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Editorial

Roger Hamill & Sandy Gordon

THIS ISSUE of the *International Coaching Psychology Review* (ICPR) begins with two articles by Louise Kovacs and Sarah Corrie, both of which explore the topic of coaching in an era of complexity and unpredictability. Their first study adopts a realist evaluation approach to test what makes coaching effective in promoting executives' ability to navigate such complexity. They describe the development and evaluation of a formulation-based framework for coaching, concluding that such an approach, still more familiar in clinical than coaching settings, can be highly effective in helping executive coachees find their way through an increasingly complex and volatile work context.

The second study by Kovacs and Corrie focuses on one specific outcome of their first study by highlighting the Purpose, Account, Intervene, Reflect (PAIR) framework developed by the authors. The PAIR framework is described in detail and an example of its application is given by way of illustration. The authors acknowledge that formulation-based coaching can be time consuming and therefore may not suit every situation. However, they conclude that the formulation approach in general, and the PAIR framework in particular, warrant further research to examine the effectiveness of such ways of coaching. They close with a brief summary of both articles and the potential contribution formulation-based approaches may make to extending coaching's effectiveness in the face of complexity.

In our third article, Mark Barry, Mike Murphy and Hugh O'Donavan describe an intervention and control group study involving 27 school-going adolescent males. These participants were randomly allocated into either a 16 session Cognitive Behavioural Coaching (CBC) group or a no-intervention control group. The aim of the study was to assess whether the CBC programme was effective in reducing depressive symptoms in this cohort. The results suggest that such interventions are indeed beneficial and the author recommends that further research be done with similar programmes in other populations and across longer timeframes.

Continuing the focus on educational settings, Jacqueline Lee provides our fourth article with her exploration of the benefits of coaching for teachers in urban secondary schools. Using Interpretative Phenomenological Analysis to examine data from postal questionnaires and semi-structured interviews, Lee found that coaching was widely considered to have beneficial effects at various levels, from individual daily teaching practice to the wider organisation, by promoting better schoolwide communication, collaboration and leadership capacity.

Our final substantive article in this issue is an article on Core Self Evaluations as predictors of coaching outcome variance written by David Tee, David Shearer and Gareth Roderique-Davies. The authors used multiple regression analysis to examine the correlational relationship between coachee's core self-evaluations and the attainment of coaching goals. On the basis of their results they make a number of recommendations for possible improvements in future research.

Next Professor Sarah Corrie, the SGCP's Research Officer (and former chair), provides an insightful review of *Being Supervised: A Guide for Supervisees*, by Erik de Haan and Willemine Regouin. As Professor Corrie points out, it is rare to find a book in which the focus is on helping the supervisee – rather than the supervisor – understand and utilise supervision better. She recommends

this brief text as a useful resource for promoting reflection at all stages in the supervision experience.

We finish, as usual, with our respective Chairs' letters. David Webster, the SGCP Chair, reminds us that as coaching psychologists we are uniquely placed to engage in wide ranging conversations across all aspects of applied psychology, and that our knowledge and skills have never been more needed than now at a time of such uncertainty and change both in the UK generally and in the British Psychological Society in particular. David also reminds us to keep our diaries free for the upcoming SGCP conference in Birmingham on 7th and 8th December 2017. The National Convener of IGCP, Vicki de Prazer, writes of ongoing efforts to promote Excellence in Coaching within the Australian coaching psychology community by supporting ever improving links between researchers and practitioners.

At the risk of being the boy who cried wolf, I (RH) can confirm that this really will be my last issue as UK Co-ordinating editor of the ICPR. I promise you that, unlike last year, I will not be 'unretiring' at the start of the next issue! Indeed, I am very pleased to announce that Professor Jonathan Passmore will be taking over the editorial role from here. Given his hugely significant contribution to coaching psychology research and practice over many years, I can think of no better person to hand the reins over to. I am very excited about Jonathan's plans for taking the ICPR forward and developing this wonderful publication yet further.

My time at the helm of the ICPR has taught me a number of things, but most clearly, it has taught me that producing a publication of this high quality requires a fantastic amount of effort from a wide range of individuals. I have mentioned before that, without the curiosity and drive of our various contributors, all of that effort would be for naught. So please let me say thank you again to every student, academic and practitioner who has taken the time to plan, conduct and write-up the innovative and inspiring research that has filled these pages over the past twelve years. I look forward to reading such studies in the ICPR for many years to come, and I would once again strongly encourage submissions from anyone thinking of current or future articles that could fit with the publication's remit of promoting excellence in coaching psychology research and practice.

I owe a huge debt of gratitude to my colleagues on the SGCP committee for their ongoing support in this role and I want to say how much I appreciate their hard work and commitment across a vast range of SGCP activity. Thank you also to Sandy Gordon, the Australian Co-ordinating Editor for his wise counsel during my two years in this role. Finally, and most importantly, I wish to record my warmest thanks (once again!) to our tireless administrator, Tracy White, who kindly agreed to stay on for the past year to help us with our editorial transition, but will also be stepping down after the publication of this issue. Tracy's knowledge, organisational skills and knack for encouragement have been very much appreciated over the years and we wish her all the very best in her future endeavours.

