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Clarifying realist analytic and interdisciplinary consensus processes in a complex health intervention: A worked example of Judgemental Rationality in action

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Article

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Abstract

Judgemental rationality is infrequently referenced within discussions of Realist Evaluations. Judgemental rationality refers to researchers' capacity to assess which, potential, meanings provide the most credible explanations. In evaluation work, rationale for analysis is provided, though rarely do we see how an evaluator made judgements between competing theories, and which theories were discarded and why. We provide a worked example of the application of judgemental rationality. The Engager intervention offered support to prison leavers with common mental health problems. The data for 24, purposively sampled, participants from the intervention arm of the trial were integrated. Bhaskar's DREIC, a five-step analytical procedure, was used to transfactually theorise and interrogate the inferences made within, and across, cases. The findings demonstrated that the intervention was more effective when practitioners developed an in-depth understanding of the participant. We recommend that intervention developers look for ways to enhance therapeutic competencies and judgemental rationality in practitioner teams.

Keywords

interdisciplinarity, judgemental rationality, process evaluation, realist evaluation, transfactual theorising

Introduction

Central to realist evaluation is the identification of multiple complex causal mechanisms, which underpin social activities within changing systems. The Medical Research Council's (Craig et al., 2006) guidance emphasises understanding how interventions work in terms of mechanisms and context, citing Realist Evaluation as one of several appropriate methods. A transformative mechanism in our realist theory of change relates to shifts in thought processes where the individual begins to believe that they have the ability to make positive changes in their lives. In testing out our theory, we drew on Critical Realist understanding of causality to examine the interplay between causal mechanisms existing across physical (i.e. environmental), social (i.e. market and family), and psychological or conceptual (i.e. categories or ideas) domains (Mingers and Standing, 2017). This involved identifying Mechanism

Activations (evidence for shifts in beliefs, habits of thinking, emotions or behaviours in participants) and Mechanism Actualisations (evidence of mechanism activation but this may or may not lead to desired outcomes being achieved depending on other mechanisms occurring simultaneously).

Theories about unseen mechanisms, especially with limited evidence, are necessarily imperfect and should be considered provisional. This means that, in drawing conclusions about complex interventions, researchers use what critical realists refer to as ‘judgemental rationality’ to examine the often limited evidence and provide a rationale as to why their interpretation of what is happening is both credible and justifiable. Judgemental rationality is relevant to all realist and non-realist evaluations conducted in parallel to trials of interventions because of the dual challenges of understanding what happened in the trial and trying to improve intervention theory; both rely on fallible human reasoning.

Researchers judging uncertainty

Bhaskar (1978) understood judgemental rationality as integral to the study of ontology (the study of being), while acknowledging that science is never context free. Judgement refers to the researcher’s capacity to think reflexively, while the rational element supports judgement through analytic processes. However, there are few documented empirical examples of how the concept has been used to make sense of phenomena.

Realist evaluators often cite Pawson’s process of reasoning (juxtaposition, reconciliation, adjudication, consolidation, and situating). This analytic process helps to explore outliers and silences in the data and situate findings within their context(s). Pawson (2013: 84) alludes to judgemental rationality in his chapter on ‘informed guesswork’ where he acknowledges that realists need to ‘admit to a permanent state of partial knowledge’. Pawson’s reasoning process undoubtedly brings rigour to the analytic process but the researcher’s imperative to provide a succinct account of the findings means we are often left with a mere glimpse of how judgemental rationality may have been used. The rationale is provided but the granular detail of how an evaluator made judgements between competing theories, and which theories were discarded and why, is often absent. This lack of detailed explanation prevents evaluations being scrutinised and learning is lost.

Tensions in the data challenge sense-making but additional scrutiny and interpretation is needed if the researcher is to avoid what Hibbert et al. (2010) describes as ‘benign introspection’ where the researchers underlying dispositions limit the scope of inquiry. In this worked example, we integrate theory and practice to demonstrate how judgemental rationality can be optimised through utilising transfactual analysis to examine 24 longitudinal case study participants in receipt of a complex health intervention: See Box 1 for details of the Engager intervention. Transfactual theorising is an abductive process in Critical Realism, which involves using theory to reflexively scrutinise hunches to find the most likely explanations for participant responses (Blom and Morén, 2011). Bhaskar’s (2016) DREIC is a procedural method for transfactual analysis which helped us explore patterns of delivery, mechanism and outcome within the case and across participant cases (see Box 2 for details on the DREIC procedure). This article also details a process for how to use judgemental rationality within interdisciplinary consensus making, during programme theory refinement. Where we could not be definitive, transfactual theorising enabled us to make propositions and grade the validity of our explanations on the limited evidence available.

