Evidence-based decision making: Toward a critical realist design science agenda for social and health care reform

Gerard P. Hodgkinson

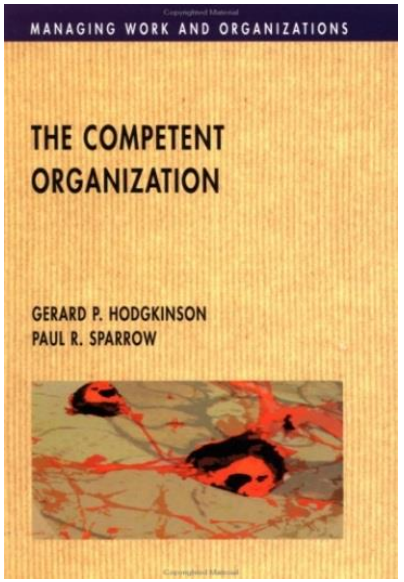
Professor of Strategic Management and Behavioural Science

Agenda

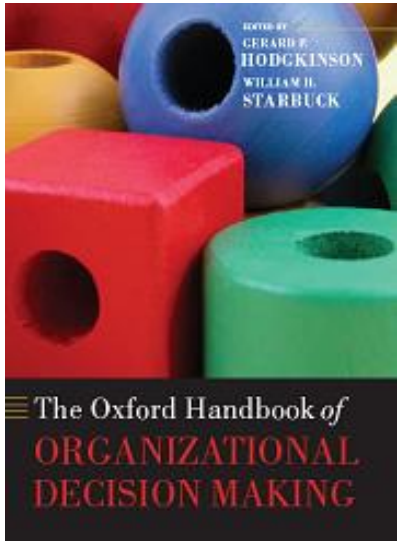
- Map out some significant issues and concerns pertaining to **implementation** of evidence-based decision making in medical and social care
- With a view to stimulating a lively debate and (hopefully!) a rich research agenda at the nexus of several key social science disciplines, not least psychology, economics, political science, and sociology

Background

- Organizational psychology and strategic management
- Cognitive perspective (both fields)

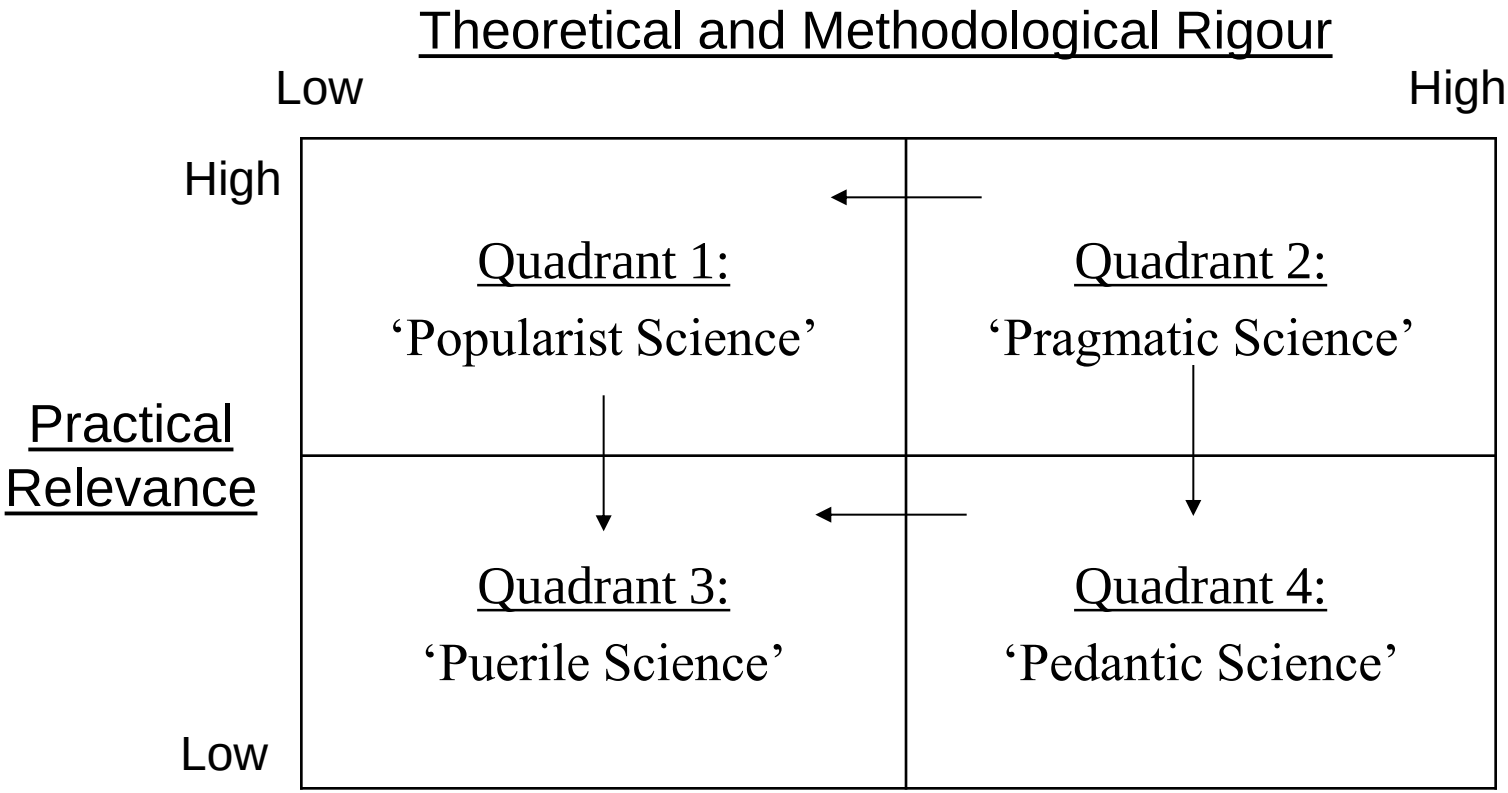


Hodgkinson, G. P. and Healey, M. P. (2008). Cognition in organizations. *Annual Review of Psychology,* 59, 387-417.



