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Understanding 'context' in realist evaluation and synthesis

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ABSTRACT

Context is a key concept in developing realist causal explanations but its conceptualisation has received comparatively less attention. We conducted a review to explore how context is conceptualised within realist reviews and evaluations. We purposely selected 40 studies to examine: How is context defined? And how is context operationalised in the findings? We identified two key 'narratives' in the way context was conceptualised: 1) Context as observable features (space, place, people, things) that triggered or blocked the intervention; assuming that context operates at one moment in time and sets in motion a chain reaction of events. 2) Context as the relational and dynamic features that shaped the mechanisms through which the intervention works; assuming that context operates in a dynamic, emergent way over time at multiple different levels of the social system. These two context narratives have different implications for the design, goals and impact of realist reviews and evaluations.

Introduction

In the late 20th century, theoretical frameworks applying 'contextual thinking' proliferated in the social sciences, such as systems theory, complexity theory, improvement science, implementation theory and so on. Despite these advancements, context is still often treated as an aside by researchers dealing directly (social scientists) or indirectly (i.e. health, environmental, economic scientists) with social systems. In recent years, researchers have been more considered about their battles with the issue of context in their causal explanations. Useful papers have flourished on how to operationalise context in realist (Ebenso et al., 2019; Pawson, 2013) and similar theory-driven evaluation studies (Coldwell, 2019; Shaw et al., 2018). It is beyond the scope of this article to discuss differences within realist ontologies and how critical and scientific realism differ (Chernoff, 2007). It is important to note; however, that Pawson and Tilley (1997) in their application of scientific realism for evaluation research consider that the mechanisms through which social programmes work will only operate if certain contextual circumstances are present. Since their initial publication, realist methodologies (both evaluation and synthesis) have multiplied in applied research across heterogeneous disciplines. Widely cited realist synthesis (Wong et al., 2013) and realist evaluation reporting and quality standards (Wong et al., 2016) have been published providing methodological guidance detailing, among others, how context is central to causal explanations. It therefore seems a useful juncture to take stock of the ways in which context has been conceptualised in realist research.

This paper examines how context has been conceptualised and applied within recently published realist reviews and evaluations. The article starts by providing an overview of the

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problem of context in the social sciences. After a brief methods section, a systematic review of how context has been applied in recently published realist syntheses and evaluations is presented. We identified two key context 'narratives': 1) context conceptualised as tangible, fixed, observable features that trigger mechanisms 2) context conceptualised as relational and dynamic features that shape the mechanisms through which the intervention works. We interrogated these narratives by discussing the different implications that they have for the findings of realist reviews and evaluations. Finally, we offer a 'more sophisticated approach to context' (Coldwell, 2019, p. 99) by suggesting some routes through the process of thinking analytically about context in realist investigations.

The problem of context in research

In the social sciences, conceptual confusion and inconsistent use of terms is a fundamental source of difficulty in theoretical frameworks and empirical analysis (Collier et al., 2006). We wish to avoid collapsing the debate into a discussion of what 'context is' or 'is not' (for reasons we elaborate on further later in the paper) but instead want to offer some useful routes through the process of thinking about context. Nevertheless, the reader should note that numerous definitions of 'context' can be found in the social science and evaluation literature (Fitzpatrick, 2012; Greene, 2005; Pawson, 2013; Rog, 2012). This leads us to argue that context seems to be an amalgam of an 'essentially contested concept' (Gallie, 1956) and a 'wicked problem' (Conklin, 2006; Rittel & Webber, 1973). Realist scholars acknowledge the importance of context but much of their debates about it are related to its 'intrinsic wickedness': Every context is essentially unique and there cannot ever be a definitive formulation of context. Realists embrace Boudon's (2014, p. 43) reminder that in the social sciences, it is impossible to talk about context in general terms, since context is always defined specifically:

> The question as to "What is context?" has actually no general answer, but answers specifically adapted to the challenging macroscopic puzzles the sociologist wants to disentangle.

