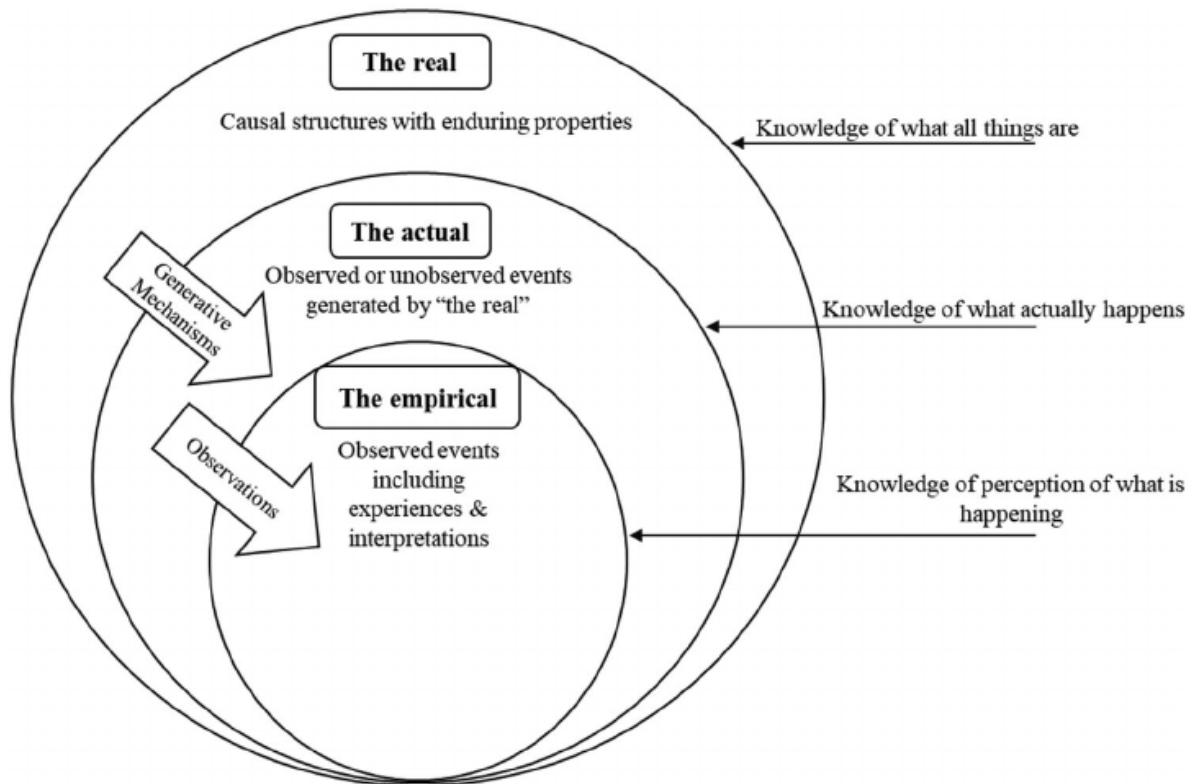
Bhaskar, helpfully delineates causality and causal inference not as singular properties, but as a “laminated process” in which different layers with different properties are simultaneously governed by normic laws—which is highlighted excellently by Gorski (2013):

*The mere fact that a particular action does not violate a particular law does not mean it is fully determined by it either. For example, the movement of my fingers across this keyboard does not violate any laws of physics or neurochemistry or English grammar or academic life. Rather, it is simultaneously and jointly determined by all of them. It is a “laminated” process. Good causal inferences depend less on the rules of logic than of our knowledge of structure. (p. 665)*

Thus, experimentation is conducted to bring these domains into phase (to be observed) and to uncover laws—but these laws are not regularities, but rather tendencies, and they govern entities and not events (Gorski, 2013). Ultimately then, to understand causality is to understand multiple laminated layers, at different levels, without reducing one level to the other.

Critical realists tend to feel a dissatisfaction with positivism and its regression-based quest for regularities and laws, but also with the postmodern focus strictly on hermeneutics and description at the cost of causation (Archer et al., 2013; Wiltshire, 2018). By untying ontology from epistemology, critical realism, opens up the possibility of both causal and hermeneutic approaches—having the ability to explain, explore or elucidate phenomena across multiple levels (Archer et al., 2013; Wiltshire, 2018).

While positivism distinguishes between fact and value and denies any transition from one to the other (as outlined earlier), critical realism ventures cautiously into ethical naturalism—one can in some instances move from “is” to “ought to be” (Gorski, 2013). Some critical realists resist the overstated case for neutrality and objectivity (Archer et al., 2013; Sayer, 2011). Indeed, Gorski (2013) suggests that critical science can perhaps posit general statements about what individual and collective social wellbeing look like, and importantly, how we might improve them (prudential principles). This ultimately, is a direction toward emancipation and social action—a goal that Bhaskar had for critical realism (Price & Martin, 2018). According to Gorski (2013), this does not mean that facts and values are coterminous, but rather overlap and interact. A commitment to



**FIGURE 1** Diagram describing the concept of stratified reality (laminated reality diagram, adapted with permission from Alexander [2013]) as it is the most comprehensive and comprehensible diagram describing CR laminated reality. It should be noted that whereas positivism conflates the real with the empirical, critical realism separates them out as distinct layers of reality, thus the empirical becomes the perception of what reality is. This notes the fragility of knowledge production, and how it is susceptible to the ways in which human knowledge is generated. Furthermore, the arrows denote how mechanisms derive from in between these layers to generate events which may or may not become empirical upon being measured.

reality entails the potential for a normative dimension to knowledge because facts and value are not completely separable (Gorski, 2013).