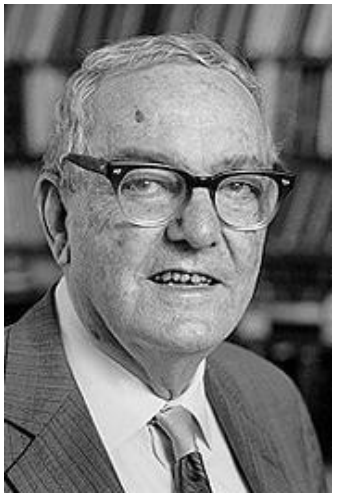
Fourfold typology of research in industrial, work and organizational psychology

(arrows indicate current environmental pressures toward different quadrants acting upon researchers and practitioners)



Source: Adapted from Anderson, Herriot and Hodgkinson (2001). *Journal of Occupational & Organizational Psychology* © 2001 The British Psychological Society

Key foundational thinkers and ideas



Herbert Simon
1978 Nobel Laureate

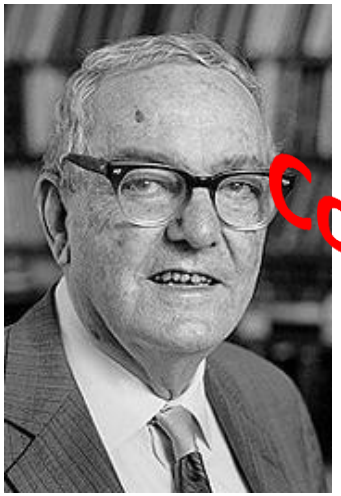
Daniel Kahneman
2002 Nobel Laureate

- Bounded rationality and related cognitive simplification strategies, with attendant dangers of cognitive bias and inertia

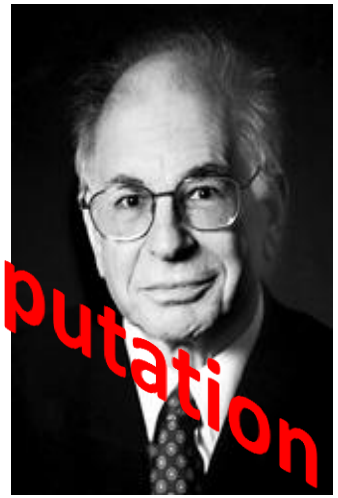
Karl Weick
U. Michigan

- Enactment and related socio-cognitive processes (Weick, 1969, 1979)

Foundations in tension (Lant & Shapira, 2001)



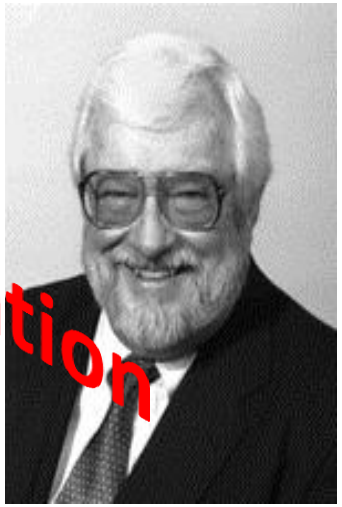
Herbert Simon
1978 Nobel Laureate



Daniel Kahneman
2002 Nobel Laureate

Computation Vs. Interpretation

- Bounded rationality and related cognitive simplification strategies, with attendant dangers of cognitive bias and inertia



Karl Weick
U. Michigan

- Enactment and related socio-cognitive processes (Weick, 1969, 1979)

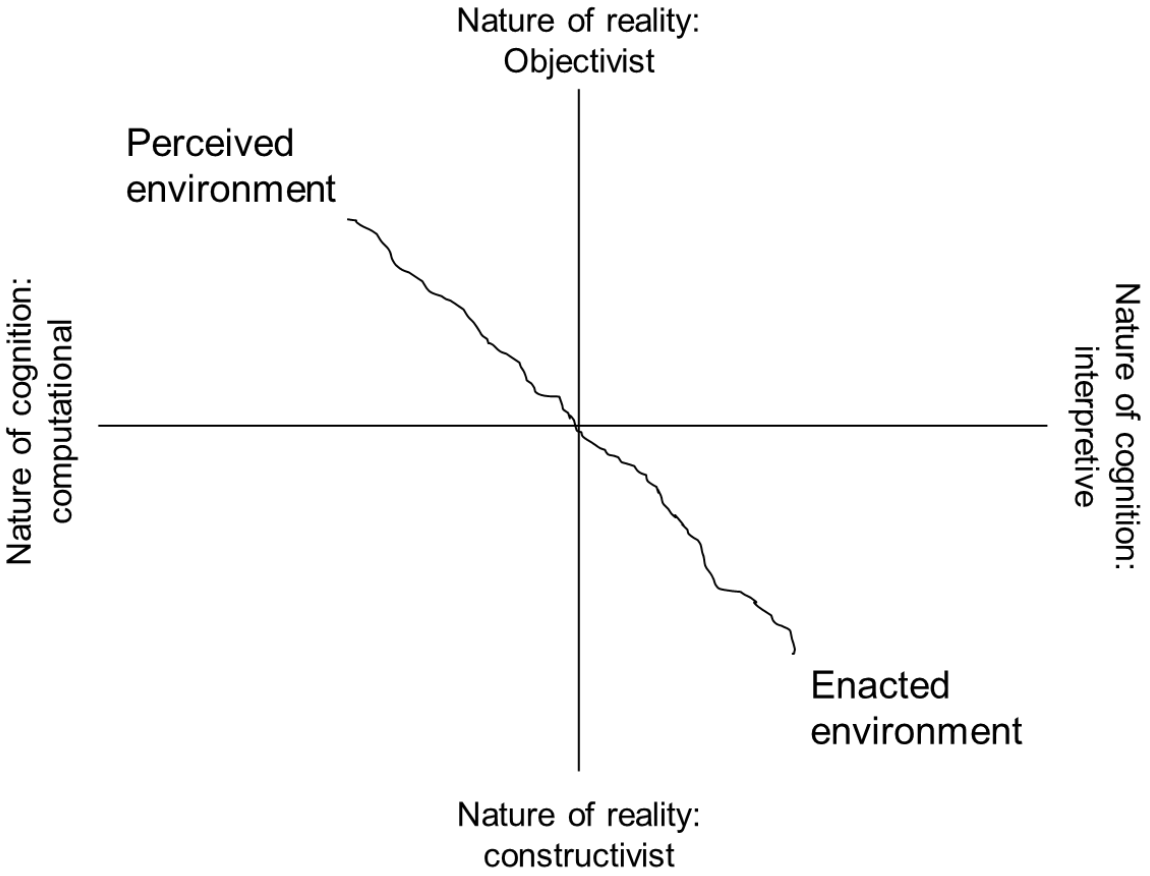
Enactment: an active, constructive process