According to this positionality, universal definitions of 'context' can be considered oxymoronic self-contradictions that aim to generalise 'unique' phenomena, which could only ever be context-dependent since they are inherently unique. Those challenging macroscopic puzzles mentioned by Boudon are understood differently when examined under a realist microscope than if they were examined under constructivist or positivist ones. Broadly, one could say that positivism fights context off, in its aim for 'context-free laws and to that it uses context-stripping methods' (Mishler, 1979, p. 2). For example, the randomised controlled trial (RCT) epitomises the positivist approach to the evaluation of drug effectiveness, but it is also commonly applied to social problems such as crime and health promotion. The RCT is held up as the gold standard for establishing the effectiveness of interventions and follows a successionist understanding of causality. The logic goes that creating a closed system that controls for extraneous circumstances (context) allows us to determine that intervention X was the cause of outcome Y. Significantly, RCTs treat context as a source of bias to be eliminated through randomisation and standardisation of the intervention (Van Belle et al., 2016). In this type of study, context is often conceptualised in terms of 'general circumstances' that are described as background information or mixed-up with implementation sites and troubles. Consequently, context becomes an annoyance to be minimised, obliterated or overcome.

Conversely, constructivists consider context as crucial for a better understanding of meaning in people's lives and refuse the idea of context as a static set of variables (Holstein & Gubrium, 2004) that could ever be controlled. For social constructionists, context is everything; there are as many different contexts as there are outcomes or individuals under study because all knowledge is both socially and individually constructed and interpreted. Thus, causation is understood in terms of how individuals construct causes and give them meaning – there may be multiple different

understandings of different contextual conditions and of how interventions lead to outcomes but no way of discerning between them.

Phoenix and Howe (2010, p. 141) described these two points of analytical departure between positivist and constructivist paradigms as 'top-down or bottom up'. Realism, however, has a 'middle out' stance: it argues that context can be considered the route to middle-range causal explanations (Merton, 1996). Lawson (1997) invoked the term 'demi-regularities' to argue that there is a semi-predictable pattern between contexts, underlying generative mechanisms and outcomes, such that these patterns are generalizable. More recently, Pawson (2013) termed these patterns as 're-usable conceptual platforms'. Thus, following Boudon's arguments, while it is not possible to make generalisations about what constitutes 'context' in isolation, it is possible to form generalizable, middle range causal explanations about the ways in which contexts interact with mechanisms to produce outcomes. These developments exemplify how realists understand that context has a broad scope, it is omnipresent, complex, dynamic, constantly changing and that it is also relational, agentic-creating and not simply moderating change (Coldwell, 2019, p. 109); and 'it can be perceived as something physical or a non-physical construct' (Pfadenhauer et al., 2015, p. 106). These distinct heterogeneous ontological positions influence the work of applied researchers. In the next section we focus on how realist researchers have applied contextual thinking in their practices to explore whether and how analytical departure has indeed taken place on studies positioned within the realist paradigm.

Methods

To understand contemporary use of context in scientific realist research, two decades since Pawson and Tilley (1997) influential work was first published, we conducted a critical review of current realist studies informed by our practitioner knowledge as realist researchers and scholars. At the start of our review, we identified and read key papers across the social sciences that discussed the concept of context – for example, Boudon (2014), May et al. (2016), Dixon-Woods (2014), Coldwell (2019), Rog (2012), and Shaw et al. (2018) to understand the range and scope of the ways in which context has been theorised, in order to define the scope of our review and inform our analysis. To identify realist studies, we adapted the search strategies used by Wong et al. (2016) (seeAppendix 1) to identify studies described as realist reviews or evaluations in the title and abstracts published in 2018 (n = 141).