Critical realism differentiates between structure and agency in what is termed the transformational model of social activity. Bhaskar argues that people do not simply create society; it pre-exists them and is a necessary condition for their activity. Society instead is a constellation of entities, structures, and practices, which individuals (consciously or unconsciously) either reproduce or transform, without which society would not exist (Bhaskar, 2008). Based on Bhaskar (1998) and Archer (2003) considers structure and agents to be emergent entities who cannot solely determine or be collapsed into the other. This has two implications—first that to understand causal mechanisms, both structure and agency need to be addressed. Second, reflexivity enables individuals to adopt stances toward society that constitute a micro–macro link to produce agency, meaning that reflexivity can be a mediator between structure and agency (Archer, 2003, 2007). Reflexivity then is an emergent property which can “activate the causal powers of structures and allows individuals to deliberate on their future actions” (Golob & Makarovič, 2019). This means that methodological rigor and empiricism are still vital, but not sufficient grounds alone, for confidence in science (Pilgrim, 2014), preventing methodolatry (the commitment to methods over theory or value). Instead one must also reflect on the wider concept of knowledge and its production—including how we produce our own knowledge. Table 1 details the different configurations of various philosophies of science, including critical realism, to demonstrate the ways in which each philosophy of science discussed here vary from each other in their configurations of epistemology, ontology, methodology, research technique, and axiology.

## 6 | CRITICAL REALISM, CP, AND APPRECIATING THE COMPLEXITY OF AUTISM

There are several reasons why critical realism can facilitate the call for a reinvigorated CP which recentres social action and social justice and appreciates the complexity of autism. Importantly, critical realism does not only avoid the pitfalls of other philosophies of science (it is not just a philosophy of science which will “make do”), but instead may actively advance the goals of CP. As such, this section will highlight the ways in which critical realism may help in CPs goal for positive societal impact and the pursuit of social justice. I will underscore this with specific examples relating to disability and autism, however; that is not to say that it is only in this case that it is, or would be, effective.

First, critical realism itself is a transformative paradigm which contests the fact-value divide, the notion of epistemological objectivity, and which ultimately aims for the emancipation of humans (Price & Martin, 2018). This presupposition supports a CP which is underpinned actively by values including social justice, and the amelioration of inequality (Nelson & Prilleltensky, 2010; Prilleltensky, 2001). Thus, it provides a platform for researchers to imbue their work with values (explicitly) with an aim toward social change. I make a point of saying explicitly, because again, the mantle of scientific objectivity, unchecked, has been dangerous (Fondacaro & Weinberg, 2002). In practice, this can mean taking an active stance toward science as a vehicle for human rights and securing health equality (Haigh et al., 2019). For autism, this can mean explicitly aiming to tackle the inequality or issues which see autistic people die, on average, 15 years earlier than their nonautistic counterparts (Hirvikoski et al., 2016).

Secondly, critical realism necessitates understanding at multiple levels to generate a full picture or social change, which is a key goal for community psychologists; to engage with interdisciplinary, multi-method work (Campbell et al., 2017).

**TABLE 1** Guide to the presuppositions of different philosophies of science seen in psychology

	Critical realism	Positivism	Interpretivism and social constructivism
Ontology: Nature of reality	Realist	Realist	Relativist
Epistemology: Nature of knowledge	Subjectivist (but judgementally rationalist <sup>a</sup> )	Objectivist	Subjectivist (and judgementally relativist)
Methodology: The methods which produce reliable knowledge of reality	Variable and pragmatic: The question leads the method and different methods generate different knowledges	Hypothesis generation and testing in the quest for generalizable laws	Hermeneutic approach: Any method which uncovers individual meaning or how a realities are constructed or interpreted
Research techniques: The actual techniques employed to generate knowledge)	Various and variable including both large and small sample research. Mixed and or multi-method. Discourse analysis	Experimental and/or quantitative. Large samples—causal aims	Qualitative and/or deconstructive. Small samples. Discourse analysis
Axiology: The role of values	Value-laden: Aims to be value-situated and driven (social justice orientated) with transparency and reflexivity	Value-free: Aims for transcendence of all values. Does not tend to discuss values	Value-bound: Taken in context of acknowledged values addressed and value-limited with use of reflexivity

<sup>a</sup>Judgemental rationality means evaluating the position and context of evidence because while all evidence is developed subjectively, not all evidence is equal in every context. This is different to the type of subjectivism inherent in interpretivism which tends towards judgementally relativist, meaning evidence is so situated that it cannot be compared to anything else.

As the concept of stratified reality underpins the realist ontology of critical realism, multidisciplinary and multimethod work is not only desired, rather, it is required because it needs to attend to a necessarily laminated system—addressing multiple levels of reality which are not collapsible into each other, and also agency within those structures (Bhaskar, 1998; Gorski, 2013). Critical realists reject the simplistic essentialism that is offered by bio or social reductionism—a call often made in the autism literature (Grinker, 2015). Bhaskar himself discussed the power of critical realism for attending to the emergence of disability, specifically because critical realism attends to biological, social, cultural levels, and also the agency of people within those spaces (Bhaskar & Danermark, 2006).

Within this framework, autism cannot be reduced to a biological or social level, but should rather be considered as emerging from a constellation of structures—something that could help to enlighten why some autistic people are or consider themselves disabled, and others do not, or why some are described as suffering. It addresses the interplay between biology, environment, social and cultural values, and discourses, and further, how the autistic person interacts with each other those structures. Essentialist and reductionist methods will always fail to capture this complexity. Thus, mixed-method, or multi-methods are required to deeply understand phenomena. Critical realism provides a roadmap for taking into account how biology (often the expertise of positivism), interplays with cultural, social, and linguistic phenomena (often the expertise of constructivists and interpretivists) to produce enablement or disablement—which given its complexity, can handle the heterogeneity of autistic people.

Furthermore, critical realism makes transcending methods and disciplines “enlighteningly easy to accept and work with,” meaning it provides a roadmap to working across disciplines, specifically, to integrate multiple levels of understanding (Bhaskar et al., 2017; Bhaskar & Danermark, 2006; Wiltshire, 2018). The stratified reality of critical realism necessitates all-encompassing understandings of phenomenon which can only be achieved by with multiple methods and approaches. Furthermore, the irreducibility of the layers of reality to each other, and the irreducibility of ontology to epistemology means critical realism deconstructs the hierarchy between “scientific” and “humanistic” methods, preventing the prioritization of quantitative understandings alone. Critical realism has been described in professional (Patel & Pilgrim, 2018), practice-based (Oliver, 2012) and research settings (Hoddy, 2018), and critical realism makes it easier to transcend these disciplinary boundaries to work together. Critical realism's broad applicability across settings shows that inter-disciplinary translation can close the distance between scientists and non-scientists; this has been described as a form of demystification and democratization of science (Price & Martin, 2018). Closing this gap between research and practice is invaluable to addressing a range of social issues relevant to autism (such as poverty, homelessness, and discrimination) as this requires collaboration between research, policy, and practice. Furthermore, given that autism literature often spans multiple fields (philosophy, psychology, sociology, and biology to name a few) and practices (social care, nurse, social work, psychology, and psychiatry) providing a common ground through critical realism contributes to the ability to make impact.