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Executive coaching in an era of complexity. Study 1. Does executive coaching work and if so how? A realist evaluation

Louise C. Kovacs & Sarah Corrie

Objectives: *Executive coaching is delivered within business environments that are highly complex and unpredictable. A current debate is whether novel approaches to coaching are needed to help leaders become skilled in navigating complexity. The objectives of this research were to: (i) develop a coaching framework for helping coaches work with complexity based on formulation; and (ii) support an emerging understanding of how executive coaching might exert its beneficial effects.*

Design: *The study employed a realist evaluation methodology where a total of 37 participants were recruited through purposive sampling. Three separate cohorts (two of which received coaching based on the framework that was developed), contributed to an iterative process of data collection and analysis. The design followed a conventional research cycle of hypothesis testing and refinement, using a four-stage research cycle adapted from Blamey and Mackenzie (2007).*

Method: *An in-depth review of the literature, interviews, focus group and a measure of leadership versatility (the Leadership Versatility Index; Kaiser & Overfield, 2010) were used to inform the development and refinement of a coaching framework for working with complexity.*

Results: *In all cases the purpose of the coaching was realised, positive changes in navigating complexity were observed and a range of gains were demonstrated. Key mechanisms that determined the impact of the coaching were identified.*

Conclusions: *A coaching framework that is based on formulation appears to offer a flexible, individualised approach to developing interventions that can be successfully used with leaders who are navigating complexity.*

Keywords: *executive coaching; complexity; realist evaluation; formulation; CMO configurations.*

EXECUTIVE COACHING is enacted within business environments that are highly complex and unpredictable. Today's executives face a volatile, uncertain, complex and ambiguous world (Barber, 1992) but do not necessarily regard themselves as well-equipped to deal with the levels of complexity that they encounter (IBM, 2010).

As coaching in organisations has become a mainstream form of leadership development (Grant et al., 2010) coaches[1] are increasingly required to support executives in developing their ability to manage situations for which there can be no simple solution. This requires the field to examine how it understands complexity and whether existing coaching models are fit for purpose for helping executives navigate the current business world (and if not, what alternatives are needed).

This first, of two, articles reports the findings of a study that sought to (i) develop a coaching framework for helping coaches work with complexity and (ii) aid understanding of how executive coaching exerts its beneficial effects. The study was grounded in the tradition of practitioner

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[1] While a number of practitioners deliver coaching interventions, including those who self-identify as coaches, coaching psychologists and coaching practitioners, for the purposes of this article and for ease of reading the authors use the term 'coach' as a collective noun for all of the above.

research; using an iterative process of data collection and analysis, the choice of methodology reflected the intention to contribute to the creation of professional knowledge in which the results obtained were contextually relevant and had implications for coaching practice.

Towards an understanding of complexity in the current business environment

Complexity has been defined as the interaction of many highly interconnected heterogeneous variables that can rapidly change states, often in response to each other, creating outcomes that unfold over multiple timeframes (Kovacs, 2016). Although executive coaching is delivered within a rapidly evolving professional, business and economic climate, existing coaching models may not adequately match the complexity of the business world (Cavanagh & Lane, 2012; Lane & Down, 2010). Cavanagh and Lane (2012), for example, have argued that:

> *'Most of the models of leadership and change we use as practitioners are built on the assumption that our clients and the contexts in which they work, can be treated as if they are linear systems – governed by simple (or complicated) linear chains of cause and effect – and hence are only really useful in systems that are functioning in straight forward, predictable ways.'*
> (p.79)

Scholars working in the field of transdisciplinarity (e.g. Brown et al., 2010; Ramadier, 2004) have similarly challenged the notion that the problems of today can be understood through linear models of causation. Transdisciplinarity seeks to transcend traditional discipline-specific boundaries and synthesise different methodologies to generate new knowledge and creative, contextualised solutions for 'wicked problems' (Brown et al., 2010). Wicked, here, refers to those challenges that are difficult to define, that defy traditional problem-solving methods and that give rise to unintended conse-

quences when solutions are implemented. Examples of these kinds of problems include climate change, poverty and terrorism. They also include the functioning of local and global markets – that is, the very domains which the executives seeking coaching need to navigate.

Systems theory, the complexity sciences and leadership

One approach that has influenced thinking about complexity in organisations is systems theory. Early applications, referred to as hard or first-order systems-thinking, were focused on efficiency and offered managers a way to optimise their organisations' performance (Jackson, 2003). According to first-order systems-thinking, the role of executives is to set the direction of the organisation, and increase stability and predictability so that the organisational aims can be realised (Jackson, 2003). This perspective is predicated on an assumption that systems can be objectively observed and modelled.

Scholars writing from the perspective of complexity theory (e.g. Uhl-Bien et al., 2007), have challenged the adequacy of first-order systems perspectives for understanding today's organisations. They favour conceptualising organisations as complex adaptive systems (CAS) which 'consist of aggregates of interacting sub-units, or agents, which together produce complex and adaptive behaviour' (Boal & Schulz, 2007. p.413). One implication of this perspective is that rather than attempting to envision and predict the future, leadership in a CAS requires an ability to cultivate the conditions that allow creative solutions to emerge from the interactions of the agents within the organisation (Marion & Uhl-bien, 2001).