Box 1. The Engager Intervention and Trial

Engager was designed to offer an integrated person-centred intervention underpinned by a Mentalisation-Based Approach (MBA) to support prison leavers with common mental health problems. The Engager Randomised Control Trial (RCT) used a range of outcome measures to evaluate improvements in mental health and social support outcomes, comparing those who received the Engager intervention and a control group who only had access to standard services. The trial is completed and a paper has been submitted (Engager, 2016). Engager Practitioners were selected from a range of health and social care backgrounds, including support workers, drug workers, and third sector providers; they often had limited therapeutic experience but were trained and supervised by clinical leads. Engager Practitioners were supported through an implementation delivery platform, which included training, team supervision, a manual, and specialist therapeutic supervision.

Engager practitioners were encouraged to offer a range of practical and emotional support (see Brand et al., 2019, detailing the formative process evaluation, which developed an evidenced based logic model). Using MBA the intervention aimed to activate positive mechanisms for change which would enable a participant to recognise the links between feelings, thinking, actions, and behaviours. Practitioners and participants then worked together to build a shared understanding which was developed into a shared action plan around the participant's personalised goals.

The main trial process evaluation logic model detailed multiple causal pathways for 34 possible outcomes (i.e. a reduction in substance use). Short-term outcomes were designated as steps towards other causal chains; for instance, gaining a participant's trust was a necessary precursor for doing more in-depth therapeutic shared understanding work.

Box 2. Bhaskar's (2016) DREIC analytic procedure

1. *Description* involves noting down observations about a participant's pathway
 - Is the intervention creating opportunities to develop social capital, self-agency, and psychological competencies?
2. *Retroduction* is an iterative process of explaining descriptive observations involving hypothesising about a range of possible mechanisms that led to observed outcomes such as effect of an individual's existing support network. Carrying out reflexive retroductive research involves research teams to grappling with their own predispositions about how they conceptualise society, structure, disadvantage and moral agency and how that might inform the analysis.
 - Why it worked, why it didn't, and did the resource offer activate positive mechanisms for change?
 - Can we see evidence of intervention mechanism activation (i.e. shifts in beliefs, habits of thinking, emotions or behaviours in participants)?
 - Can we see evidence of mechanism actualisation: evidence that a mechanism has been activated but this may or may not lead to desired outcomes being achieved?
 - Was the intervention not strong enough, or not delivered as intended?
 - Are achieved outcomes the result of mechanisms operating externally to the intervention?
3. *Elimination* entails re-examining empirical data to determine which of the competing theories identified best fits with the available evidence within specific cases, and across cases. Evaluators attempt to resolve tensions and ambiguities though the evidence in some cases may be partial and we may not be able to reach a full conclusion. Grading the validity of the hypotheses in the retroductive stage is a key aspect of elimination work.
4. *Identification* of specific mechanisms at work. Researchers arrive at identification after completing elimination work where the causal explanation for what has happened offers 'the best fit for the evidence available' (Price, 2014: 72). This would detail any rival logics and negative effects.
5. *Correction* of initial theory and elaboration of refined theory with detailed contextual contingency in relation to operation of mechanisms.

Method

To test out the theory of the intervention and examine the underlying causal mechanisms that account for differing responses (e.g. engagement/disengagement) to Engager support offers, we used a realist-informed qualitative case study approach.

Data collection

A series of data were collected for the Engager Randomised Control Trial (RCT) and parallel process. Twenty-four trial participants who had received the intervention were purposively selected for a realist-informed qualitative case study analysis. A purposive sampling framework was used to select these 24 participants, which was informed by the trial's primary outcome measure for psychological distress, the CORE-OM (Evans et al., 2000) and representation across sites and practitioners. There was no prerequisite score on the CORE-OM to take part. We aimed to recruit participants across the range of scores on the CORE-OM to explore the response to the intervention who demonstrate differing levels of psychological distress at baseline. In the latter stages of data collection, opportunity sampling was employed to recruit participants and ensure the inclusion of post-release data. The range of data that we had for each participant was incorporated into the case studies. This consisted of semi-structured qualitative interviews at different time-points (pre-release from prison, 1 month after their release from prison, 6 months and 12 months), the researchers ethnographic field notes of Engager intervention sessions between practitioners and participants, practitioner activity logs, realist interviews with Engager Practitioners, interviews with other service practitioners working with the individual, and when possible the participant's family/friends. Realist interviews were not carried out with participants because there was a potential power imbalance in the prison setting, where participants were particularly vulnerable. Instead, open questions were used to assess the value participants place on Engager support followed by more direct questions about Engager support.

Ethics

The study received National Health Service (NHS) Ethical approval from the National Research Ethics Service (NRES) Committee East of England–Essex Research Ethics Committee (reference number 13/EE/0249); and the National Offender Management Service approval (ref: 2015–283). Local NHS Research and Development approvals were obtained from the health care providers in each prison establishment.