Third, aspects of critical realism make the need for transparency and reflexivity explicit, meaning it can be further embedded into all parts of knowledge creation. This aligns with community psychologist's practice, as community psychologists usually aim for transparent, reflexive work (Reed et al., 2012; Suffla et al., 2015). Further, it has been said reflexivity should be more embedded in our work (Cosgrove & McHugh, 2000) and critical realism may provide that onus because it differentiates between reality and our representations of it. Critical realism differentiates between reality and representations of reality—as such it is epistemological relative. Importantly, this does not mean we have to relinquish skepticism toward the power and hierarchical systems imbued in scientific work, or any qualification of reality (Wiltshire, 2018). As described earlier this means that when describing reality, we process it through our own context and interpretations; our descriptions of reality do not necessarily reflect actual reality. Critical realism acknowledges that practices within science are always fallible, that knowledge is still wrapped up and produced by means of antecedent social products, and further, that knowledge is tied to imperfect methods of observation and so should be reflected on (Wiltshire, 2018). Further, the transformation model of social activity provides a framework for understanding how reflexivity might act as a mediator between structure and agency, allowing us opportunities to challenge the ways in which we reproduce or transform reality. As such, there

is an onus to discuss how our context might shape our own interpretations and how as individuals we might aim to reproduce or transform structures preventing or facilitating social change (Golob & Makarovič, 2019). This means being accountable for how our own social and cultural values mean can mean we either challenge or reproduce dehumanizing or ableist practices in autism research, or in accounts of autism.

Fourth, critical realism also provides a common framework for insider involvement in research. For autism specifically, it provides a strong base for participatory frameworks which argue to involve autistic stakeholders from the conception through delivery of projects and in the delineation of keys areas to address (Fletcher-Watson et al., 2019; Milton et al., 2014; E. Pellicano & Stears, 2011; Pellicano, 2014). Critical realism provides a platform for members of minority communities to engage with and create science without effectively being second-class citizens who are disqualified due to proximity to the topic (much in the way positivism excludes minorities). Epistemological objectivity is eschewed by critical realism (in line with CP), meaning that for example, autistic people can engage with non-autistic people equally on the topic of autism (as everyone has a position which affects their interpretation of knowledge). Due to critical realism endorsing epistemological relativity, both the knowledge created by autistic and non-autistic people alike would need to be considered within the context of their social and cultural predilection (helped through reflexivity). Thus, autistic people who have expressed being disenfranchised by positivism (Hooge, 2019) can engage without the stigma of proximity.

Moreover, it is not only the duty of minorities to engage with reflexivity but also anyone who handles the production of knowledge. As such, as researchers, we have a duty to attend to our role in knowledge production—something which given the violence which has permeated autism research (as earlier described), can only be positive. This itself provides a route of social action to a more equitable science, because it means addressing the racist, homophobic, sexist, and ableist science and psychology that has produced knowledge. Further, given that knowledge is embedded, it then only makes sense to heavily involve members of impacted communities throughout all stages of research processes—something that is advocated for in autism research (Fletcher-Watson et al., 2019).

In practice, there is a burgeoning body of autism research which could be considered within a critical realist CP framework. For example, Academic Autism Spectrum Partnership in Research and Education (AASPIRE), a community-based participatory research collaboration, works in equal partnership with autistic people to address real-world problems such as barriers to health care for autistic people. Nicolaidis et al. (2016) and members of AASPIRE used an inter-disciplinary and participatory approach with autistic people and healthcare workers to create a free-to-use toolkit for autistic people and services to promote equal access to healthcare. The project was a partnership between practitioners, researchers, and autistic people with varying support needs. Furthermore, social and community action can be seen in building interdisciplinary partnerships between both autistic and non-autistic researchers, autistic people as key stakeholders, family members, and charities with the express goal of making infrastructure for future participatory research (Fletcher-Watson et al., 2019; Milton et al., 2014; Pellicano et al., 2014; Pellicano, 2014). Critical realist CP would unite these works under a common, ethical, action-based framework that is ontically and epistemically coherent, across multiple and interdisciplinary methods.

Taken together, the value-laden approach of CP would be adequately supported by critical realism, while critical realism would provide an ideal platform for advancing CP's goal of social justice—partly by providing an equitable approach to science. It would also provide an onus for embedding reflexivity even further into CP's repertoire, not only to provide an awareness of knowledge production, but also around the ways we as researchers or practitioners are reproducing or transforming structures—an awareness that will be key if we want to recentre social action. A critical realist CP would ultimately provide a roadmap for a science which is based at a grass-roots level, embodied by the minorities it affects, and provide a deep understanding of phenomena (preventing further essentialism). The collective onus that critical realist CP would create for involving stakeholders as equals would go some distance to rectifying the issue that plagues the field of autism research currently, where there is a large gap between the kind of research being conducted, and the kind of research autistic people, and stakeholders want conducted (Pellicano et al., 2014). Alongside critical realism supporting the basic presuppositions of CP, it goes further, and provides ways of working that elevate minority voices into scientific practice, while urging reflexivity



from all involved in knowledge production. Critical realist community psychology thus, provides a roadmap for the continued development of participatory autism research, can help to shape research with specific impact in mind, and ultimately provides a bridge across fields, professions, positions in a useful way for generating social action and change for autistic people.