A significant challenge for executives is making sense of the multiple systems in which they are immersed. Two models have been developed to identify and understand the dynamics of situations, perspectives, conflicts and changes that will influence

decision-making. The first is Stacey's (1996) matrix of (i) certainty of prediction and (ii) level of agreement about what action to take, which identifies a range of circumstances in which decisions are made. In simple systems where there is likely to be a high degree of predictability and certainty about what action to take, leadership can take the form of rational and linear cause-effect approaches. In contrast, chaotic systems are those where it is not possible to predict what might occur and no agreement, therefore, about what action needs to be taken. Chaotic systems – such as markets, economies and the weather – are deemed to be so unpredictable and unstable that they often appear to be random.

Between the two extremes lies the zone of complexity and CAS. These situations require a high degree of collaboration (Mumford et al., 2002), a consideration of diverse perspectives, utilising multiple forms of expertise and a team approach to problem-solving (Sargut & McGrath, 2011; Snowden & Boone, 2007). One of the desired outcomes of using these leadership approaches is to stimulate organisational creativity and innovation. This idea is supported by the findings from an IBM CEO survey (2010) which found that the ability to develop creative solutions was one of the key factors in the success of those organisations dealing well with complex situations.

The second model, and similar to Stacey's (1996) certainty/agreement matrix, is Snowden and Boone's (2007) Cynefin model which recognises four primary 'zones' in which executives may find themselves having to make decisions. The simple and complicated zones are part of an ordered domain which can be designed and directed. In an un-ordered domain exist complex and chaotic situations and events. In these contexts, cause and effect relationships are often impossible to determine and the best that executives can aim for is identifying relevant patterns (Kurtz & Snowden, 2003).

From the perspective of these two models one of the ways in which an executive

can match the complexity of the business environment is to develop a broad range of leadership approaches that can be selectively utilised to meet the demands of diverse situations (Uhl-Bien et al., 2007). Many situations will contain elements from multiple zones, making versatility a vital leadership skill.

Stacey (2010) has presented an alternative view, rejecting the comparison between systems and human interactions and organisations on the basis that no account is taken of people's capacity to choose their own actions and responses. Stacey (2010) argues that executives are inherently involved in the interactions that form the ongoing process of an organisation's operation and so cannot stand apart to observe the situation and design future outcomes. He favours a view of organisations as complex responsive processes (CRPs). From a CRP perspective, the interactions between people are a temporal process, the outcome of which is simply further interaction. What is critical are the local interactions, the ongoing and everyday conversations, which are the vehicles through which actions and events in organisations occur. The executive's role is to widen and deepen conversation to create the possibility of new meaning and stimulate novel approaches.

Coaching models that address complexity
Coaching models that are informed by the complexity sciences are beginning to emerge. One approach has been offered by Cavanagh and Lane (2012). Drawing on Stacey's (1996) certainty/agreement matrix, Cavanagh and Lane identify a range of 'spaces' in which coaches may need to operate: the *simple, complex and chaotic*. Consistent with the models described above, each space has implications for the approaches a coach may take. In the simple space, evidence-based practice derived from empirical research can be applied; emergent models are needed for the complex space, and approaches that create structure and contain anxiety are needed in the chaotic space (Cavanagh & Lane, 2012).

Chapman (2010) proposes that executive coaching interventions should target

the development of motivation, cognitive complexity, knowledge, skills and wisdom while considering the organisational system in which the individual is situated. His Experiential Executive Coaching Model (2010), facilitated through the use of learning conversations (Harri-Augstein & Thomas, 1991), supports the coach in thinking holistically about the executive and their environment.

An additional model that aims to facilitate working in the complex space is Kahn's (2014) 'coaching on the axis framework'. Kahn (2014) argues that the role of coaching in the business environment is to act as a narrative bridge between the organisational setting and the individual with the aim of improving the relationship between the two. The focus is on the interaction of the factors in what Kahn (2014) sees as two clients – the organisation and the individual executive.

In considering the implications of these models for coaching practice it is important to recognise that the research is still at an early stage and, as for much of the executive coaching literature, the evidence-base is limited. Chapman's (2010) model, for example, is based on case studies. Kahn's (2014) model is based on his extensive experience in working with executives but is yet to be empirically substantiated. Additionally, Stacey (2012) has challenged Cavanagh and Lane's (2012) application of the certainty/agreement matrix stating that it is impossible for executives or coaches to know in advance what a situation or coaching engagement will entail (and therefore, which 'space' it will need to occupy). Nonetheless, this literature provides a conceptual starting point for creative thinking about how to personalise a coaching intervention to a specific coaching assignment.

Formulation as a framework for working with complexity
One approach to coaching that offers a potential solution to how to engage with complexity, and which also accommodates the idiosyncrasies of the individual coaching assignment, is formulation. As yet, there is

very little literature applying the concept to the field of coaching psychology (Corrie & Kovacs, 2017; Lane & Corrie, 2009) but the concept of formulation has a long history in applied psychology and is deemed critical for skilled psychological practice (Corrie & Lane, 2010).

Although definitions vary, in broad terms a formulation is an explanatory account of the factors that predispose, precipitate or maintain specific behaviours or situations, and those that may enable, support and catalyse change (Lane & Corrie, 2009; see study 2, for a more detailed review of the formulation literature).