As we were interested in their use of context, we limited our search to those that used the term 'context' in the title or abstract (n = 96); after screening titles and abstracts we identified 84 studies stating that they adopted realist methods. We then purposively selected 40 studies that reflected a range of study designs and paper types including realist reviews (n = 16), rapid realist reviews (n = 3), realist review protocols (n = 3), realist evaluation (n = 14) and realist evaluation protocols (n = 4). We read the full text of the papers to examine (1) How and when is context defined in realist studies? (2) How is context operationalised in the findings or results sections of realist studies? Our goal was not to produce a precise quantitative audit of the different ways in which the papers defined and used the term context. Rather, our analysis attempted to identify key patterns in the ways in which the term and the concept of context are mobilised across this sample of papers. To do this, we read each paper in full and extracted data on the aims and objectives of the study, study design, whether context was defined or not, how it was defined and how it was articulated in the findings. This allowed us to produce a matrix of text for each paper; we analysed this text to first produce a typology of the ways context was articulated. We then examined the underlying assumptions implied by these conceptualisations and explored how the 'story' or 'narrative' of context was explained within each empirical study. We looked at how context was mobilised as an analytical tool to produce causative explanations in the findings. We then compared across papers to identify commonalities and differences in the ways context was conceptualised and used to construct causal explanations.

Findings

Overview of papers

Of the 40 papers in our sample, 18 (45%) explicitly defined context. The rest used the word 'context' but did not define it. This is surprising given the centrality of this term in realist causal explanations often facilitated with heuristic techniques such as configurations of context-mechanism-outcomes also known as 'CMOs' (Marchal et al., 2018). There seemed to be significant variation in how context was articulated. Context has often been defined by realist scholars as 'social rules, values, sets of interrelationships' that operate within times and spaces that either constrain or support the activation of programme mechanisms (Pawson & Tilley, 1997, p. 70). Sayer for example, (Sayer, 2010, p. 75) refers to context as the 'material resources, social structures, including conventions, rules and systems of meaning in terms of which reasons are formulated'. The important distinction in these definitions is that context is no longer reduced to a set of things (a list of tangible, material facts and inputs, which often includes consumables and staff) but as systems of interactions: meaning, rules and sets of relationships that shape stakeholders' reasoning in response to programme resources and consequently, influence programme outcomes.

In the papers reviewed, those who defined context used different approaches; and definitions were normally located in the introduction, background or methods section. For some, context was defined in descriptive terms as simply the conditions or circumstances into which a programme was introduced. This was often illustrated with a finite number of setting components that were mainly categorised geographically (e.g. local, regional or national level) or in terms of personal characteristics of the target population (e.g. socioeconomics). Generally, context was defined in ways that encapsulated an understanding that it has an important bearing on the mechanisms through which the programme worked. In our findings, however, we identified two overall 'narratives' in how context was used in definitions and correspondingly, as an analytical tool in the construction of causal explanations. In the next section, we consider how context was defined across the realist studies reviewed.

Defining context in realist evaluations and syntheses

Context as 'observable features' or 'things'

There was a tendency to define context as features that 'triggered', 'enabled' 'supported' or 'facilitated' the intervention or that 'blocked' or acted as 'barriers' to the intervention. These were often defined as 'things'. For example, one paper defined context as [our italics] '*aspects* of the background and setting that may allow or constrain agent's actions' (Son et al., 2019, p. 124) while others identified context as '*something* that can block a mechanism' (Ní Shé et al., 2018, p. 201) or '*anything* that triggers or modifies a mechanism' (Mathias et al., 2018, p. 181). These 'thingified' contextual characteristics were described as operating at different levels of the system; for example, Steenkamer et al. (2018, p. 228) articulated context as 'descriptions of circumstantial factors on a local, regional or national level'. These factors across levels tended to represent what Coldwell (2019) terms the 'observable' features of context in terms of space, place, people and things. Implicit within these articulations of context is the idea that context operates at one moment in time and sets in motion a chain reaction of events that are either conducive or not to the successful operation of the intervention. This approach to context lends itself to the idea that one can identify and then reproduce these contextual features in order to optimise the implementation of the intervention as intended. Indeed, this was the explicit aim of a number of studies in our sample. Some, for example, wanted to understand 'which contexts enhance or hinder the effectiveness' of intervention X so that the implementation of intervention X could be improved (Steenkamer et al., 2018; Thurlings & Den Brok, 2018).