Data analysis

Our analyses combined deductive and inductive approaches. We deductively identified elements of participants' experiences which, positively or negatively, corresponded with our programme theory while remaining open to fresh inductive insights which would help us explore the complexity of the case. We coded and then compared all the data sources for each individual using the NVivo-version 11 data management tool. The data underwent a within-case analysis in which two researchers, S.R.B. and L.W., considered how each piece of data related to both our realist theory of change and the rest of the data for that participant. S.R.B. and L.W. immersed themselves in this data individually and then compared their findings and impressions. They jointly produced depth documents of their findings and summarised the key points

of their findings in ‘case study stories’. Six of these case study stories were presented to, and interrogated by, a sub-group of the wider project study team which included academic and practitioner representation. The six cases chosen to present to the wider project team were selected on the basis that their participant data provided the most evidence for when mechanisms led to sustained change and when they did not. Having agreed key issues, themes, conflicts and silences a cross-case comparison was undertaken. Five of the 24 case studies were dropped from the cross-case analysis because we did not have sufficient data to make generalisations. These five participants had disengaged from the study shortly after their release from prison which meant we only had their pre-release prison interview and the views of the practitioner to draw on. The cross-case comparison of 19 cases were grouped together, consistent with emerging patterns in outcome and mechanism activations. The DREIC procedure was then used to explore observed outcomes and track back to examine the multitude of interacting mechanisms that underpin differing participant pathways (the five steps of the DREIC are outlined in Box 2).

Worked examples of applied methods and results

The combined method and results document a worked example of three stages of our process:

- A within-case study detailing the application, and findings, of the DREIC procedure and transfactual theorising.
- A cross-case analysis which utilises judgemental rationality to manage ambiguity.
- Consensus building within our interdisciplinary team.

Within-case analysis: Applying DREIC and transfactual theorising in the case of Adam¹

Describing the case. In the first stage of the DREIC, the researcher must establish a basic description of antecedents, events and outcomes of interest (in bold see Box 3). We recognise that this case study account offers a partial interpretation of Adam’s sense-making. Without inferring causality, the purpose is to identify relevant factors that might helpfully inform the next stage of the analysis: retroduction.

Box 3. The Case of Adam

Adam, 27, served a sentence for armed robbery. In a pre-release interview from prison, he explained that the motive for this crime was to fund his heroin addiction which he struggled with since the age of 14. Adam spent much of his childhood in and out of care and was estranged from his family. Adam was keen to not use heroin after his release from prison. Adam had a long-term partner, whom he lived with. His probation officer made it a release condition that Adam could not live with his partner (also a recovering addict) due to concerns that the relationship might undermine his recovery. Adam was concerned that he would be at risk of relapse if placed in the hostel arranged by his probation officer. The Engager Practitioner suggested that Adam stay at his partner’s parental home which his probation officer agreed to. This initial conflict **left Adam anxious about attending probation appointments and he remarked to his Engager Practitioner that he was uncertain he would be able to remain calm.** Adam’s Engager Practitioner supported him by taking him to his compulsory meetings with probation.

(Continued)

Box 3. (Continued)

Adam maintained good engagement with probation and a drug and alcohol service. Due to the good progress over 3-month period the probation officer permitted Adam to move back in with his partner. Adam began to reuse heroin shortly after the intervention had finished. His **relationship with his partner had also broken down** and he was on the cusp of eviction from the house they shared together. However, rather than his usual pattern of committing crime to fund the addiction, **he decided to seek support from a new key worker** at the local drug rehabilitation service. He reported at his 12-month post-release interview that **he felt he was back onto the path of recovery.**

Retroduction. Before we could explore the different causal inferences that might account for the outcomes, we needed to be reflexive about the sensitising concepts that would inform the analysis. Realist theories pertaining to human agency, enablements and constraints were applied to assess an individual's progress.

Agency. In this case study, we were looking for indicators of how Adam made sense of his circumstances. In addition, we were sensitive to social influences, antecedent events, current circumstances and future projections about life after prison. We wondered about the effect of adverse experiences described from his childhood and their influence over his resilience to manage the difficulties and challenges of living in the community.

We were particularly interested in how Adam used his agency to develop strategies to pursue goals and if he could recognise the enabling and constraining factors in his situation. As his capacity to reflect improved over time, we examined the evidence to establish its cause and whether the intervention played a role in achieving this.

Prominent realist and other theorists whose work has significantly contributed to the concept of human agency influenced our thinking. Critical realist, Margaret Archer (2000), for example, understands individuals as partly socially conditioned, although not without reflexive thought. Archer has been critical of Bourdieu's (1990) concept of the habitus and its mediating function between thought and feeling; shared cultural values; norms and contexts. However, we agreed with Elder-Vass (2012) that an individual may be able to reflect on some behaviours, while other aspects may be more influenced by their internal socialised habitus. We therefore looked for instances where Adam used his agency to meet his own ends, and indicators where his reflexive capacity was fractured. If Adam's motivation for change dissipated we would not suggest that this necessarily points to a fractured reflexivity. Indicators of fractured reflexivity relate more to contradictions between behaviours and motivations for change.