- *"… Managers construct, rearrange, single out, and demolish many 'objective' features of their surroundings. When people act they un-randomise variables, insert vestiges of orderliness, and literally create their own constraints …*
- *"… There is a reciprocal influence between subjects and objects, not a one-sided influence such as implied by the idea that a stimulus triggers a response. This reciprocal influence is captured in the organizing model by the two-way influence between enactment and ecological change"* (Weick, 1979, p. 164 -166).

Implications

- In contrast to the computational model, choices within a Weickian framework are not see as being correct or incorrect, as judged against an abstract mathematical equation
- Probabilities represent just one of the many benchmarks that may be used to determine a quality decision.
- Its “correctness” or otherwise is dependent upon the point of view that is being used to evaluate it.

Contrasting ontological assumptions underpinning research on cognition, action, and outcomes in industries and business markets



Source: G.P. Hodgkinson (2015). Reflections on the interplay between cognition, action and outcomes in business markets: What have we learned so far and where might we go next? *Industrial Marketing Management*.

From the science of the artificial to a science of the possible: Design science as critical realism

Hodgkinson, G. P. and Starkey, K. (2011). "Not simply returning to the same answer over and over again: Reframing relevance." *British Journal of Management,* 22, 355-369.

Hodgkinson, G.P. and Starkey, K. (2012). Extending the foundations and reach of design science: Further reflections on the role of critical realism." British Journal of Management, *23*, 605-610.

Espoused theory vs. theory in use

- "Insofar as behavior is a function of learned technique rather than 'innate' characteristics of the human information-processing system, our knowledge of behavior must be regarded as sociological in nature rather than psychological – that is, as revealing what human beings in fact learn when they grow up in a particular social environment. When and how they learn particular things may be a difficult question, but we must not confuse learned strategies with built-in properties of the underlying biological system." (Simon, 1969: 35) *Sciences of the Artificial.*

- But in practice….

Critical realism as alternative to a science of the artificial as basis for management research

- *Science of the artificial* (Simon): we argue that this is based fundamentally on a philosophy of "reductionism", "facts", "weak emergence", "ordinary declarative reasoning" and "empirically based analytic technique."

- Our interpretation is supported by Kilduff's (1993) critique of March & Simon's classic *Organization* as at its heart positivist, reductionist & instrumentalist. For example, humans and machines are conceived of as "functional equivalents", both are "relatively simple computing devices" – echoes of Taylor rather than Weber.

- *Our conclusion: Artificialism = essentially empiricist ("naïve") realism, according to which scientific inquiry is limited to the study of the observable (and ultimately material) world (Bhaskar)!*

Critical realism

- *3 levels of reality*

A. ‘real’ – world of causal structures & generative mechanisms

B. ‘actual’ – pattern of events, generated by structures & mechanisms

C. ‘empirical’ – level of experience

- *Key question: What must the world be like?*

Design

- *4 levels of reality*

A. ‘real’ – world of causal structures & generative mechanisms

B. ‘actual’ – pattern of events, generated by structures & mechanisms

C. ‘empirical’ – level of experience

D. ‘becoming’ – world we are capable of making?

- *Key question: what might the world become?*

What might the world become?
What kind of world might we create?

- Worldmaking – Scientists build their worlds "conforming to … chosen concepts and obeying [their] universal laws" (Nelson Goodman on "searching and building")
- Philosophy of emergence - "The movement is from … a world fixed and found to … worlds in the making."
- Ways of worldmaking include: composition & decomposition; weighting; ordering; deletion & supplementation; deformation …
- Worldmaking takes place in "trading zones" (Galison)

Romme, A.G.L., Avenier, M.J., Denyer, D., Hodgkinson, G.P., Pandza, K., Starkey, K., & Worren, N. (2015). Toward common ground and trading zones in management research and practice. *British Journal of Management.*

More on worldmaking
(from a critical realist standpoint)

- Expanding the problem space and hence the range of design possibilities:
  - Increasing the range of generative mechanisms in play
  - Critical awareness throughout (reflexivity)

- "Events occur when actors mobilize the resources they have in particular contexts to shape change, which, in social contexts, unfolds in open systems where generative mechanisms (social, cultural and biological) operate independently or in concert in complex interactions." (Hodgkinson & Starkey, 2011: 362)

More on worldmaking
(from a critical realist standpoint)

- "A key role of social science in design is to open up the possibility of multiple generative mechanisms as bases for achieving the goals of the design project at hand (Hodgkinson & Starkey, 2012: 606-607)

- Expanding the problem space and hence the range of design possibilities:
  - Increasing the range of generative mechanisms in play
  - Critical awareness throughout (reflexivity)

Nascent case illustration

- Improving the practice of evidence-based management, by injecting greater criticality – or putting the critical back into its (critical) realist foundations (Hodgkinson, 2012, in D.M. Rousseau (ed.), *The Oxford Handbook of Evidence-Based Management*)

- Thus helping to mitigate potential rationality facades

- EBMgt is a political project in a double sense
  - Challenging the b(i)ases of organizational decision making
  - Refocusing resources to legitimate a particular approach to knowledge production and its dissemination (one best way approach)
  - Psychology (X_1) + Sociology (X_2) + Political Science (X_3) > $\sum_{i=1}^{3} X_i$

What is evidence-based management?