Context as 'relational and dynamic' features or 'forces/interactions'

In another group of papers, context was enunciated very differently and more consistently with what Coldwell (2019) argues are the 'underlying features' of context. For example, Kerr et al. (2018) in their realist evaluation of a programme for children's with life-limiting conditions transitioning to adult services observe that context

> is comprised of individuals, interpersonal relationships, institutional settings and infrastructure (Pawson, 2013) ... . Interventions are thought to work through mechanisms triggered in particular contexts. Mechanisms are located in the reasoning, perceptions, beliefs and resources of those affected by the programme (Higgins et al., 2015; Pawson & Tilley, 2004). The outcomes are the result of mechanisms operating in a particular context (Pawson & Tilley, 1997) with intended outcomes being what programmes strive to achieve (Chen, 1989).

On this account, the conceptualisation of context moves away from seeing context as a 'thing' but as features that are relational and dynamic. These papers also engender the idea that context shapes the mechanisms through which the intervention works. Understanding this *interaction* between context and mechanisms is key to explaining how and why the intervention works. They conceptualised context not in terms of what it *is* but in terms of what it *does*. For example, O'Halloran et al. (2018, p. 796) on their realist synthesis of advance care planning for people with end-stage kidney disease clarified how

> When an intervention is introduced, it changes the context (by providing further reasoning, opportunities, permissions, legitimations, authorizations, and limitations), so presenting people with a different set of circumstances in which to exercise agency, leading to different outcomes.

These definitions lend themselves to the idea that the task of evaluation is to *explain* how and why context *shapes* the mechanisms through which the intervention works and thus explain why an intervention might work differently in different contexts. Such knowledge might then be used to understand how interventions might be targeted at or adapted to fit within different contextual conditions. This is a subtle, but important difference to the idea that one can identify and then reproduce the 'optimal' contextual conditions to support the successful implementation of an intervention.

Operationalising context in causal explanations of realist evaluation and syntheses

Now, we consider how context was operationalised within the findings of the papers reviewed. There were wide variations in how realist tenets were expressed across the papers and differences in how a CMO configuration is understood and mobilised in the process of explanation building in those analytical journeys. The two broad narratives in which context was defined (things or forces) were also echoed in how context was operationalised in study findings. For example, the commodification of context identified in the previous section was also evident in papers describing the context into which the interventions were delivered, implying that context is something that can be 'boxed' into controlled or controllable features. This is illustrated by the following explanation of a realist review of alcohol interventions for adolescents (Newton et al., 2018, p. 223):

> Brief alcohol interventions were provided in a context of either indicated or universal delivery. Indicated delivery interventions were provided to adolescents who met a certain threshold score on a screening instrument (e.g. low-to-moderate risk for alcohol problems) or endorsed specific items on a substance use- or alcohol-based instrument.

Here, the underlying features of 'universal' or 'indicated' delivery are treated as unproblematic; and it is assumed that all studies achieved the provision of these different types of interventions in the same way. Others papers, however, mobilised context in their papers as complex, relational and dynamic by explaining or reflecting on what these contextual circumstances meant and how these may look like for different subgroups.

Across the papers reviewed, three main patterns were identified in the way realist researchers utilised contextual thinking when developing middle-range theories (Merton, 1968) and explaining them in their results sections: a) Context as a collection of single timeless components, b) context as configurational but formulaic; and c) context as configurational with explanatory power.