## 7 | CONCLUSION

CP is a value-laden subdiscipline in psychology which aims to tackle social inequality and social injustice, and to promote wellbeing (Nelson & Prilleltensky, 2010). Traditional philosophies of science cannot support its pre-suppositions, such as being value-laden, its explicit aim to address inequality (blurring the fact-value boundary), its multi-disciplinarity, multi and mixed-method approach, and its quest for impact. Positivism, interpretivism, and social constructivism all have key limitations for meeting the needs of CP and complex phenomena. This is highlighted throughout the paper by examining the ways in which autism is and has been shaped by different philosophies of science, and the methods that they entail, and further, how this can shape autistic lives with sometimes devastating consequences.

CP may be supported by critical realism. Critical realism works on the principle of a stratified ontology, epistemological relativity, judgemental rationality, and most importantly, offers a way forward from the fact-value boundary which positivism argues to be impenetrable. This means that a value-based approach is viable, alongside methods which address both causality and interpretation, and enough reflexivity to address that this knowledge is situated, without relinquishing the claim to some form of reality. Community psychologists therefore can aim for social change and impact, work in multi and inter-disciplinary groups, and use critical realism to establish a common framework to understand how phenomena like social inequality, disability, or autism arise from complex relationships between different levels of reality. The practical implications of a critical realist CP approach has (hopefully) been highlighted in less abstract terms, through the inclusion of autism as an example of complex phenomena. A critical realist CP would have a multitude of applications across a range of social issues, and minority groups. While critical realism provides a philosophy of science which can handle complexity, CP provides a further framework for honing-in ethical, participatory, and indigenous methods which prevent further scientific objectification and violence.

## ACKNOWLEDGMENTS

Robert Chapman for his feedback on a draft of this study. The guidance was invaluable for increasing clarity. This study was supported by the University of Surrey, Department of Psychology, and the Economic and Social Research Council (Grant number ES/V012347/1).

## DATA AVAILABILITY STATEMENT

There is no associated data with this manuscript.

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## PEER REVIEW

The peer review history for this article is available at <https://publons.com/publon/10.1002/jcop.22764>

## REFERENCES

Alexander, B. (2013). Design of a socio-technical change management process: A critical realist perspective. International Conference on Engineering Education and Research, Marrakesh.

- Archer, M., Bhaskar, R., Collier, A., Lawson, T., & Norrie, A. (2013). *Critical realism: Essential readings* (1st ed.). Routledge. <https://doi.org/10.4324/9781315008592>
- Archer, M. S. (2003). *Structure, agency and the internal conversation*. Cambridge University Press.
- Archer, M. S. (2007). *Making our way through the world: Human reflexivity and social mobility*. Cambridge University Press
- Bagatell, N. (2010). From cure to community: Transforming notions of autism. *Ethos (Berkeley, Calif.)*, 38(1), 33–55. <https://doi.org/10.1111/j.1548-1352.2009.01080.x>
- Bai, D., Yip, B. H. K., Windham, G. C., Sourander, A., Francis, R., Yoffe, R., Glasson, E., Mahjani, B., Suominen, A., Leonard, H., Gissler, M., Buxbaum, J. D., Wong, K., Schendel, D., Kodesh, A., Breshnahan, M., Levine, S. Z., Parner, E. T., ... Sandin, S. (2019). Association of genetic and environmental factors with autism in a 5-country cohort. *JAMA Psychiatry*, 76(10), 1035–1043. <https://doi.org/10.1001/jamapsychiatry.2019.1411>
- Bainbridge, D. (2008). *Beyond the zonules of Zinn: A fantastic journey through your brain*. Harvard University Press.
- Baker (1992). *Positivism versus people: What should psychology be about? Positivism in psychology historical and contemporary problems*. Springer.
- Baldwin, S., Costley, D., & Warren, A. (2014). Employment activities and experiences of adults with high-functioning autism and Asperger's disorder. *Journal of Autism and Developmental Disorders*, 44(10), 2440–2449. <https://doi.org/10.1007/s10803-014-2112-z>
- Barnbaum, D. R. (2008). *The ethics of autism: Among them, but not of them*. Indiana University Press. <http://public.eblib.com/choice/publicfullrecord.aspx?p=415343>
- Baron-Cohen, S., & Bolton, P. (1993). *Autism: The facts*. Oxford University Press.
- Bertilsdotter Rosqvist, H., Chown, N., & Stenning, A. (2020). *Neurodiversity studies: A new critical paradigm* (1st ed.). Routledge.
- Bhaskar, R. (1998). *The possibility of naturalism: A philosophical critique of the contemporary human sciences* (3rd ed.). Routledge.
- Bhaskar, R. (2008). *A realist theory of science* (3rd ed.). Routledge.
- Bhaskar, R., & Danermark, B. (2006). Metatheory, interdisciplinarity and disability research: A critical realist perspective. *Scandinavian Journal of Disability Research*, 8(4), 278–297. <https://doi.org/10.1080/15017410600914329>
- Bhaskar, R., Danermark, B., & Price, L. (2017). *Interdisciplinarity and Wellbeing: A critical realist general theory of interdisciplinarity* (1st ed.). Routledge. <https://doi.org/10.4324/9781315177298>
- Bhaskar, R., & Hartwig, M. (2010). *The formation of critical realism: A personal perspective*. Routledge.
- Black, M. (1964). The gap between “is” and “should”. *The Philosophical Review*, 73(2), 165. <https://doi.org/10.2307/2183334>
- Campbell, R., Shaw, J., & Gregory, K. A. (2017). Giving voice—and the numbers too. In M. A. Bond, I. García de Serrano, C. Keys & M. Shinn (Eds.), *APA handbook of community psychology: Methods for community research and action for diverse groups and issues* (1st ed., pp. 139–153). American Psychological Association.
- Botha, M., Dibb, B., & Frost, D. M. (2020). "Autism is me": An investigation of how autistic individuals make sense of autism and stigma. *Disability & Society*, Advance online publication. 1–27. <https://doi.org/10.1080/09687599.2020.1822782>
- Botha, M., & Frost, D. M. (2020). Extending the minority stress model to understand mental health problems experienced by the autistic population. *Society and Mental Health*, 10(1), 20–34. <https://doi.org/10.1177/2156869318804297>
- Breen, L., & Darlaston-Jones, D. (2010). Moving beyond the enduring dominance of positivism in psychological research: Implications for psychology in Australia. *Australian Psychologist*, 45(1), 67–76. <https://doi.org/10.1080/00050060903127481>
- Brueggemann, B. J. (2013). Disability studies/disability culture. In M. L., Wehmeyer, (Ed.), *the Oxford handbook of positive psychology and disability* (pp. 279–299). Oxford University Press.
- Carlson, M., & Lewis, S. C. (2019). Temporal reflexivity in journalism studies: Making sense of change in a more timely fashion. *Journalism*, 20(5), 642–650. <https://doi.org/10.1177/1464884918760675>
- Chapman, R. (2019). Autism isn't just a medical diagnosis—it's a political identity medium. <https://medium.com/the-establishment/autism-isnt-just-a-medical-diagnosis-it-s-a-political-identity-178137688bd5>
- Chapman, R. (2020). The reality of autism: On the metaphysics of disorder and diversity. *Philosophical Psychology*, 33(6), 799–819. <https://doi.org/10.1080/09515089.2020.1751103>
- Collier, A. (1994). *Critical realism: An introduction to Roy Bhaskar's philosophy*. Verso.
- Cosgrove, L., & McHugh, M. C. (2000). Speaking for ourselves: Feminist methods and community psychology. *American Journal of Community Psychology*, 28(6), 815–838.
- Cowen. (2009). Autism as academic paradigm. The chronicles of higher education. <http://www.chronicle.com/article/Autism-as-Academic-Paradigm/47033>
- Crasnow, S., Wylie, A., Bauchspies, W. K., & Potter, E. (2009). *Feminist perspectives on science*. Stanford Press.
- Cumming, G. (2014). The new statistics: Why and how. *Psychological Science*, 25(1), 7–29. <https://doi.org/10.1177/0956797613504966>