Enabling and Constraining Factors. In exploring Adam's response to intervention support, we looked to identify the diverse ways he might be enabled or constrained to pursue his goals. We sought to avoid collapsing complexity into a discrete number of context aggravates (i.e. social determinants of health). Reducing complexity can lead to crude comparisons between Adam's case and other case studies. Retroduction required us to examine the complexity of the case by exploring how participants were enabled and constrained at different levels of analysis (individual, interactional, cultural, socio-economic, psycho-social and physical levels) (Houston, 2010).

Elimination. Elimination entails re-examining empirical data while using the sensitising concepts established in the retroductive stage to reappraise our initial interpretations of the case and consider which of the competing theories best fits with the available evidence.

Agency. In Adam's pre-release interview from prison, he reported that he had 'overcome' addiction in the past and seemed reasonably confident that he would be able to do so again. He then added that the relapse and criminal offence which led to his incarceration was the result of 'one of those fragile vulnerable times'. There were no further references in the data as to what he might do differently to avoid relapse when released from prison and confronted with challenges that evoke feelings of fragility and vulnerability. This could be a silence in the data or it could indicate a deficit in his capacity to mentalise. In three interviews, Adam stated that the opportunity to talk to his practitioner had positively affected his ability to think. In his 1-month interview, Adam explained,

I get like racing thoughts, and then just being able to slow down, you know and think about it when I talk to [name of practitioner].

Enabling and constraining factors. In reviewing the enabling factors that stabilised him in the community, we find that the relationship with his partner both supported and undermined his progress. In his pre-release interview, he commented that his girlfriend was the only informal support figure in his life and that without her he would be likely to spend his time with drug-using associates. At his 12-month interview however, he recognised that his relapse was influenced by the dysfunction in their relationship. As soon as his girlfriend left for detox treatment, he felt he could 'breathe again' and was in 'control again'. His actions after the breakup also indicated an increase in his capacity to mentalise; rather than seeking to replace the relationship, he sought help from a support service.

The probation officer explained to us that he had tried to work flexibly to support Adam but acknowledged barriers to how probation officers are perceived:

. . . he sees me as more of the enforcer . . . I think he's more open with, the practitioner'

However, had the probation officer not relented on Adam's living arrangements we could question if Adam's engagement with the Engager Practitioner, and subsequent progress, would have been affected. There is insufficient evidence to suggest that the liaison work with the Engager Practitioner had any influence on the probation officer's practices beyond the initial negotiation of Adam's living arrangements. There is, however, considerable evidence about the role the Engager Practitioner played in helping Adam stay calm, which helped Adam to build a positive relationship with his probation officer. In an interview 1 month after his release, Adam explained how this support helped him to not carry out impulsive behaviours which could have resulted in him returning to prison:

you know, if [name of practitioner] wasn't there the day I got out of prison, you know, I think you know, tables would have flown over and I would have been straight out of there.

We must also consider the support Adam sought out and received, after the intervention had finished, from a new key worker at a drugs and rehabilitation service. A poor interaction could

have resulted in negative mechanisms which would have evoked feelings of despondency and undermined the progress he had made. He had reported in his 12-month interview that his previous drugs worker had done little for him but that this new worker was very supportive:

she'll do anything really for me . . . she's been brilliant, like, you know, she's a phone call away.

The Engager Intervention. We must be accurate in our account of the support offered by the Engager Practitioner and the effect it seemed to have on Adam's outcomes. Practitioner activity logs reveal gaps in the delivery where Adam received very few contacts in prison. Positive outcomes need to be seen as the result of an emergent set of conditions where the offer of support occurred at a moment in time where Adam was receptive to it. Given the limited work undertaken with Adam while he was in prison, we might question whether he would have continued to engage with his probation officer after his release had the practitioner not had the opportunity to play this useful intermediary role between Adam and his probation officer.

We must also review the overall feedback Adam offered. When asked at his 6-month interview about his experience of Engager, Adam replied,

I know this sounds bad, like [name of practitioner] taking me to probation and helping me to keep like, appointments. Being able to be open and honest and just, you know, talk to him about other things that have gone on and happened.

'I know this sounds bad' could be a reflection on Adams capacity to cope without the practitioner. Or it could mean that he knows the practitioner is not just operating a taxi service, and feels that accepting practical support like a lift is not part of the practitioner's job description. If a friendly taxi service were the main facilitator in being able to sustain motivation and achieve goals, then we would need to consider the cost-effectiveness of this. However, this practical support seemed to serve as a gateway to gain the participant's trust and be able to do therapeutic work while driving to and from appointments. When talking about his experience of the intervention Adam explained,

He's never judged me and always given me sound advice, he's helped me see things clearly. Talking and getting it out there, I realised it helped me. When I felt like I was on the edge, he'd listen, not just take my side. I'd say 'I'm going to end it', he'd say hang on a minute, let's talk about it, and would help in that way.

We can discern that the opportunity to reflect triggered mechanisms which enabled him to mentalise on his problems and prevented him from descending over 'the edge'. There is of course, the possibility that this positive endorsement was an attempt to impression manage his Engager experience due to the good rapport which developed between him and his Engager Practitioner. However, Adam did not appear to be overstating his progress and was quite candid about his troubles. His reports of his progress were compared against other data sets, including the interview with his probation officer.