Context as a collection of single timeless components

Some papers listed catalogues of contexts and catalogues of mechanisms, rather than configurations of causal patterns, as noted previously by several scholars (Marchal et al., 2012; Pawson & Manzano-Santaella, 2012; Wong et al., 2016). In some of these papers, contextual features were listed in general terms and then divided into those which acted to support the intervention and those that did not. For example, Thurlings and Den Brok (2018, pp. 23–30) in their realist synthesis of effective peer (student) teacher learning activities, produced one set of hypotheses for 'mechanisms' and another set for 'contexts'. Despite this distinction, almost all findings followed the formula of 'intervention X is more effective when feature X is present'. Mechanisms often described features of the intervention itself (for example, having a feedback component, duration of the teaching etc.). They also noted different contexts that seemed to influence whether peer teacher learning (PTL) activities are effective, which often relate to the characteristics of individuals or the environment, for example:

> PTL activities become more effective when personal factors, such as motivation and beliefs, are taken into account. The findings showed that personal factors of participating (student) teachers influenced PTL activities. Motivation and prior knowledge and experience most especially were demonstrated to do so . . . . for instance, student teachers who were committed to self-improvement reported to have welcomed constructive feedback from their peers . . . .

This analysis finds an interesting relationship between two very complex characteristics that defined a population subgroup: those committed to self-improvement who welcomed feedback. However, 'commitment to self-improvement' is positioned as a fixed property of an individual that operates in a direct, straightforward manner on outcomes.

Context as configurational but formulaic

In some of the papers reviewed, loose context-mechanisms-outcomes configurations (CMOs) were presented (sometimes, simply with arrows between C' and M's and O's), roughly approximating to the template of 'in these conditions, the following mechanisms occur and produce these outcomes'. For example, in their realist case study to understand how nurses prevent and manage pressure injuries (shortened to PMPI) in one hospital in Singapore, Teo et al., 2019, p. 8) observe that

> Presence of communication agents, along with a culture of teamwork, can maximise opportunities for supportive communication regarding PMPI, which enhances the coordination and continuation of care.

What seems missing from this account is an articulation of what is about communication agents and team work that provide opportunities for supportive communication and why these two different components (agents and team work) support co-ordination and continuation of care. Although we understand that peer-reviewed journal articles have many restrictions including word count and journal readership, it seemed that these accounts did not include an explanation of how and why contexts and mechanisms interact to produce particular sets of outcomes. Therefore the causal processes related to how programme outcomes are caused by underlying mechanisms remained unclear.

Finally, a common feature across many papers was the tendency to interpret context as single components that individually 'trigger' mechanisms which will then 'trigger' single outcomes operating at one level of the system. Typically programme theories were refined by writing statements such as 'With this (C), providers were better able to do this (O) through this action (M)'. The risk of this formulaic approach is that it renders something that is inherently complex and

operating at multiple levels of social systems into a simplistic causal explanation that is often not substantiated by the empirical data collected in the study. Even when several contexts are quoted at macro, meso and micro levels, the interrelationship between them is not always converted into a complex explanation. Significantly, and despite this apparent itemisation, context remains a neutral background that plays no role in the explanation and, despite being incorporated in a configuration, it remains a single component. For example, in Thapa et al.'s (2018) realist review to understand how stigma is reduced in relation to HIV testing in low- and middle-income countries (LMICs), one strand of their analysis explores how interventions that seek to reduce the fear of having a HIV test increase uptake. As part of this explanation, they re-interpret the findings of papers through a realist lens and code complex social phenomenon as C's, M's and O's, implying simple cause-effect relationships as this extract from their results section illustrates:

> in a few African countries including Uganda, anti- homosexuality laws (C) had a negative effect on stigma reduction and HIV test uptake among men having sex with men (MSM) and the transgender population because of a perceived threat of disclosure of sexual behaviour and criminalization. In addition, the mandatory reporting of a positive HIV test report policy (C) exacerbated the perceived threat of unwanted disclosure and discrimination and led to a lower uptake of HIV testing services among at-risk populations and the general population (O). (p. 16)

We acknowledge that simplification is inevitable in capturing the complete causal configurations. This account abstracts away from the political, religious and human rights dimensions of 'anti-homosexuality laws' and treats these laws as a single, bounded 'thing' that acts as a 'barrier' to having a HIV test. Policies that interact in complex ways with these laws, such as the mandatory reporting of a positive HIV test are reduced to factors that 'moderate' or 'amplify' that effects of these laws, without explaining how and why this occurs. This explanation could have been developed further by considering broader social science theories that seek to understand the mechanisms through which 'mandatory reporting' works, how they interact with other policy instruments and its unintended consequences (Pawson, 2002).