- Curley, J. P., Jensen, C. L., Mashoodh, R., & Champagne, F. A. (2011). Social influences on neurobiology and behavior: Epigenetic effects during development. *Psychoneuroendocrinology*, *36*(3), 352–371. <https://doi.org/10.1016/j.psyneuen.2010.06.005>
- Czech, H. (2018). Hans Asperger, national socialism, and “race hygiene” in Nazi-era Vienna. *Molecular Autism*, *9*(1), 1–43. <https://doi.org/10.1186/s13229-018-0208-6>
- Davidson, J., & Orsini, M. (2013). *Worlds of autism*. University of Minnesota Press. <http://www.jstor.org/stable/10.5749/j.ctt4cggsn>
- De Rubeis, S., He, X., Goldberg, A. P., Poultney, C. S., Samocha, K., Ercument Cicek, A., Kou, Y., Liu, L., Fromer, M., Walker, S., Singh, T., Klei, L., Kosmicki, J., Fu, S.-C., Aleksic, B., Biscaldi, M., Bolton, P. F., Brownfeld, J. M., Cai, J., ... Buxbaum, J. D. (2014). Synaptic, transcriptional and chromatin genes disrupted in autism. *Nature*, *515*(7526), 209–215. <https://doi.org/10.1038/nature13772>
- Evans, B. (2013). How autism became autism: The radical transformation of a central concept of child development in Britain. *History of the Human Sciences*, *26*(3), 3–31. <https://doi.org/10.1177/0952695113484320>
- Evans, S., Rosen, A., & Nelson, G. (2014). *Community psychology and social justice*. Praeger.
- Eyal, G. (2017). *Autism looping* (pp. 141–150). Routledge International Handbook of Critical Mental Health.
- Fine, M., & Asch, A. (1988). Disability beyond stigma: Social interaction, discrimination, and activism. *Journal of Social Issues*, *44*(1), 3–21. <https://doi.org/10.1111/j.1540-4560.1988.tb02045.x>
- Fletcher-Watson, S., Adams, J., Brook, K., Charman, T., Crane, L., Cusack, J., Leekam, S., Milton, D., Parr, J. R., & Pellicano, E. (2019). Making the future together: Shaping autism research through meaningful participation. *Autism*, *23*(4), 943–953. <https://doi.org/10.1177/1362361318786721>
- Fombonne, E., Goin-Kochel, R. P., O’Roak, B. J., Abbeduto, L., Aberbach, G., Acampado, J., Ace, A. J., Albright, C., Alessandri, M., Amaral, D. G., Amatya, A., Anglo, C., Annett, R. D., Arriaga, I., Ashley, R., Astrovskaya, I., Baalman, K., Baer, M., Bahl, E., ... Kitaygorodsky, A. (2020). Beliefs in vaccine as causes of autism among SPARK cohort caregivers. *Vaccine*, *38*(7), 1794–1803. <https://doi.org/10.1016/j.vaccine.2019.12.026>
- Fondacaro, M., & Weinberg, D. (2002). Concepts of social justice in community psychology: Toward a social ecological epistemology. *American Journal of Community Psychology*, *30*, 473–492. <https://doi.org/10.1023/A:1015803817117>
- Frith, U., & Happe, F. (1999). Theory of mind and self-consciousness: What is it like to be autistic? *Mind and Language*, *14*(1), 82–89. <https://doi.org/10.1111/1468-0017.00100>
- Gernsbacher, M. A. (2007). On not being human. *APS Observer*, *20*(2), 5–32.
- Gernsbacher, M. A., Dawson, M., & Mottron, L. (2006). Autism: Common, heritable, but not harmful. *The Behavioral and Brain Sciences*, *29*(4), 413–414. <https://doi.org/10.1017/S0140525X06319097>
- Gigerenzer, G. (2004). Mindless statistics. *The Journal of Socio-Economics*, *33*(5), 587–606. <https://doi.org/10.1016/j.socec.2004.09.033>
- Gillespie-Lynch, K., Kapp, S. K., Brooks, P. J., Pickens, J., & Schwartzman, B. (2017). Whose expertise is it? Evidence for autistic adults as critical autism experts. *Frontiers in Psychology*, *8*. <https://doi.org/10.3389/fpsyg.2017.00438>
- Glynn-Owen, R. (2010). Early intervention and autism: The impact of positivism and the call for change. *The International Journal of Children's Rights*, *18*(3), 405–416. <https://doi.org/10.1163/157181810X497431>
- Golob, T., & Makarovič, M. (2019). Reflexivity and structural positions: The effects of generation, gender and education. *Social Sciences*, *8*(9), 248. <https://doi.org/10.3390/socsci8090248>
- Gorski, P. S. (2013). What is critical realism? And why should you care? *Contemporary Sociology: A Journal of Reviews*, *42*(5), 658–670. <https://doi.org/10.1177/0094306113499533>
- Grinker, R. (2015). Reframing the science and anthropology of autism. *Culture, Medicine and Psychiatry*, *39*(2), 345–350. <https://doi.org/10.1007/s11013-015-9444-9>
- Hacking, I. (2006). Making up people. <https://www.lrb.co.uk/v28/n16/ian-hacking/making-up-people>.
- Haigh, F., Kemp, L., Bazeley, P., & Haigh, N. (2019). Developing a critical realist informed framework to explain how the human rights and social determinants of health relationship works. *BMC Public Health*, *19*(1), 1571. <https://doi.org/10.1186/s12889-019-7760-7>
- Happé, F., Ronald, A., & Plomin, R. (2006). Time to give up on a single explanation for autism. *Nature Neuroscience*, *9*(10), 1218–1220. <https://doi.org/10.1038/nn1770>
- Harrison, J., MacGibbon, L., & Morton, M. (2001). Regimes of trustworthiness in qualitative research: The rigors of reciprocity. *Qualitative Inquiry*, *7*(3), 323–345. <https://doi.org/10.1177/107780040100700305>
- Hens, K., Robeyns, I., & Schaubroeck, K. (2019). The ethics of autism. *Philosophy Compass*, *14*(1), e12559. <https://doi.org/10.1111/phc3.12559>
- Hirvikoski, T., Mittendorfer-Rutz, E., Boman, M., Larsson, H., Lichtenstein, P., & Bölte, S. (2016). Premature mortality in autism spectrum disorder. *The British Journal of Psychiatry: The Journal of Mental Science*, *208*(3), 232–238. <https://doi.org/10.1192/bjp.bp.114.160192>