At his 12-month interview, Adam indicates how Engager's involvement enabled him to reach out for help to his drugs and alcohol worker:

I learned how to talk about things. Before I wouldn't have even spoken about this [relapse], I would have just sat here quiet. Before [the Engager Practitioner] I'd never really had anyone say, 'how are

you doing?’ I suppose now I’m able to talk to people a lot better instead of it all getting pushed to one side.

Identification. Identification involves reviewing the evidence accrued and detecting the specific mechanisms at work in the case.

The value Adam placed on talking, and its resultant effect in helping him think more clearly, suggests that Engager played a key role in helping him develop and sustain competencies, including the act of articulating to others, which enabled him to better understand himself, and his situation. Being able to bridge connections between thoughts, feelings, behaviours and actions was an important mechanism in the theory of the intervention, and while this mechanism did not prevent Adam’s resuming using heroin, our data sources for Adam (including the interview with his probation officer) indicate that he did not go on to commit crimes to support this habit. This suggests that Adam had made progress in how he dealt with these situations. We contend that his decision to approach the drug service himself illustrates a new found ability to cope in a crisis. This is evidence that a key intervention mechanism had been activated, namely that Adam was able to make positive choice in a stressful situation.

Correction. The findings in the above case were used to inform the cross-case analysis, where we pattern-matched with other cases and attempted to make sense of (in)consistencies, silences and outliers in the all 24 case studies. The main learning that emerged from this case, and the key questions it led us to ask when considering other cases, can be summarised as follows:

- Change was incremental. Adam needed repeated opportunities before mechanisms had sustained effect on his behaviours.
- Can a mechanism that is only activated once (i.e. the participant considers other perspectives) have a sustained effect over outcomes (i.e. increased engagement with probation)?
- Practical support in attending appointments offered a means to provide therapeutic support.
- How important is early rapport building, and is engagement contingent on context and the individual’s receptiveness to support?
- How do we understand success across the cases and is it unrealistic to expect participants to have a linear pathway to recovery?

Cross-case analysis: utilising judgemental rationality to manage ambiguity

In the cross-case analysis, we used the latter stages of the DREIC, *Elimination* and *Identification*, to explore further the causal possibilities for regularities and irregularities across the data. Judgemental rationality was used to evaluate where there were issues with the delivery, or gaps in the realist theory of change, and to further theorise about what improvements to the intervention were needed.

We were able to identify 11 cases in which the intervention activated mechanisms of impact. However, in only five cases did this lead to the intended outcomes being achieved and sustained over time. In six cases, participants had made initial steps towards their goals, but soon disengaged. In Box 4, Simon’s case, we see how positive mechanisms in his initial confidence were soon undermined by the difficult conditions he was released into.

Box 4. The Case of Simon

Simon, 43, had spent much of his adult life in and out of prison. His positive experience of Engager support on the day of his release from prison sustained Simon's engagement for 2 months. Simon reported to us that achieving some of his short-term goals, such as avoiding substance misuse, had increased his confidence and gave him a 'different mindset.' However, this was short-lived and he began to share a room with someone who was noisy and using heroin, which he found challenging. Eventually, he lost his accommodation, for taking the illegal drug 'spice,' and became homeless. He was next interviewed in prison after being charged with attempted theft. Simon described how homelessness led to a series of crises including: further relapse, criminal activity and suicidal ideation. The conditions of the hostel undermined the positive mechanisms activated on his release day.

On closer inspection, we found that there was little evidence of therapeutic shared understanding work and more direct advice on how he could be more 'proactive' with his time. The practitioner was empathetic and caring, but the focus of his support was based on a generalised assumption of need (i.e. securing accommodation on release), despite Simon's plea to move out of the area to avoid drug-using associates. The Engager Practitioner convinced Simon to stay geographically close to probation services to attend compulsory appointments. The practitioner was unaware, and hadn't checked, that his officer did not require regular visits by Simon as part of his release conditions. The lack of Shared Understanding work and dismissal of his priorities left Simon ill equipped to manage the hostel environment and break out of a negative cycle of behaviours.

We could easily make the presumption that disengagement was the result of an under-funded intervention that could not fully resource goals and lift participants out of impoverished circumstances. This presumption, of external pressures as a cause of participant disengagement, was not supported by the cross-case analysis. The case studies in which the participants were found to have achieved and sustained change were not in any way more advantaged than the ones in which the participants lost their motivation. The more successful participants continued to experience hardships that threatened their well-being (homelessness, relationship breakdown, bereavements, cognitive impairments etc.), but despite these challenges, they appeared to be coping and, at their 6- and 12-month follow-up interviews, to be making incremental progress towards their goals (reducing substance use, maintaining engagement with support services, avoiding criminal activity).