- The majority of definitions build on evidence-based notions advanced in medicine and elsewhere (Briner & Rousseau, 2011a, 2011b)
- Reflecting this trend, Briner et al. (2009, p. 19) offer a succinct definition, paraphrasing Sackett et al.'s (1996) definition of evidence-based medicine, which is convenient for present analytical purposes

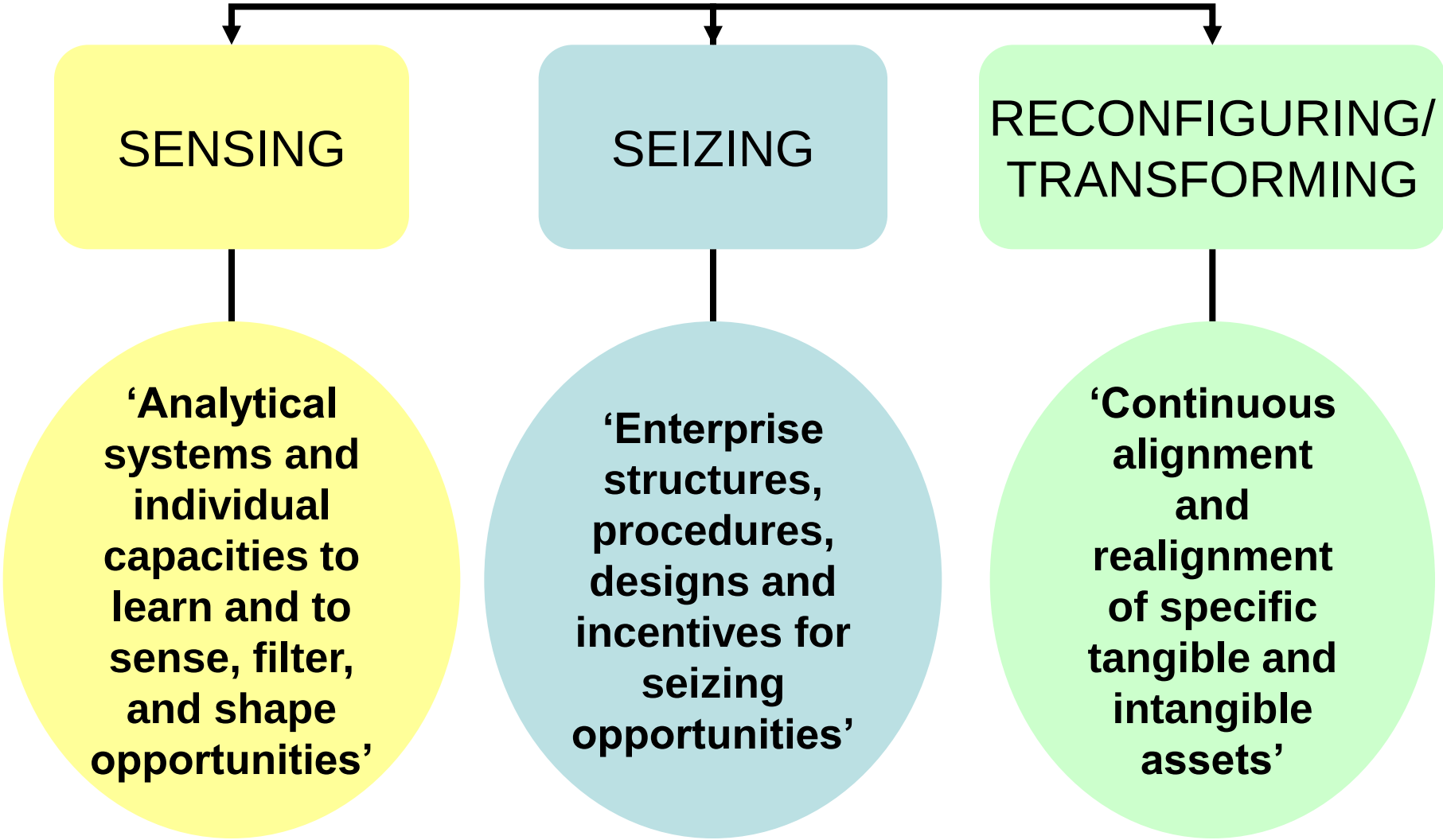
"Evidence-based management is about making decisions through the conscientious, explicit, and judicious use of four sources of information: practitioner expertise and judgment, evidence from the local context, a critical evaluation of the best available research evidence, and the perspectives of those people who might be affected by the decision."

Briner, R. B., Denyer, D., & Rousseau, D. M. (2009). 'Evidence-Based Management: Concept Clean up Time?' *Academy of Management Perspectives*, November, 19-32.

Briner, R. B., Denyer, D., & Rousseau, D. M. (2009). 'Evidence-Based Management: Concept Clean up Time?' Academy of Management Perspectives, November, 19-32.