Some coaching assignments may not require formulation if simple models are sufficient, as in the case of skills coaching or when aiming for what Lane and Corrie (2009) term 'horizontal change'. However, if what is required is a 'vertical change'; that is, a deeper, more radical change in perspective or behaviour, formulation may provide a useful way forward. Significantly in their coaching models, both Chapman and Kahn appear to embrace this approach. While Chapman (2010) refers to his model as a way of making sense of clients' circumstances and needs, Kahn (2014) refers explicitly to formulation and provides an example using both environmental and individual elements to conceptualise the challenge that needs to be addressed. Thus, formulation may provide a useful structure for coaches to work with the complexity of coaching assignments, and this study seeks to investigate this proposition.

Research purpose and aims
The main aim of the current study was to develop and investigate a coaching framework that applied a formulation approach to increasing a coach's effectiveness in helping executives navigate complexity. The research aimed to understand the outcomes of applying formulation to executive coaching, while also generating insights into what made the coaching effective for which clients and in what circumstances.

The study applied a process of developing and piloting a framework, evaluating the outcomes and refining the approach for a further cycle of investigation. As such, the research described was undertaken to provide a structure for developing and evaluating a framework, rather than attempting to evaluate or test a specific model of coaching.

Methodology and methods
Research paradigm

The methodology was underpinned by a critical realist paradigm. Although the literature on scientific paradigms can appear somewhat inaccessible, it is a necessary backdrop for understanding the approach taken to knowledge creation, and perhaps particularly so when investigating complexity where alternatives to traditional research methods may be necessary (Cavanagh & Lane, 2012). As critical realism may be less familiar to readers than other research paradigms, a brief description and rationale for its use is provided below.

Critical realism (see Bhaskar, 1998; Hacking, 1983) recognises that discourse plays a central role in shaping our experiences of human reality, but also proposes that entities can exist independently of our identification of them (Danermark et al., 2002). These entities include substantive underlying social structures that shape our thoughts and actions. While people have free will, can pursue goals, and have the capacity for change, social structures enable or impose limits on their actions (Danermark et al., 2002). The role of science from this perspective is to develop theories which aim to represent the world, including the underlying structures that are critical in shaping our thoughts and actions.

Adopting a critical realist paradigm is not without its challenges. There is still currently little research to draw from, particularly in the field of psychology (O'Mahoney, 2011), leaving unanswered questions about how to operationalise critical realist research (Yeung, 1997). None-theless, this paradigm may have an important contribution to make to the coaching field. First, it provides an alternative to the often-polarised debate between positivism and constructivism that has characterised much of psychology (O'Mahoney, 2011). Second, it enables researchers to go beyond questions about whether an intervention works, to develop an understanding of how clients experience the interventions they receive and how coaches can engineer desirable outcomes. Third, critical realism provides a vehicle through which it becomes possible to determine which tools, strategies and interventions are needed to achieve these outcomes, which external factors should be considered to maximise the chances of engineering a preferred outcome, and in what ways the different types of interventions may enable or constrain the self-interventions of our clients (Lane & Corrie, 2006).

Methodologies informed by a critical realist paradigm are beginning to emerge. For example, realist evaluation (Pawson & Tilley, 1997) privileges the testing and development of theory regarding what works for whom, and in which circumstances. Realist evaluation is garnering interest in applied psychology and health care, and although under-represented in coaching psychology, has recently been proposed as a potentially useful approach to research enquiry (Kovacs & Corrie, 2016). In the current study, realist evaluation provided a framework for an iterative approach to investigating the outcomes of the coaching intervention, as well as guiding understanding of what made the coaching effective, and any individual or social factors that acted as enablers or inhibitors of change.

Research design

Realist evaluation follows a conventional research cycle of hypotheses testing and refinement and for this study a four-stage research cycle adapted from Blamey and Mackenzie (2007) was applied (see Figure 1).

Figure 1: The Research Cycle (adapted from Blamey & Mackenzie, 2007)
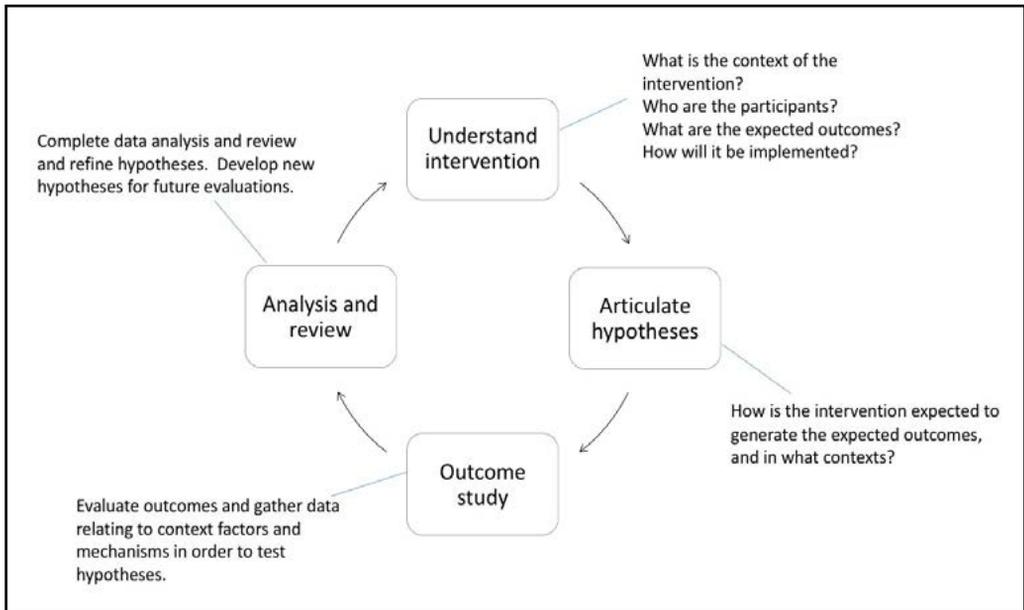
Participants
Given the iterative nature of the study, participants were recruited at different phases of the study as follows:
- Cohort A: Recruited to provide an understanding of the context for the research and possible approaches for coaching.
- Cohort B: The first cohort who received coaching.
- Cohort C: The second cohort who received coaching.