Mechanism identification was problematic when participants' dispositions oscillated between being over-optimistic one moment, and descending into resigned acceptance of their circumstances the next. In some case studies, optimism about the future left participants unable to discern whether they needed support or not. Engager Practitioners reported that they did not feel they had much to offer these participants, particularly as they often had some level of social capital with the support of their family, housing and job prospects to return to. We initially did not challenge the Engager Practitioner's assessment as, on the surface, it looked as though these participants had some level of insight into their problems when they were in prison and had a range of support which would help them succeed in the community. When we saw these disengaged individuals return back to prison, we had to reappraise our initial assumptions. In Box 5, the case of Thomas, we illustrate how participants can be blindsided by the opportunities available to them.

Reappraising mechanism identification

As we were unable to be definitive about what explained the patterns in participant disengagement, we were encouraged by our interdisciplinary team to reassess our method of mechanism

Box 5. The Case of Thomas

Thomas was 26 and was serving a sentence for burglary. Thomas's life started to destabilise after he sustained an injury to his back. In constant pain and unable to work Thomas began to sink into a state of depression, self-harm and substance misuse. Thomas appreciated the opportunity to talk to an Engager Practitioner while in prison and the ongoing support promised to him in the community, where, his Engager Practitioner assured him, he could call them anytime he was in crisis or felt the urge to use drugs. This positive engagement with the practitioner in prison appeared to help him feel more positive about himself and raise his aspirations for the future. There were several meetings within his first few weeks in the community; however, we saw few mechanisms of impact being activated and little evidence of therapeutic work. At his 1-month interview, there were signs that Thomas was beginning to disengage. Thomas believed that his motivation to avoid a return to prison was incentive enough to avoid destructive behaviours and, as he had re-gained his job, he considered that he had little need of support. The researchers saw Thomas again a few months later when he was back in prison on an assault charge. In his 6-month follow-up interview, he disclosed that his motivation had dissipated within a few weeks after his release, and he soon began to self-harm and drink more heavily. Thomas showed some capacity to self-reflect and recognise where things had gone wrong, but his level of reflection was shallow.

I'm not too sure, I've got a real addictive personality so once I start drinking I'll want it the next day and the next day. It could just be like a small little thing that happens in my day and which has, brought me down a little bit and then I'll counteract that with the alcohol.

We see here that although Thomas is able to make connections between the little things and his tendency to self-medicate there is nothing here in this statement that indicates that he had thought through how he would recognise triggers in the moment, or develop coping strategies.

identification. By re-examining our cases, as we did in the case of Simon, we observed that where mechanisms were only activated on one or two occasions, they rarely had a sustained effect. We then made alterations to our colour-coding system. In cases, where we knew that a mechanism was activated on one or two occasions we would colour light green. Where we had repeated evidence of mechanism activation, this would be shaded dark green (see Supplementary Material Table S1 for Simon's case study pathway). This triangulating approach enabled us to discriminate more clearly the differences in the intervention delivery, mechanism activation and outcomes achieved.

We found that while positive mechanism activations could be identified across 11 cases (i.e. the participant sees how attending appointments improves their relationship with other practitioners) the five that sustained change had repeated opportunities for psychological mechanism activations (e.g. increased understanding of their thoughts, feelings, behaviours and actions and were supported to develop strategies to manage stressful situations). This could be over time or through repeated opportunities on one particular day, such as the day of their release from prison.

There was evidence across sites that Engager Practitioners offered a range of practical support and attempted to empathise with participants but Shared Understanding work was often absent, shallow or superficial. We had to acknowledge differences in the quality of practitioner activity documentation and so we could not state with any certainty that participant disengagement was the result of an absence of therapeutic work. Drawing on evidence across cases, from wider interviews and observations of practitioner teams supported our thinking. One team supervisor contended that the therapeutic work was unfeasible in a short-term intervention and we sometimes observed a tendency in this team to blame disengagement on the participants' low motivation rather than on the practitioner's failure to engage, and offers of

support were withdrawn, perhaps prematurely. There were other tensions across practitioner teams with disagreements about how much or little support to offer participants. Instead of supporting participants to mentalise some practitioners sought to fix participants problems and sometimes engendered an over-dependency on practitioner support.

The outcomes for all of our participants seemed to depend on the competency of the practitioner to gauge the participant's uppermost concerns and offer an appropriate response in a moment in time. Examples of good practice outcomes were sometimes difficult to generalise and ambiguity in the literature made it difficult to fill in the gaps in our theory. For example, the intervention encouraged practitioners to support families and romantic partners, but this did not extend to friends in the community. One practitioner used her intuitive judgement to provide much needed support to a participant's friend who had complex problems of her own, but had taken it upon herself to help the participant through a difficult bereavement, substance misuse, fluctuating mood and memory loss. The participant's friend was a vital community resource but offering support to potentially risky associates was not something we felt we could endorse as part of the overall intervention programme theory. Theorising about this case reinforced the need for flexible interventions that enable practitioners to make reflexive judgements about what support might be needed. Our learning centres on how best we can enhance reflective practice and increase opportunities for training and/or space to think analytically about cases to develop the Engager Practitioners' therapeutic competencies.