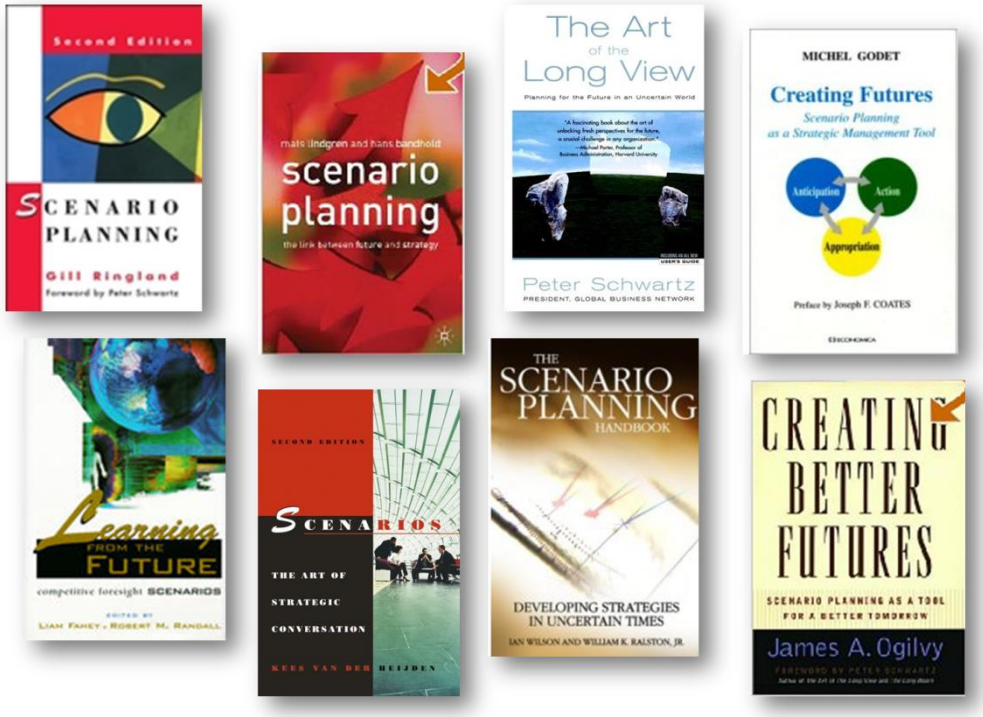
Figure 1
The Four Elements of EBMgt

"In some circumstances, the opinions of stakeholders or ethical considerations may be judged by the decision makers to be much more important than the external research evidence and thus be given much greater emphasis in the decision. In other circumstances, there may be little internal evidence available and thus its influence on the decision would be relatively minor. In all cases, though, the choice to place more or less emphasis on various elements should be made in a mindful, conscious fashion." (p. 21)



Foundations of dynamic capabilities & business performance
Adapted from D. Teece (2007). ‘Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance.’ *Strategic Management Journal*, 28, p. 1342.

Easier said than done

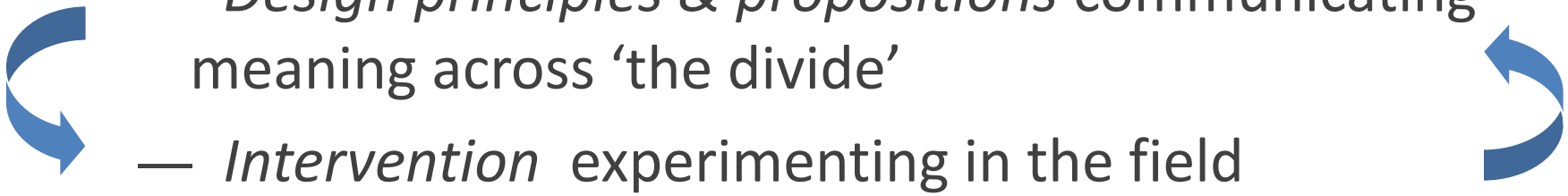


- In certain contexts, the use of such tools
  - Amplifies rather than attenuates cognitive inertia and blind spots
  - Escalates task and emotional conflict

Hodgkinson, G. P. and Wright G. (2002). Confronting strategic inertia in a top management team: Learning from failure. *Organization Studies, 23*, 949-977.

Improving scenario planning through a design science of strategic intervention?

- Design science approach
  - *Imperatives* design goals
  - *Generative mechanisms* basic processes
  - *Design principles & propositions* communicating meaning across 'the divide'
  - *Intervention* experimenting in the field



Hodgkinson, G.P. & Healey M.P. (2008). Toward a (pragmatic) science of strategic intervention: Design propositions for scenario planning. *Organization Studies*, 29, 435-57.

Research and practice in conflict: Individual effects of multiple scenario analysis

Popular literature	Basic research
Reduces bias towards 'status quo' beliefs about the future → change mental models	Can reinforce extant biases toward a particular worldview → reinforce cognitive inertia
Increases sensitivity to multiple contingencies → improves responsiveness	Can create new biases toward a single future through anchoring, focalism → less responsive
Pre-written scenarios stimulate sensitivity to contingencies	Mental simulation is needed for cognitive benefits to be realized
Stimulates fear and insecurity → creates the jolt needed for action	Can stimulate negative affectivity → heightens threat rigidity

Source: Healey M.P. & Hodgkinson G.P. (2008). Troubling futures: Scenarios and scenario planning for organizational decision making. In G.P. Hodgkinson & W.H. Starbuck (Eds.), *The Oxford Handbook of Organizational Decision Making*, Oxford University Press.

Enhancing group cognition in scenario planning

- Fostering ‘elaboration’ for effective scenario generation and analysis (Social identity approach)
- Overcoming subgroup bias via social categorization. For instance:
  - DP1 High-levels of intrapersonal functional diversity
  - DP3 Build and highlight shared super-ordinate identities
- Personality composition of scenario team (Five Factor Model). For instance:
  - DP4 Configuration: High Openness, Low Neuroticism, High Conscientiousness, balance of Agreeableness & Extraversion
  - DP5 Adapt intervention process to personality composition of team

Source: Hodgkinson, G.P. & Healey M.P. (2008). Toward a (pragmatic) science of strategic intervention: Design propositions for scenario planning. *Organization Studies*, 29, 435-57.