Table 1 provides information regarding the participants in each cohort. Participants were volunteers who were recruited either through direct contact with the first author, or through HR departments. Cohort A (executives, HR executives and executive coaches) were a purposive sample who had senior leadership experience and were, therefore, well-placed to comment on the complexity of the business environment. Participants in cohort A were executives or HR professionals in multi-national or Australian corporations and comprised chief executive officers (CEO), direct reports to the CEO, and heads of department. The coaches had at least 10 years' experience in coaching senior level executives in a range of industries. Cohort B executives worked in multi-national or Australian organisations and were leading significant projects or functions within the organisation. Cohort C executives were either general managers, direct reports to general managers, or vice presidents in Singaporean or multi-national organisations. All participants identified many elements of their role and business that they found complex. They also reported that the environment in which they worked was becoming increasingly complex.

Procedure
1. Understanding the intervention. The aim of the first stage of the research was to develop an understanding of the context for the executive coaching interventions and to predict possible outcomes. Realist evaluation maintains that participants are valuable sources of knowledge and have an important role in developing initial hypotheses about how and why an intervention works (Chen & Rossi, 1989). In addition to a literature review, interviews with the executives and a focus group with the HR executives were conducted (cohort A).

Table 1: Participant characteristics
(A description of each cohort's contribution to the study is outlined in the Procedure section).

Cohort	Number of participants	Gender	Age range	Nationality	Location
A Execs	7	3 female 4 male	35–57	Australian	6 in Australia 1 in Kazakhstan
A HR Execs	14	12 female 2 male	29–48	Australian	Australia
A Coaches	4	3 female 1 male	36–48	3 Australian 1 British	Australia
B	5	1 female 4 male	33–63	4 Australian 1 Spanish	Australia
C	7	3 female 4 male	32–48	1 Irish 1 Malaysian 5 Singaporean	5 in Singapore 1 in Indonesia 1 in Mongolia

A semi-structured interview format provided a core framework of questions along with the flexibility to ask additional questions to ensure a shared understanding of the participants' perspectives (Gray, 2009). The HR executives' focus group was a facilitated discussion of the same core questions as follows:

(i) In what way do you see the business world as complex, ambiguous and uncertain?
(ii) In what way do you see your role as complex?
(iii) What capabilities do you think executives need to be able to deal with complexity effectively?

The interviews and discussion from the focus group were audio-recorded and transcribed for the purposes of developing data displays and coding (Miles & Huberman, 1994). The transcripts were repeatedly reviewed, and key phrases and examples were entered on to a spreadsheet for each participant. The number of times each theme was mentioned was counted to identify the top themes. A similar approach was used for analysing the literature.

The main themes for how executives understood the complexity of the business environment were consistent with the literature review; that is, participants cited the need to manage large numbers of interconnected, heterogeneous variables (such as over-lapping projects with multiple stakeholders), and the need to respond to these variables at a fast pace. The most common response to Question 2, 'In what way do you see your role as complex?' was 'people management'. Six of the seven executives identified this, as did the participants in the HR focus group. Other themes were an increased need to collaborate across functions; dealing with the unintended consequences of actions; not having all the information needed to make decisions, and needing to obtain outcomes with a variety of stakeholders who had different and potentially conflicting perspectives and priorities.

The principal capabilities that the executives believed were required are summarised in Table 2 (for further details, see Kovacs, 2016). These themes were used to identify the possible outcomes of a coaching intervention and to select the

Table 2: The key capabilities identified by the executives.

Ranking	Theme	Description
1	Leadership Versatility	Having a broad range of leadership behaviours and being able to apply them in the right contexts.
2	Team leadership	Creating a strong team with diverse and complementary skills and knowledge.
3	Perspective taking capacity	Take different perspectives on an issue, zooming in to the detail and then stepping back and taking a broader or more strategic view.
4	Effective interactions	Asking the right question, facilitating discussion, being prepared to listen to and be challenged by others' views.
5	Resilience	Personal resilience, determination, persistence and being able to keep others' motivation high.
6	Learning agility	Ability to quickly learn, take in new information and being curious.
7	Experimenter	Being comfortable with experimenting with new ideas and approaches.
8	Relationship building	Effective influencing skills, collaboration and building a network of productive relationships inside and outside the organisation.

measures for the next stage of the project as described below.