Context as configurational with explanatory power

A smaller number of papers produced configurations that incorporated causal explanations in which context was considered a force. Here, we provide two examples by Mukumbang et al. (2018) and Kerr et al. (2018). Mukumbang et al. (2018) explored how an antiretroviral therapy (ART) club in South Africa worked to support adherence to therapy. They observed that

> if patients receiving ART share a healthy relationship with the club facilitator, then they are likely to remain in care and adhere to their medication because they trust the club facilitator and they perceive that the facilitator provides them with social support towards managing their disease. (p. 11)

This explanation makes clear what is about the context – (a healthy relationship between patients and club facilitators) that leads to adherence. The relationship is therefore defined as one where patients feel that the facilitator supports them to manage their disease and this engenders trust. In this way, context is no longer presented as static but a dynamic set of complex relationships that need to occur between patients and facilitators.

Kerr et al. (2018) in their evaluation of care transitions in children with life limiting conditions, they explain how

> Orientating the young adult to adult services (intervention) engenders a sense of ownership in participating in the transition to adult care (mechanism). This leads to a young adult who attends clinic and engages with medical treatment (outcome). This outcome is more likely to be achieved if service providers have the time to deliver services that place the young adult at the centre of their care (context).

This explanation provides an account of what it is about 'having time' that leads to a sense of ownership in the young people – time here is important because it often allows providers to create a service that places the young adult at the centre of their care and it is this that engenders sense of

ownership. Thus, 'time' is not treated as a 'thing' (measured in hours and minutes) but as a force (measured as what happens during those hours and minutes) that, if used in a certain way (placing young adults at the centre), enables a response.

Jackson and Kolla (2012) proposed an analytical strategy that emphasises identifying not factors, but relationships between context, mechanism and outcome ('linked dyads and triads'). Considering their framework, our scoping review findings and our practitioner knowledge as realist researchers, the second part of this article reflects on why realist studies should aim to move from 'context stripping' or 'context-aware' claims to a more realist 'context-driven' explanations.

Discussion

Our review demonstrated the importance of understanding ontological positionality to be able to assess how and whether realist studies travel through the route of constructing middle-range theories and the crucial role of context in that journey. Interestingly, some realist reviews and evaluations seem to conceptualise context in a way that is closer to a positivist view of context than to a realist one, that is: a limited number of things that are static and identifiable. In other realist studies, context is conceptualised in terms of underlying, dynamic, emergent features and their focus was on understanding the interactions between contexts and mechanisms. Here, we show how this latter conceptualisation of context might enrich future realist research.

Moving from the 'reification' of context to context as a 'force'

Contexts are not just things or people (material and social) but psychological, organisational, economic, technical and so on relationships (forces) that interact and influence each other. The settings into which programmes are implemented do not, in and of themselves, constitute context in the realist sense. However, features of the way those settings operate can. Health promotion programmes, for example, may be implemented in hospitals, General Practice (Family Medicine) clinics, prisons, and schools. There are differences between those types of settings that may affect how the programme works; but there will also be differences within each type of setting (Greenhalgh et al., 2017). The programme may work in some hospitals but not others, and some prisons but not others. A realist investigation seeks to identify *what it is* within the setting that shapes whether and how the programme works. Thus, as Maxwell (2012) points out, realists are not just arguing that causal relationships differ across contexts (they clearly do), but they are making a more fundamental claim (Greenhalgh et al. 2017). That is, 'the context within which a causal process occurs is, to a greater or lesser extent, intrinsically involved in that process' (Maxwell, 2004, p. 6). In other words, context is inextricably enmeshed with the mechanisms through which a programme works. In short, this means that context should not be understood as descriptive but as analytical (Boudon, 2014), which in realist terms can be interpreted as the need to think of context in relation to particular mechanism(s), and as a constituent and interconnected element of a context-mechanism-outcome configuration, not as a separate entity.