Incorporating emotion and non-conscious cognitive-affective processes

- Our latest research draws on social cognitive neuroscience and neuroeconomics
- To develop a more complete and adequate portrayal of the behavioural factors and processes underpinning organizational decision making, innovation, and adaptation

Healey, M.P., Vuori, T. & Hodgkinson, G.P. (2015). When teams agree while disagreeing: Reflexion and reflection in shared cognition. *Academy of Management Review*, 40(3).

Hodgkinson, G.P. & Healey, M.P. (2011). Psychological foundations of dynamic capabilities: Reflexion and reflection in strategic management. *Strategic Management Journal, 32*, 1500-1516.

Hodgkinson, G.P. & Healey, M.P. (2014). Coming in from the cold: The psychological foundations of radical innovation revisited. *Industrial Marketing Management, 43,* 1306-1313.

Hodgkinson, G.P., Wright, R.P. & Anderson, J. (2015). Emotionalizing strategy research with the repertory grid technique: Modifications and extensions to a robust procedure for mapping strategic knowledge. *Advances in Strategic Management* , *32*, 509-551.

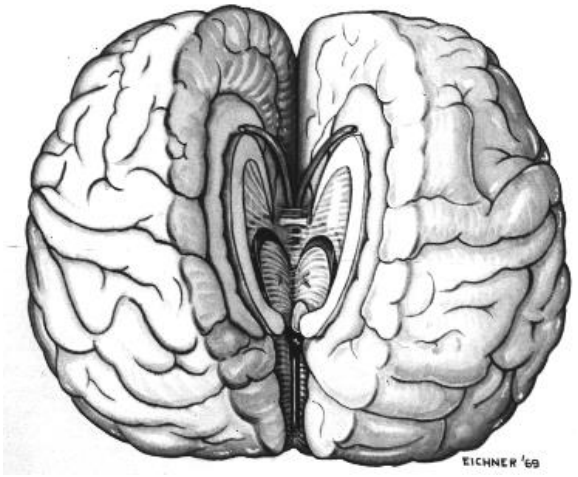
Incorporating emotion and non-conscious cognitive-affective processes

- While avoiding the pitfalls of dead end relativism , environmental determinism, and (psycho-neural) reductionism

Healey, M. P. and Hodgkinson, G. P. (2014). Rethinking the philosophical and theoretical foundations of organizational neuroscience: A critical realist alternative. *Human Relations, 67*, 765-792.

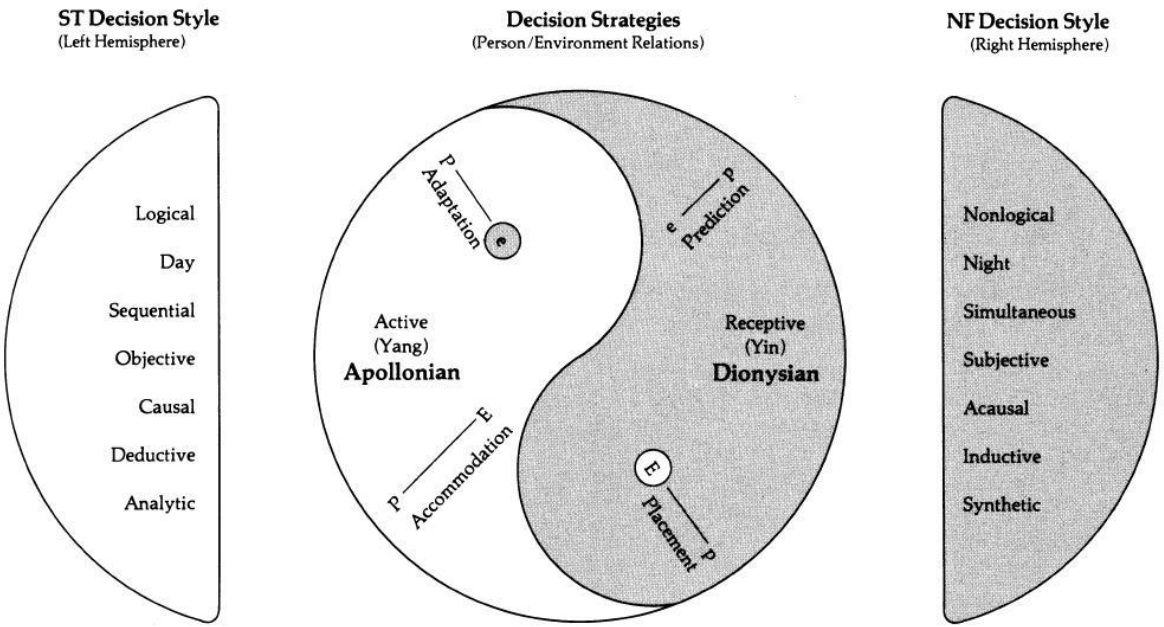
Early ‘Split Brain’ Neuroscience

- Hemispheric specialization, predicated on the lateralization of function hypothesis
- Gazanniga & Sperry’s study of ‘split brain’ patients (commissurotomy)