To select and develop the coaching approach used in the outcome study, the literature from the fields of executive coaching, coaching psychology, and applied psychology more broadly, was reviewed. Formulation was selected as an approach that was flexible enough to meet the needs of the diverse and complex environment in which executive coaching is conducted (see study 2).

2. Developing the programme theory. A programme theory (Pawson & Tilley, 1997) is a set of hypotheses organised around three core areas: (1) the context in which the intervention is expected to have impact; (2) the mechanisms (factors, variables) by which the intervention might produce any outcomes; and (3) an examination of any pattern of outcomes obtained from having introduced the intervention. These three core areas are defined as CMO configurations (Context + Mechanism = Outcome).

Programme theory contains hypotheses at different levels of abstraction (Pawson & Tilley, 1997). The initial high-level hypothesis was that:

> *In executive coaching cases, such as developing leadership capability to navigate complexity (context), a coaching framework using formulation that is applied by an experienced coach to design a programme to meet the individual's needs in their context (mechanism), will enable positive changes in an executive's capability and achievement of the purpose of the coaching (outcome).*

An additional eight hypotheses were developed to identify how the mechanisms of the coaching approach might generate outcomes. Table 3 outlines the initial programme theory.

3. Conducting the outcome study. To test the initial hypotheses the lead author, also an

Table 3: The initial programme theory.

Context	Mechanisms	Pattern of outcomes
Executive coaching in organisations. Complex cases with many factors involved in increasing effectiveness. Executives dealing with complexity and its effects.	An agreed purpose for the coaching provides a focus and boundaries for the coaching assignment. Engagement with stakeholders provides understanding of the broader context, aligns purpose across stakeholders, engages stakeholders to support the client. Coach awareness of their perspectives and the choices that lead from these enables the coach to decide if their perspective is suited to the coaching purpose and the needs of the client. A formulation that considers multiple perspectives provides multiple possibilities for change enabling the coach to adapt to meet the needs of the client. A formulation that considers the client's perspective enables a coaching programme that meets the client's worldview. Hypotheses from the formulation provide a framework for the coach and client to explore and experiment with new perspectives and approaches. A coaching process consistent with purpose and perspectives provides a coherent framework for the client to explore opportunities for change, test hypotheses and implement interventions. Specific interventions in which the coach is skilled, and which are tailored to each client's case, create conditions for change.	Changes in client thinking and behaving. Increased capability to lead in the client's environment. Increased ability to navigate complexity. Coaching purpose realised.

experienced coach, conducted a six-month coaching programme applying the coaching framework and measuring the outcomes with 12 executives. Cohort B (*N*=5) received coaching during 2011/12 and cohort C (*N*=7) during 2012/13.

Participants received six or seven coaching sessions, each of which was of 90–120 minutes in duration. The length and number of sessions were typical of executive coaching engagements (Koortzen & Oosthuizen, 2010), and were of sufficient time and number to make full use of the coaching framework and to measure the outcomes.

The coaching sessions were completed face-to-face or by telephone and Skype where required.

Audio-recordings were made of all the coaching sessions. After each session, the recordings were reviewed and notes made about the main topics of conversations. Also noted were any significant insights or shifts in thinking, and any elements of the interaction that seemed particularly effective or ineffective.

One of the key capabilities identified as important in navigating complexity was having a broad range of leadership behaviours and being able to apply them in the right

circumstances. This has been termed leadership versatility (Kaiser & Overfield, 2010). The outcomes of the coaching were evaluated using a pre- and post-coaching 360° survey, the Leadership Versatility Index (LVI; Kaiser & Overfield, 2010), which is designed to measure this capability.

Further outcome data were collected using pre- and post-intervention semi-structured interviews with the participants, and separately with their managers. Information relating to the mechanisms and context factors were collected using the interview data, recordings of the coaching sessions, and the lead author's notes and reflections on the sessions.

4. Conducting data analysis, revising hypotheses. The primary aim of the data analysis was to identify the coaching outcomes and to establish the primary mechanisms that had the tendency to produce those outcomes in specific situations. Explanatory effects matrices (Miles & Huberman, 1994) were used to facilitate the data analysis. These matrices took the form of a spreadsheet that identified patterns of outcomes and linked them to the possible mechanisms and context factors. The first step involved establishing a matrix for each participant that displayed the outcomes identified by data source. This provided a framework for analysing the main themes, identifying differences between stakeholder groups and triangulating the outcome data from the different sources.

Second, the mechanisms that had the tendency to cause those outcomes in the specific context of each participant and their environment were identified. For each participant, an additional spreadsheet matrix was established with the following headings:
- Outcome.
- Mechanisms.
- Context – participant factors.
- Context – structure factors (e.g. organisation or social cultural norms that might act as enablers or barriers).

Analysis of the data sources involved reviewing the notes made while listening to the coaching sessions, and re-listening to any sections that contained significant interactions and possible mechanisms. The lead author's coaching session notes were also reviewed and factors that indicated a possible mechanism, or context factors, were identified and linked to outcomes in the matrix. The data for each participant were reviewed again, noting the context factors associated with each of the mechanisms and outcomes.

With the analysis complete for each participant, a further matrix was established to perform cross-case analyses which identified patterns in the appearance of the outcomes, mechanisms and context factors across all 12 cases. These patterns informed a set of hypotheses in the form of CMO configurations, which in turn could lead to a revised (and improved) programme theory.