However, if context is so intrinsically entangled with mechanisms, this begs the question of whether there is a need to distinguish between the two and if so, how? We have some sympathy with Dixon-Woods' claim (2014, p. 98) about distinguishing mechanisms from contexts in realist studies:

> I am inclined towards the view that discussions of what constitutes a mechanism rapidly become unproductive (and tedious), and that it is often impossible, close up, to distinguish mechanism from context.

This is also an observation made by Shaw et al. (2018) as they related the difficulties they experienced in distinguishing contexts from mechanisms in their exploration of how integrated community care models in primary care were implemented. Shaw et al.'s (2018) conclusion is that the distinction is an analytic decision made by the researcher in relation to what it is about how the

intervention works and why that they are seeking to explain. In some explanations, a phenomenon plays a role as a mechanism while in others it features as a context. Jagosh et al. (2015) also illustrate this point in their realist evaluation of community-based participatory research by demonstrating how trust can function as a context, in the sense of operating as a pre-condition for collaborative work, or as a mechanism in articulating how participants responded to partnership activities. These arguments have important implications for a realist understanding of context. One reading is that they imply that in the social world, phenomena do not intrinsically operate contextually or mechanistically; and thus have no real distinguishing features through which we can set apart a context from a mechanism. It could be argued that it is difficult to reconcile this position with the realist contention that contexts and mechanisms are real, rather than just analytic constructions. However, we would argue that findings such as that trust sometimes operates mechanistically and at other times contextually, do not deny the reality of the different ways in which trust operates, or negates the value of thinking in mechanistic or contextual terms. Rather, together they offer a more complete (though still, inevitably partial) understanding of trust. Thus, researchers distinguish between contexts and mechanisms because it is analytically useful to do so in producing a causal explanation, but this explanation must also acknowledge and embody an understanding that contexts and mechanisms are enmeshed and operate in relation to each other.

Moving from the configurational formulaic approach to the configurational explanatory analytical approach

Pawson and Tilley (1997) famous diagrammatic representation of causality using three key components (CMOs) could be considered the ultimate organizing and analytical tool, though Pawson (2013, p. 21) himself has called it an 'ugly circumlocution'. However, Maxwell (2012) noted that conceptual frameworks seek to identify 'presumed relationships' among key factors to be studied, which have practical methodological implications of considering context not as a descriptive tool but as an analytical force. A particular challenge for realist researchers is how different 'types' of context (i.e. material, psychological, organisational, economic, technical, cultural) interact and influence each other. Moreover, contexts operate at all levels of social systems, and the different levels interact and influence each other. They are multi-layered entities operating in borderless micro-meso-macro systems. Context is 'layered' (Pawson, 2016, p. 49) and this is why attempts to classify contextual factors usually end up referring to levels. For example, Vanderkruik and McPherson (2017) categorised them in two levels: primary and secondary. Coldwell (2019) classifies them as observed contextual factors and underlying features. Pawson (2013, p. 37) as other classic evaluation theorists (Chen, 1990; Weiss, 1995) operationalised context by classifying it in '4 Is': individuals, interpersonal relationships, institutional settings and infrastructure (cultural, economic and social aspects). However, just as it is important to think about the ways in which context interacts with mechanisms in any causal explanation, so it is also critical to think about how different layers of context interact with each other, rather than simply providing a description of each layer.