- Hoddy, E. T. (2018). Critical realism in empirical research: Employing techniques from grounded theory methodology. *International Journal of Social Research Methodology*, 22(1), 111–124. <https://doi.org/10.1080/13645579.2018.1503400>
- Hollin, G. (2017). Failing, hacking, passing: Autism, entanglement, and the ethics of transformation. *BioSocieties*, 12(4), 611–633. <https://doi.org/10.1057/s41292-017-0054-3>
- Hooge, A. (2019). Binary boys: Autism, Aspie supremacy and post/humanist normativity. *Disability Studies Quarterly*, 39. <https://doi.org/10.18061/dsq.v39i1.6461>
- Hughes, J. A. (2020). Does the heterogeneity of autism undermine the neurodiversity paradigm? *Bioethics*, 12780. <https://doi.org/10.1111/bioe.12780>
- Jaarsma, P., & Welin, S. (2012). Autism as a natural human variation: Reflections on the claims of the neurodiversity movement. *Health Care Analysis*, 20(1), 20–30. <https://doi.org/10.1007/s10728-011-0169-9>
- Jason, L. A., Keys, C. B., Suarez-Balcazar, Y., Taylor, R. R., & Davis, M. I. (2004). Participatory community research: Theories and methods in action. American Psychological Association. <https://doi.org/10.1037/10726-000>
- Kapp, S. K., Gillespie-Lynch, K., Sherman, L. E., & Hutman, T. (2013). Deficit, difference, or both? Autism and neurodiversity. *Developmental Psychology*, 49(1), 59–71. <https://doi.org/10.1037/a0028353>
- Kim, J., & Bang, H. (2016). Three common misuses of P values. *Dental Hypotheses*, 7(3), 73–80. <https://doi.org/10.4103/2155-8213.190481>
- Kloos, B. (2005). Community science: Creating an alternative place to stand? *American Journal of Community Psychology*, 35(3–4), 259–267.
- Kofman, A. (2018). Bruno latour, the post-truth philosopher, mounts a defense of science. *New York Times*. <https://www.nytimes.com/2018/10/25/magazine/bruno-latour-post-truth-philosopher-science.html>
- Langhout, R. D. (2003). Reconceptualizing quantitative and qualitative methods: A case study dealing with place as an exemplar. *American Journal of Community Psychology*, 32(3–4), 229–244. <https://doi.org/10.1023/B:AJCP.0000004744.09295.9b>
- Latour, B., & Woolgar, S. (1986). *Laboratory life: The construction of scientific facts*. Princeton University Press.
- Leahey, T. H. (1992). The mythical revolutions of American psychology. *American Psychologist*, 47(2), 308–318. <https://doi.org/10.1037/0003-066X.47.2.308>
- Lenroot, R. K., & Yeung, P. K. (2013). Heterogeneity within autism spectrum disorders: What have we learned from neuroimaging studies? *Frontiers in Human Neuroscience*, 7, 733. <https://doi.org/10.3389/fnhum.2013.00733>
- Mack, L. (2010). The philosophical underpinnings of educational research. *Polyglossia*, 19, 5–11.
- Markula, P., & Silk, M. (2011). Paradigmatic approaches to physical culture. In Markula, P. & Silk, M., (Eds.), *Qualitative Research for Physical Culture* (pp. 24–56). Palgrave Macmillan. [https://doi.org/10.1057/9780230305632\\_2](https://doi.org/10.1057/9780230305632_2)
- Maxwell, J. A. (2012). *A realist approach for qualitative research*. Sage.
- McGuire, A. (2016). *War on autism: On the cultural logic of normative violence*. University of Michigan Press.
- Milton, D. (2014). Autistic expertise: A critical reflection on the production of knowledge in autism studies. *Autism*, 18(7), 794–802.
- Milton, D. (2016). Re-thinking autism: Diagnosis, identity and equality. *Disability & Society*, 31(10), 1413–1415. <https://doi.org/10.1080/09687599.2016.1221666>
- Milton, D., Mills, R., & Pellicano, E. (2014). Ethics and autism: Where is the autistic voice? Commentary on Post et al. *Journal of Autism and Developmental Disorders*, 44(10), 2650–2651.
- Milton, D., & Timimi. (2016). Does autism have an essential nature? <http://blogs.exeter.ac.uk/exploringdiagnosis/debates/debate-1/>
- Mohr, J. (2009). Oppression by Scientific Method: The use of science to “Other” sexual minorities. *Journal of Hate Studies*, 7. <https://doi.org/10.33972/jhs.57>
- Molloy, H., & Vasil, L. (2002). The social construction of Asperger Syndrome: The pathologising of difference? *Disability & Society*, 17(6), 659–669. <https://doi.org/10.1080/0968759022000010434>
- Nagel, T. (1989). *The view from nowhere (First issued as an Oxford University Press paperback)*. Oxford University Press.
- Nadesan, M. (2013). *Constructing Autism: Unravelling the “Truth” and understanding the social*. Routledge. <https://doi.org/10.4324/9780203299500>
- Nelson, G. B., & Prilleltensky, I. (2010). *Community psychology: In pursuit of liberation and well-being*. Palgrave Macmillan
- Nicolaidis, C., Raymaker, D., McDonald, K., Kapp, S., Weiner, M., Ashkenazy, E., Gerrity, M., Kripke, C., Platt, L., & Baggs, A. (2016). The development and evaluation of an online healthcare toolkit for autistic adults and their primary care providers. *Journal of General Internal Medicine*, 31(10), 1180–1189. <https://doi.org/10.1007/s11606-016-3763-6>
- O'Dell, L., Bertilsdotter Rosqvist, H., Ortega, F., Brownlow, C., & Orsini, M. (2016). Critical autism studies: Exploring epistemic dialogues and intersections, challenging dominant understandings of autism. *Disability & Society*, 31(2), 166–179. <https://doi.org/10.1080/09687599.2016.1164026>