Consensus building in interdisciplinary teams

The refinement of the theory of the intervention, and how it should be delivered, was an iterative process and included an interdisciplinary team of academics including a criminologist, clinicians, researchers and people with lived experience of the criminal justice system (peer researchers). There were a series of consensus meetings over many months. We reflected on our conflicting perspectives, feedback from the Engager practitioners and team and therapeutic supervisors, comments from wider conference audiences and stakeholder meetings as well as thinking about the tensions and silences in the data. Consensus on how the theory should be elaborated and refined relied on a process of transfactual theorising, where the team needed to think beyond the empirical to make a set of propositions that might address absences in the intervention theory.

Judgemental rationality was optimised by the commitment of the group to consensus building, which ensured that each member of the team was given opportunity to contribute. Equal weight was given to each view and decisions about amendments to the programme theory were agreed on the consensus of the majority.

At the final meeting, we agreed three main refinements to the theory of the Engager intervention: (1) increased support for practitioners to understand fluctuating emotional states; (2) making mentalisation more central, and (3) bringing epistemic trust into the theory of the intervention.

Increased support for practitioners to understand fluctuating emotional states

Practitioners did not always have the therapeutic competencies to challenge some participants about their thinking. Engager Practitioners appeared to struggle to find an angle from which to challenge over-optimism and get beneath the façade of coping. However, as Engager was a time-limited intervention, we had to acknowledge that even if we invested in developing

practitioner competencies there might still be some participants for whom the intervention would have failed to produce positive change. Some participants could have required a different or more intensive therapeutic approach than Engager could offer, but may have still benefited from offers of practical support. We used transfactual theorising to think about potential 'ripple effects' (Jagosh et al., 2015), where practical support offers may have triggered trust-based mechanisms which were activated but unactualised at the point of our data capture. In effect, a positive Engager experience could have altered a participant's perception of services and lead to them seeking support in the future.

The research team agreed that practitioners needed increased therapeutic supervision to help recognise bias and assumptions and when to withdraw offers of support. This would prevent Engager Practitioners fostering low aspirations for participants or only investing in those with whom they had a natural rapport. To support the Engager Practitioners a set of 'if/then statements' (Pearson et al., 2015) could be drawn up to support practitioners to identify emotional states, assess need and risk, and offer more tailored forms of support. Such a set of psychological 'rules of thumb' could help practitioners understand both the context behind the individual's responses and the offers of support that could help activate mechanisms for change in their thinking/behaviour.

Making mentalisation more central

The team discussed whether the MBA theory and practice were not originally articulated clearly enough for the practitioners to be able to value it as a very important component of achieving sustained change. For example, self-understanding required participants to recognise their tendencies towards becoming emotionally aroused and impulsive. There was some debate about whether this level of mentalisation based work was beyond the skill set of the Engager Practitioner. However, as we reflected on the evidence we identified strong examples of good mentalisation based work, but this was not consistently replicated across the practitioner teams. It was highlighted that one practitioner showed the capacity to change their practice, but their initial inspiration from the Engager training was short-lived, as it was not reinforced. The interdisciplinary team agreed that what was needed was a supervisor specifically trained in mentalisation-based therapy. Other agreed changes included a simplified section in the manual which focused on the core principles and values of Engager work, bringing MBA and the shared understanding and plan together to illustrate that therapeutic work is an ongoing process; and enhanced and top up MBA.

Bringing epistemic trust into the theory of the intervention; as a key mechanism for undertaking therapeutic work

Lack of engagement with participants in prison may have been a contributory factor for participants who disengaged from the intervention. While we had to think through some of the barriers that sometimes prevented practitioners from having access to a prison, or individuals within it, it was acknowledged by the team that even more thinking was needed around trust and engagement work, despite the centrality of these to the original development of the intervention. Interviews with Engager Practitioners indicated that some practitioners saw the intervention as primarily being a practical support to prison leavers and consequently there was a lack of therapeutic work that would support thinking about and formulating goals.

Our therapeutic clinical lead informed us of a new concept in mentalisation-based theory that might help to address the absence in our theory of trust and engagement. The concept of epistemic trust (an individual's willingness to consider new knowledge as trustworthy and relevant, and therefore worth integrating into their lives) could be added to the intervention theory and delivery (Bateman and Fonagy, 2016). Epistemic trust is generated in a relationship when a participant believes that the practitioner has their best interests at heart.

This may be particularly pertinent to the prison population as the environment in which a prisoner resides is a potential breeding ground for mistrust. The participant may be suspicious of the intentions of those they are in contact with, which will then be translated into their relationship with the practitioner. Underestimating the level of epistemic trust necessary to enable a truly trusting relationship can interfere with a therapeutic relationship and the participant's ability to develop self-agency (Bateman and Fonagy, 2016). The multidisciplinary team agreed that this was an important mechanism for change, as it might enable participants to be more receptive to mentalisation and considering alternative perspectives about a situation.