Figure 2 provides a visual illustration of the four stages of the research procedure.

Results
The results from the data analysis supported the initial hypotheses contained in the programme theory. For all participants, the coaching purpose was realised, with eight of the 12 executives attaining significant goals that indicated they had improved their capability to navigate the complexity of their situations. For example, six of the participants achieved a promotion and both the participants and their managers identified changes in thinking or behaviour made during the coaching as having contributed to the participants being offered these promotions. Two other participants managed complex projects to a successful outcome. All 12 participants identified specific behavioural changes they had made as a result of their coaching programmes.

Seven of the participants reported increased confidence in managing ambiguity such as needing to make decisions where the data are not clear. Another theme was that of increased self-awareness, which was identified in six cases. Examples included increased awareness of triggers for specific behaviours or increased awareness of mental models, beliefs and assumptions. Other outcomes included

Figure 2: The four stages of the research procedure.
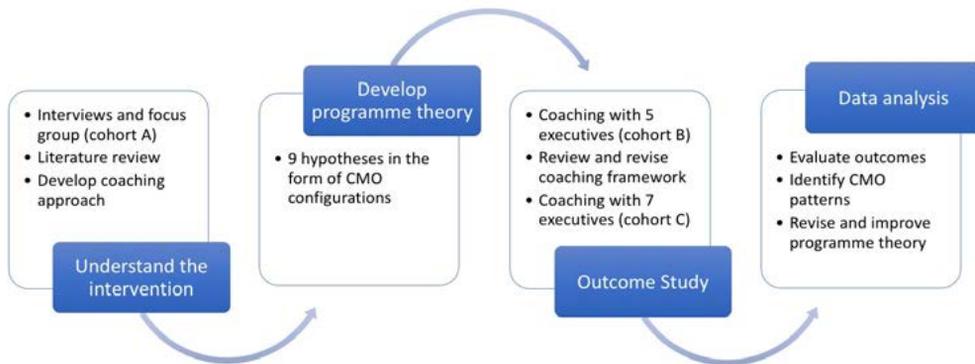
increased confidence with more senior stakeholders, being more collaborative, managing a complex organisational change, handling difficult conversations such as performance management and redundancies, and setting clearer expectations for direct reports.

Overall versatility as measured by the LVI increased in seven of the 12 participants. Eight improved on the forceful-enabling dimension (how they lead) and seven improved on the strategic-operational dimension (what they lead). In five of the seven cases where overall versatility improved, there was also an increase in leadership effectiveness scores.

The data analysis also identified key mechanisms; that is, how the resources of the coaching influenced the client's reasoning and ultimately the outcomes obtained. Eleven mechanisms were identified in the data from cohort A and 11 in cohort B. Five of the mechanisms appeared in both cohorts giving a total of 17 identified mechanisms (see Table 4).

Context factors that influenced how a client made use of the coaching were also identified and linked to the mechanisms. For example, one of the mechanisms was coach credibility. In the cases where this was relevant, the clients performed highly technical roles, were considered experts in their field, and expressed scepticism about coaching. They also worked in company cultures (e.g. banking and pharmaceuticals) where technical expertise was highly valued. In contrast, where this mechanism did not appear, the clients were open and receptive to change and did not express doubts about the likely impact of the coaching. The CMO configurations are provided in Table 5.

Discussion
The purpose of this study was to increase the effectiveness of coaching engagements that involved developing an executive and their ability to navigate complexity. Developing leadership capability is itself a complex endeavour and, therefore, a simple approach based on one perspective may not match the complexity of the task. Instead an approach was developed that considered multiple perspectives based on the application of formulation.

The findings suggest that formulation can support a flexible and adaptable coaching approach that meets the diverse, specific and local needs of individual clients. The use of realist evaluation provided some insight into the mechanisms and context factors relevant for the participants, each of whom identified a different combination of factors as influencing the effectiveness of the coaching they received. These findings suggest that while coaches should have knowledge of empirically-informed interventions, they also need a means of identifying which approaches are most suited to which clients and in which circumstances.

Table 4: Identified mechanisms emerging from the data analysis.

Mechanism	# times identified
Reflective space: Talking things through, considering different perspectives.	12
Probing questions.	1
Direct and supportive feedback: Either via the LVI, the manager or from the coach.	5
Perspective-taking shift: A shift in how the client made sense of their world, themselves or their relationships with others.	6
Providing input: The coach provides knowledge in the way of management theory or practice, sharing experience or psychological concepts.	6
Reassurance: Providing support and reassurance.	1
Contextualisation: Making theory relevant, relating it specifically to the client's situation, providing specific examples.	5
Positive relationship: Feeling heard, establishing trust and non-judgemental environment.	4
Coach credibility: Establish credibility through expertise and knowledge.	4
Specific solutions: Facilitating problem-solving.	4
Goal-focused: Setting clear goals.	3
Action and accountability: Holding client accountable for completing agreed actions.	2
Homework: Specific activities to complete between sessions.	1
Learning cycle: Review of actions and results.	1
Timing: Spacing of sessions.	5
Coach-led agenda: Conversation is led by coach based on formulation.	1
Client-led agenda: Client sets the topic of discussion	1

Nonetheless, caution must be exercised in interpreting the results of the study given its methodological limitations. First, the methods employed were largely subjective and relied extensively on the participants' ability to reflect on their experience. This introduced the potential for a variety of perceptual, interpretive and recall biases that have been well-documented in the literature (see Gambrill, 2012). The LVI provided a view of each participant's performance from the perspective of others in the organisation but there were no objective measures of the participants' performance.