- Oliver, C. (2012). Critical realist grounded theory: A new approach for social work research. *British Journal of Social Work*, 42(2), 371–387. <https://doi.org/10.1093/bjsw/bcr064>
- Orford, J. (1992). *Community psychology: Theory and practice*. J. Wiley
- Parker, I. (2007). Critical psychology: What it is and what it is not. *Social and Personality Psychology Compass*, 1(1), 1–15. <https://doi.org/10.1111/j.1751-9004.2007.00008.x>
- Patel, N., & Pilgrim, D. (2018). Psychologists and torture: Critical realism as a resource for analysis and training. *Journal of Critical Realism*, 17(2), 176–191. <https://doi.org/10.1080/14767430.2018.1430975>
- Pellicano, E., Dinsmore, A., & Charman, T. (2014). What should autism research focus upon? Community views and priorities from the United Kingdom. *Autism*, 18(7), 756–770. <https://doi.org/10.1177/1362361314529627>
- Pellicano, E., & Stears, M. (2011). Bridging autism, science and society: Moving toward an ethically informed approach to autism research. *Autism Research*, 4(4), 271–282. <https://doi.org/10.1002/aur.201>
- Pellicano, L. (2014). Chapter 4: A future made together: New directions in the ethics of autism research. *Journal of Research in Special Educational Needs*, 14(3), 200–204. [https://doi.org/10.1111/1471-3802.12070\\_5](https://doi.org/10.1111/1471-3802.12070_5)
- Pernick, M. S. (1996). *The black stork: Eugenics and the death of "defective" babies in American medicine and motion pictures since 1915*. Oxford University Press.
- Pfeiffer, D. (1994). Eugenics and disability discrimination. *Disability & Society*, 9(4), 481–499.
- Pham, L. T. M. (2018). Qualitative approach to research, a review of advantages and disadvantages of three paradigms: Positivism, interpretivism and critical inquiry. University of Adelaide.
- Pihlström, S. (2010). Toward a pragmatically naturalist metaphysics of the fact-value entanglement. *Journal of Philosophical Research*, 35, 323–352.
- Pilgrim, D. (2014). Some implications of critical realism for mental health research. *Social Theory & Health*, 12(1), 1–21.
- Pillow, W. (2003). Confession, catharsis, or cure? Rethinking the uses of reflexivity as methodological power in qualitative research. *International Journal of Qualitative Studies in Education*, 16(2), 175–196. <https://doi.org/10.1080/0951839032000060635>
- Pinker, S. (2002). *The blank slate: The modern denial of human nature*. Viking.
- Pivetti, M., Melotti, G., & Mancini, C. (2020). Vaccines and autism: A preliminary qualitative study on the beliefs of concerned mothers in Italy. *International Journal of Qualitative Studies on Health and Well-Being*, 15(1), 1–15. <https://doi.org/10.1080/17482631.2020.1754086>
- Popper, K. (2002). *The Logic of scientific discovery* (2nd ed.). Routledge.
- Price, L. (2019). Introduction to the special issue: Normativity. *Journal of Critical Realism*, 18(3), 221–238. <https://doi.org/10.1080/14767430.2019.1638133>
- Price, L., & Martin, L. (2018). Introduction to the special issue: Applied critical realism in the social sciences. *Journal of Critical Realism*, 17(2), 89–96. <https://doi.org/10.1080/14767430.2018.1468148>
- Prilleltensky, I. (2001). Value-Based praxis in community psychology: Moving toward social justice and social action. *American Journal of Community Psychology*, 29(5), 747–778. <https://doi.org/10.1023/A:1010417201918>
- Putnam, H. (2002). *The collapse of the fact/value dichotomy and other essays*. Harvard University Press.
- Redman, S. (2009). Don't write me off: Make the system fair for people with autism. <http://library.autism.org.uk/Portal/Default/en-GB/RecordView/Index/22119>
- Reed, S. J., Miller, R. L., Nnawulezi, N., & Valenti, M. T. (2012). Erecting closets and outing ourselves: Uncomfortable reflexivity and community-based research. *Journal of Community Psychology*, 40(1), 11–26.
- Reynolds, J. M. (2017). "I'd rather be dead than disabled"—The ableist conflation and the meanings of disability. *Review of Communication*, 17(3), 149–163. <https://doi.org/10.1080/15358593.2017.1331255>
- Rose, K. (2020). Regarding the use of dehumanising rhetoric. <https://theautisticadvocate.com/2020/02/regarding-the-use-of-dehumanising-rhetoric/>
- Russell, B. (2012). Reflections on 'autistic integrity'. *Bioethics* 26(3), 164–170. <https://doi.org/10.1111/j.1467-8519.2010.01827.x>
- Ruti, M. (2015). The age of scientific sexism: How evolutionary psychology promotes gender profiling and fans the battle of the sexes. *Bloomsbury Academic*
- Sayer, A. (2011). *Why Things Matter to People: Social Science, Values and Ethical Life*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511734779>
- Sayer, A. (1997). Critical realism and the limits to critical social science. *Journal for the Theory of Social Behaviour*, 27(4), 473–488. <https://doi.org/10.1111/1468-5914.00052>
- Schaffer, G. (2007). "'Scientific' Racism Again?": Reginald gates, the mankind quarterly and the question of "Race" in science after the second world war. *Journal of American Studies*, 41(2), 253–278. <https://doi.org/10.1017/S0021875807003477>
- Schneidre, J. W. (1988). Disability as moral experience: Epilepsy and self in routine relationships. *Journal of Social Issues*, 44(1), 63–78. <https://doi.org/10.1111/j.1540-4560.1988.tb02049.x>