The interconnections between structural and microsocial processes are central to social theory debates and have been examined from several theoretic traditions (Boudon, 2014). In the social sciences, Coleman (1994) was one of the first exponents of the micro-meso-macro link and how to think about transitions and relations between micro and macro. Archer (1995) addressed the structure vs agency dichotomy by maintaining that 'micro' and 'macro' are complex relational terms that self-transform (morphogenesis) in complex temporalities 'meaning that a given stratum can be "micro" to another and "macro" to a third etc.'(p. 9) because 'micro' and 'macro' do not mean size (small or large), but they mean local and systemic interlocking interactions. The implications that all this body of literature has for empirical studies is that data collection and analytical strategies should account for the many underlying features of context identified by us and

others like Coldwell (2019) – that context is dynamic, historically located, relational and agentic – indeed, reflecting many of the features of complexity expressed by Pawson (2013).

In addition, contexts are time-sensitive: they do not only operate in space but they also operate in time and sometimes, they are only useful during time-limited frameworks. That is, there is a dynamic interplay between programmes and contexts which evolves and changes over time. Programmes may change the context in which they are implemented, which in turn may prompt changes to the resources offered by the programme, which subsequently shapes a different set of mechanisms and thus outcomes. For instance, Ball et al. (2016) found that the aims and functions of referral management centres (RMCs) evolved over time in response to changes in the local service network that occurred as a result of their implementation. Some RMCs were originally developed to collect data on referral volumes by speciality and the availability of this information enabled health commissioners to introduce new services to deal with the demand. This in turn necessitated a change in the function of the RMC to one of clinical triage to ensure the 'right' patients were referred to the new services. Changes in the context over time can also constrain the intended mechanisms through which the programme is expected to work and thus limit its impact (Greenhalgh et al. 2017). For example, the majority of weight-loss programmes are well known to fail in the long term (Tsai & Wadden, 2005), as the context experienced by the dieter (life events, social engagements, holidays) increasingly constrains motivation over time. In summary, time, history and sequence (Pawson, 2013, p. 39) are essential contextual components of any realist explanation of for whom, in what circumstances and why interventions or programmes 'work'.

Finally, we are mindful that, in Pawson's own words when we discussed this paper with him, 'context' can mean 'absolutelybloodyeverything' and so it is very difficult to perceive that its usage in realist research is reduced to the two forms identified in this review. Nevertheless, realist researchers should be aware of the 'unstable" and complex reality of context (Heritage & Drew, 1992, p. 5) and how this shapes people's responses and the social structures that embed programmes, beliefs and what people say. Researchers should be brutally honest about the limits of their empirical data and what claims can be made on what was tested in their study and how.

Conclusion

For realist scholars 'context' is a key concept in the construction of all explanations. There are, however, relatively few studies that target context as their centre of enquiry, with 'mechanisms' more often being the focal point of methodological discussions and context playing a supporting role. Perhaps this is because there are a number of lenses from which context can be understood and, in different applied research disciplines, numerous different dimensions of context can be briefly described with few being examined in detail. These perspectives, dimensions and practices interact dynamically and efforts to dissect the explanatory value of context in causal explanations are quickly become a highly complex endeavour (Vo & Christie, 2015).

Our paper has attempted to project context from the background to the foreground (Rog, 2012). In this study, we identified two distinctive 'context narratives' in published realist studies. We acknowledge that the use of context in realist research is unlikely to be reduced to these two forms of usage only. However, we argue that these two narratives characterise important distinctions that have different implications for the design, goals and impact of realist reviews and evaluations. Seeing context as a 'feature that triggers' suggests that one can identify and then reproduce these contextual features in order to optimise the implementation of the intervention as intended. This reinforces a view that it is possible to isolate 'ideal' contexts that determine the success of an intervention. Seeing context as a dynamic interaction between contexts and mechanisms implies that contexts are infinite, embedded and uncontrollable but knowledge gained about how contexts and mechanisms interact can be used to understand how interventions might be targeted at broadly similar contextual conditions or adapted to fit with different contextual conditions. This latter approach eschews the idea that there are 'optimal' contextual conditions but argues that successful implementation requires

a process of matching and adapting interventions to different evolving circumstances.

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