Second, the results from the LVI 360° survey were inconsistent and in some cases, contradictory. Only seven of the participants scored an increase in overall versatility, three remained constant and two received lower scores post-coaching. However, for both participants who received a reduced score for leadership versatility, the rating for overall leadership effectiveness increased. These results highlight the challenges of measuring the effectiveness of coaching in complex environments where changes in team structure, personnel and myriad other personal and organizational factors, may influence ratings.

Third, cross-cultural factors were not directly considered. This would be an interesting focus for future research, especially investigating how CMO configurations might vary as a function of executive diversity and the expectations, practices and dilemmas posed by situating leadership in a specific culture, at a particular point in time.

Table 5: The CMO configurations.

Context Factors	Mechanism	Outcomes
Client open to coaching and motivated to address development needs. Skilled and confident coach.	A reflective space that opens up possibilities for change.	Changes in thinking and behaving. More effective leadership. Increased ability to navigate complexity. Builds confidence and increases leadership effectiveness. Learning that leads to increased leadership effectiveness.
Client open to having thinking challenged. Coach skilled in asking effective questions.	Use of probing questions.	
Client open to coaching and motivated to address development needs. Client open to feedback. Coach able and prepared to provide feedback.	Supportive and direct feedback creates greater self-awareness and creates motivation to change.	
Client's current perspective is restricting options. Coach able to see client's and other perspectives. Organisational and society structures that support new perspective.	A shift in perspective opens up possibilities for change.	
Client with raw materials in terms of knowledge, experience, training. Coach with relevant experience and knowledge. Organisation provides appropriate management tools and training. Supportive and involved manager.	Contextualise relevant theory to facilitate application.	
Client lacks specific knowledge or experience. Coach with relevant specific knowledge or training. Organisation lacks formal management processes or training.	Provides input in the form of theory, tools or techniques.	
Client open to coaching. Skilled and confident coach.	Positive relationship that enables open dialogue and creates an environment for learning and change.	
Sceptical, technical client. Culture that values technical expertise. Confident and experienced coach.	Establishing coach credibility creates an environment for learning and change.	
Client willing to share complex and challenging situations and open to exploring and experimenting. Coach who can facilitate exploration of possible solutions through dialogue. Environment that presents complex and challenging issues.	Discussion and facilitation of solution-finding for specific situations.	

Client feeling overwhelmed by complexity of situation and willing to share vulnerabilities. Coach able to create supportive relationship. Complex and challenging environment.	Providing reassurance and support.	
Client has specific operational issues or awareness of development needs. Coach willing and able to flex coaching to meet client's agenda.	A client-led agenda facilitates client learning.	
Client open to feedback, new ideas and learning. Coach able to give feedback and challenge thinking.	A coach-led agenda stimulates reflection and development.	

A final limitation was that the samples were small, limiting generalisability. However, as noted at the start of the article, this study was located within the discipline of practitioner research – a discipline that seeks to assist the refinement of practice through the privileging of locally situated priorities (Lester, 2004). Different modes of knowledge (see Scott et al., 2004) are known to favour different approaches to enquiry, and emphasise different forms of methodological precision. For example, unlike the disciplinary knowledge of mode 1 knowledge, where scientific description is seen as the superior form of knowledge, and mode 2 where the emphasis is on applied knowledge that transcends local and personal knowledge, mode 3 emphasises dispositional and transdisciplinary knowledge, starts from a premise that knowledge is non-linear and contextualised, and promotes knowledge developed by individuals through reflection on their practice.

The authors would identify this study as an example of mode 3 knowledge and the use of realist evaluation reflects this positioning. Realist evaluation, while holding promise for implementing research from a critical realist perspective, is not currently widely taught, is not yet well-understood in the academic community and can be complex to conduct. However, given the challenges of carrying out efficacy studies of executive coaching (mode 1), and effectiveness studies (mode 2), designing studies that generate different forms of knowledge have the poten-

tial to inform the evaluation and development of executive coaching in new and innovative ways – a position on which this study has sought to capitalise. In summary, this type of research has attempted to respond to the call for novel approaches to investigating complexity – a call that comes both scholars, such as Cavanagh and Lane (2012), as well as the complexity sciences and the transdisciplinarity movement.

Conclusion

There are many challenges associated with evaluating the effectiveness of executive coaching. One of the difficulties lies is linking changes in an individual's behaviour and capability with increased organisational performance, particularly in the current business world where results unfold over multiple timeframes. This study has sought to contribute a perspective on why, how and in which circumstances, coaching can exert its beneficial effects. A further aim that was realised through this study was the development, implementation and evaluation of an approach to formulation that is specific and responsive to the executive coaching context. The development of the PAIR (Purpose-Account-Intervene-Reflect) Framework, its use in executive coaching assignments and recommendations for its use in practice, is the subject of the next article.

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