Discussion

This article has provided a worked example to demonstrate how a pragmatic analytical tool can optimise judgemental rationality. It could be suggested that reflexivity is intrinsic to retroductive work, rendering additional analytic steps unnecessary. We assert that delineating the steps Retroduction and Elimination can support and guide evaluators to think reflexively. When using the DREIC, the step two retroductive phase compels the researcher to think through the concepts they are applying to the analysis and grapple with their own predispositions about how they understand society, structure, disadvantage and moral agency. Retroduction then informs elimination, where evaluators can reappraise the assumptions they are making about the data. Researchers may contend that judgemental rationality is implicit in their evaluations and that the rigour they bring to the analytical process ensures that the inferences made offer the best explanation. However, the lack of granular detail of how evaluators reach their conclusions makes it difficult to challenge hypotheses about the underlying mechanisms at work. Realists have been sceptical of approaches that suggest that all truths have equal validity and have instead reinstated the study of ontology albeit through the lens of propositions. Yet where researchers are not fully transparent about how a proposition offers the best inference of the case, they might also be accused of attempting to insulate themselves from potential criticism. RAMESES II (Wong et al., 2013) realist evaluation reporting standards necessitate that researchers detail all aspects of the analytical process including the 'refutations and refinement' of programme theories. Yet rarely does one see clear examples of how refutations in realist evidence synthesis were resolved. Reporting standards should require documentation of how judgmental rationality was used to discern over rival logics, ambiguities in data, cross-case analysis and interdisciplinary consensus making.

Strengths and limitations

We realise that as analyses can only draw on limited data sets, our descriptions are partial representations of a complex set of processes. We questioned whether participants sometimes exaggerated their progress to give a positive impression of their Engager Practitioner, with whom they had built rapport, or because they wanted the researcher to be impressed by what

they had achieved. Capturing participants' views of the intervention over time was problematic for the following reasons:

- a. Participants' perceptions of the intervention vary over time depending on their mood and how well they are doing, or not doing, at the particular point in time that the interview took place.
- b. Retrospective interviews may have given different interpretations of actions or behaviours than the thought processes that occurred at the time (Elder-Vass, 2012).
- c. Participants may have felt disappointed by the scope of the support offered to them, which could have overshadowed their giving positive responses about other components that they may have found helpful.
- d. Participants may not be able to pinpoint actual changes occurring at a subconscious level.

Being aware of how the data are 'artificially reduced' (Durdovic, 2018) helped us think about the analytic strategies needed to manage silences in the data. Through eliminating different causal possibilities, the article has shown transparency about how we arrived at the judgements we did in explaining participant responses to the intervention.

Our initial impressions were triangulated with multiple case study data sources and put under scrutiny by critical friends in the interdisciplinary research group who advised us to revisit the evidence and consider how we understood mechanism activations and the conditions that underpinned a temporal or sustained effect. This article offers a blueprint as to how to report transparency in synthesis work and has outlined the need for effective consensus building.

The clinical and theoretical expertise of one of the members of our interdisciplinary group identified the concept of 'Epistemic Trust', from which we could understand more deeply the absences in the intervention theory. We knew that those who received more therapeutic support were more likely to achieve sustained change but we were not sure about the mechanism that made some more receptive to therapeutic work than others. The intervention theory placed importance on building trust and rapport and many of our participants showed appreciation for reliable and consistent support from their Engager Practitioner. However, this does not mean that they had reached a level of trust where ideas about themselves could be challenged (by themselves or the practitioner). Such challenges, while perhaps critical, also risk losing hard-earned trust and so may be avoided. Refining theories of interventions should be less focused on micro components and fixed rules and should consider the flexibility that complex interventions require to deliver a person-centred approach. Consequently, intervention developers should look for ways they can enhance therapeutic competencies and judgemental rationality in practitioners.

Conclusion

Judgemental rationality is integral to realist research because it discerns between competing causal explanations that underpin outcomes. Evaluation relies on fallible human reasoning, which is why theories are presented as propositions of what has taken place. A proposition, however, should not be a means to insulate ourselves from criticism. Our explanations should do more than demonstrate methodological rigour and should lay bare the range of

interpretations and the attempts made to exhaust different causal possibilities. Integrating the DREIC with transfactual theorising enabled us to think more deeply about complexity and to question what the outcome might be if the conditions were different. This article also discusses the importance of realist interdisciplinary consensus work to ensure that discursive ideas are shared and explored in synthesis work. This article makes the case for reinstating traditional concepts such as judgemental rationality, in realist work to help unpick complexity and disentangle whether responses to interventions are the result of faulty delivery or gaps in the intervention theory. By providing a worked example for how to optimise judgemental rationality, this article offers a blueprint for other researchers concerned with how to reflexively review the inferences made in complex evaluation and synthesis work.

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Supplemental material

Supplemental material for this article is available online.

Note

1. All participant identities have been anonymised in the article. We have assigned pseudo names to our participant case studies.

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