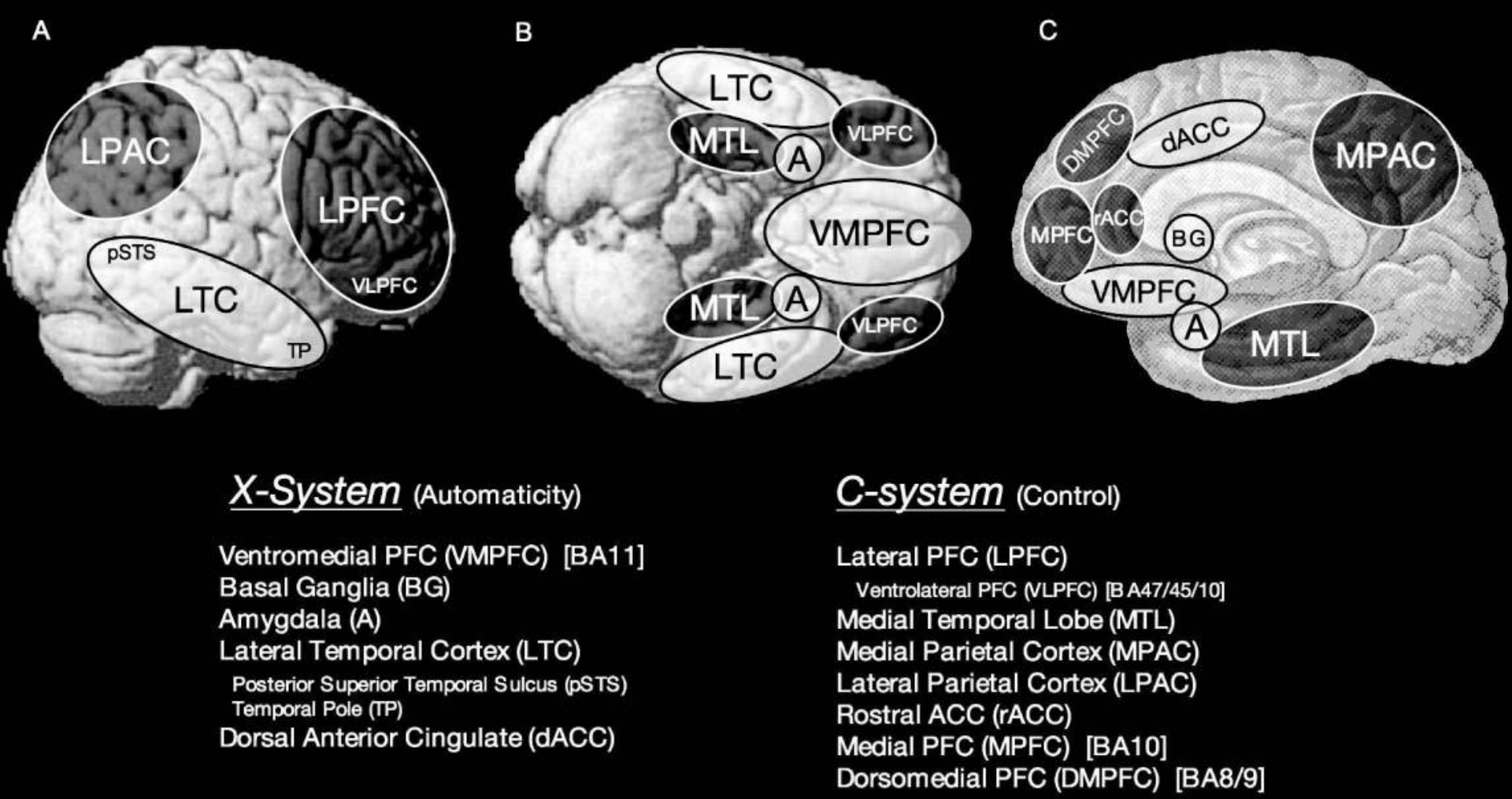


Strategy applications:

* Mintzberg (1976) ‘Planning on the left side and managing on the right’, *HBR*
* Taggart & Robey (1981), ‘Minds and Managers’, *AMR*



‘Emotional’ and ‘Deliberative’ Systems in Neuroeconomics (e.g. Loewenstein et al., 2008 *Annual Rev. Psych.*)



X-System (Automaticity)