- Schwandt, T. A. (1994). Constructivist, interpretivist approaches to human inquiry. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of Qualitative Research*, Vol. 1, 118–137.
- Scully, J., & Shakespeare, T. (2019). Report on the impact of ableism in medical and scientific practice (A/HRC/43/41; Bioethics and Disability: Report for UN Special Rapporteur on Disability). United Nations of Human Rights. <https://www.ohchr.org/EN/Issues/Disability/SRDisabilities/Pages/BioethicsDisabilities.aspx>
- Silberman, S. (2015). *Neurotribes*. Allen & Unwin.
- Singer, J. (2017). *Neurodiversity: The birth of an idea*. Self-published.
- Smart, J. (2006). Challenges to the biomedical model of disability. *Advances in Medical Psychotherapy & Psychodiagnosis*, 12, 1–4.
- Suffla, S., Seedat, M., & Bawa, U. (2015). Reflexivity as enactment of critical community psychologies: Dilemmas of voice and positionality in a multi-country photovoice study. *Journal of Community Psychology*, 43(1), 9–21.
- Tantam, D. (2009). Can the world afford autistic spectrum disorder? nonverbal communication, *Asperger Syndrome and the Interbrain*. Jessica Kingsley Publishers.
- Taylor, L. E., Swerdfeger, A. L., & Eslick, G. D. (2014). Vaccines are not associated with autism: An evidence-based meta-analysis of case-control and cohort studies. *Vaccine*, 32(29), 3623–3629.
- Tebes, J. K. (2005). Community science, philosophy of science, and the practice of research. *American Journal of Community Psychology*, 35(3–4), 213–230. <https://doi.org/10.1007/s10464-005-3399-x>
- Tebes, J. K. (2016). Theories, models, and science in community psychology. *Global Journal of Community Psychology Practice*, 7(2), 1–11. <https://doi.org/10.7728/0702201611>
- Tebes, J. K. (2018). Team science, justice, and the co-production of knowledge. *American Journal of Community Psychology*, 62(1–2), 13–22.
- Teo, T. (2010). What is epistemological violence in the empirical social sciences? *Social and Personality Psychology Compass*, 4(5), 295–303. <https://doi.org/10.1111/j.1751-9004.2010.00265.x>
- Toal, F., Daly, E. M., Page, L., Deeley, Q., Hallahan, B., Bloemen, O., Cutter, W. J., Brammer, M. J., Curran, S., Robertson, D., Murphy, C., Murphy, K. C., & Murphy, D. G. M. (2010). Clinical and anatomical heterogeneity in autistic spectrum disorder: A structural MRI study. *Psychological Medicine*, 40(7), 1171–1181. <https://doi.org/10.1017/S0033291709991541>
- Tolman, C. W. (1992). *Positivism in psychology historical and contemporary problems*. Springer. <https://doi.org/10.1007/978-1-4612-4402-8>
- Tomasello, M., Carpenter, M., Call, J., Behne, T., & Moll, H. (2005). Understanding and sharing intentions: The origins of cultural cognition. *Behavioral and Brain Sciences*, 28(05), <https://doi.org/10.1017/S0140525X05000129>
- Watson, N., & Shakespeare, T. (2009). The social model of disability: An outdated ideology? In B. M. Altman, & S. N. Barnartt (Eds.), *Exploring theories and expanding methodologies; Where we are and where we need to go*. Emerald Group Publishing Limited.
- Weiss, J. A., & Fardella, M. A. (2018). Victimization and perpetration experiences of adults with autism. *Frontiers in Psychiatry*, 9, 203. <https://doi.org/10.3389/fpsy.2018.00203>
- Williams, M. (2006). Can scientists be objective? *Social Epistemology*, 20(2), 163–180. <https://doi.org/10.1080/02691720600807468>
- Wiltshire, G. (2018). A case for critical realism in the pursuit of interdisciplinarity and impact. *Qualitative Research in Sport, Exercise and Health*, 10(5), 525–542. <https://doi.org/10.1080/2159676X.2018.1467482>
- Woods, R., Milton, D., Arnold, L., & Graby, S. (2018). Redefining critical autism studies: A more inclusive interpretation. *Disability & Society*, 33(6), 974–979. <https://doi.org/10.1080/09687599.2018.1454380>
- Yergeau, M. (2018). *Authoring autism: On rhetoric and neurological queerness*. Duke University Press.
- Zyphur, M. J., & Pierides, D. C. (2019). Statistics and probability have always been value-laden: An historical ontology of quantitative research methods. *Journal of Business Ethics*, 167, 1–18. <https://doi.org/10.1007/s10551-019-04187-8>

**How to cite this article:** Botha, M. (2021). Critical realism, community psychology, and the curious case of autism: A philosophy and practice of science with social justice in mind. *Journal of Community Psychology*, 1–19. <https://doi.org/10.1002/jcop.22764>