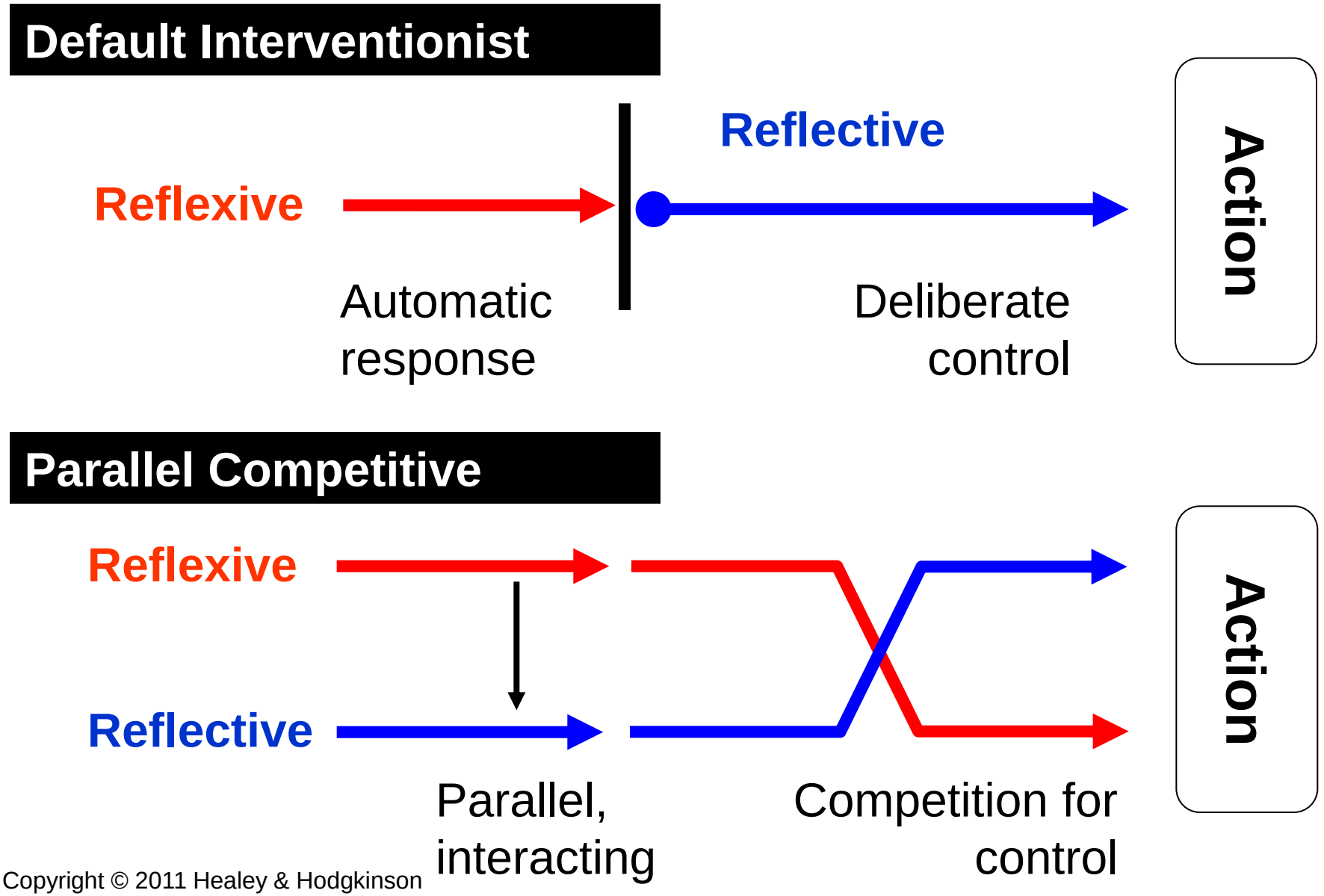
Ventromedial PFC (VMPFC) [BA11]
Basal Ganglia (BG)
Amygdala (A)
Lateral Temporal Cortex (LTC)
Posterior Superior Temporal Sulcus (pSTS)
Temporal Pole (TP)
Dorsal Anterior Cingulate (dACC)

C-system (Control)

Lateral PFC (LPFC)
Ventrolateral PFC (VLPFC) [BA47/45/10]
Medial Temporal Lobe (MTL)
Medial Parietal Cortex (MPAC)
Lateral Parietal Cortex (LPAC)
Rostral ACC (rACC)
Medial PFC (MPFC) [BA10]
Dorsomedial PFC (DMPFC) [BA8/9]

Hypothesized neural correlates of the C-system supporting reflective social cognition (analogous to controlled processing) and the X-system supporting reflexive social cognition (analogous to automatic processing) displayed on a canonical brain rendering from (*A*) lateral, (*B*) ventral, and (*C*) medial views. Note: basal ganglia and amygdala are subcortical structures displayed here on the cortical surface for ease of presentation.

Cognitive neuroscience & dual-process models
(e.g. Evans, 2008)



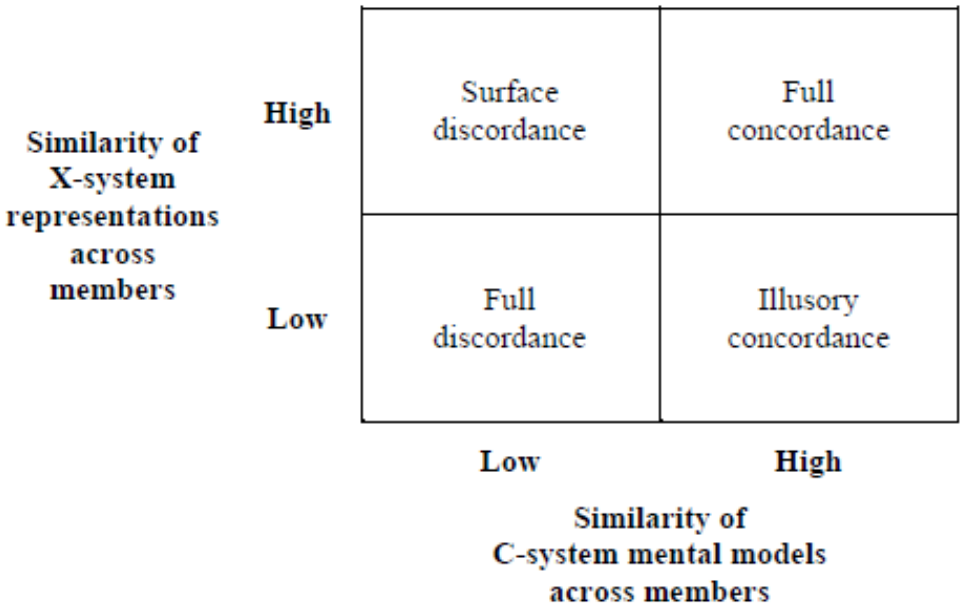
Implications for team cognition theory and research?

- Has similarly over-emphasized reflective constructs, processes and outcomes (cf. DeChurch & Mesmer-Magnus, 2010a; Kozlowski & Ilgen, 2006; Salas & Fiore, 2004) at the expense of reflexive analogues, not least:
  - implicit attitudes (Greenwald & Banaji, 1995)
  - subconscious goals (Latham, Stajkovic, & Locke, 2010)
  - implicit stereotypes (Banaji, Hardin, & Rothman, 1993)
- Extrapolating from the foregoing (largely individual level) analysis to the team level (of necessity) complicates matters greatly

Healey, M.P., Vuori, T. & Hodgkinson, G.P. (2015). When teams agree while disagreeing: Reflexion and reflection in shared cognition. *Academy of Management Review*, 40(3).

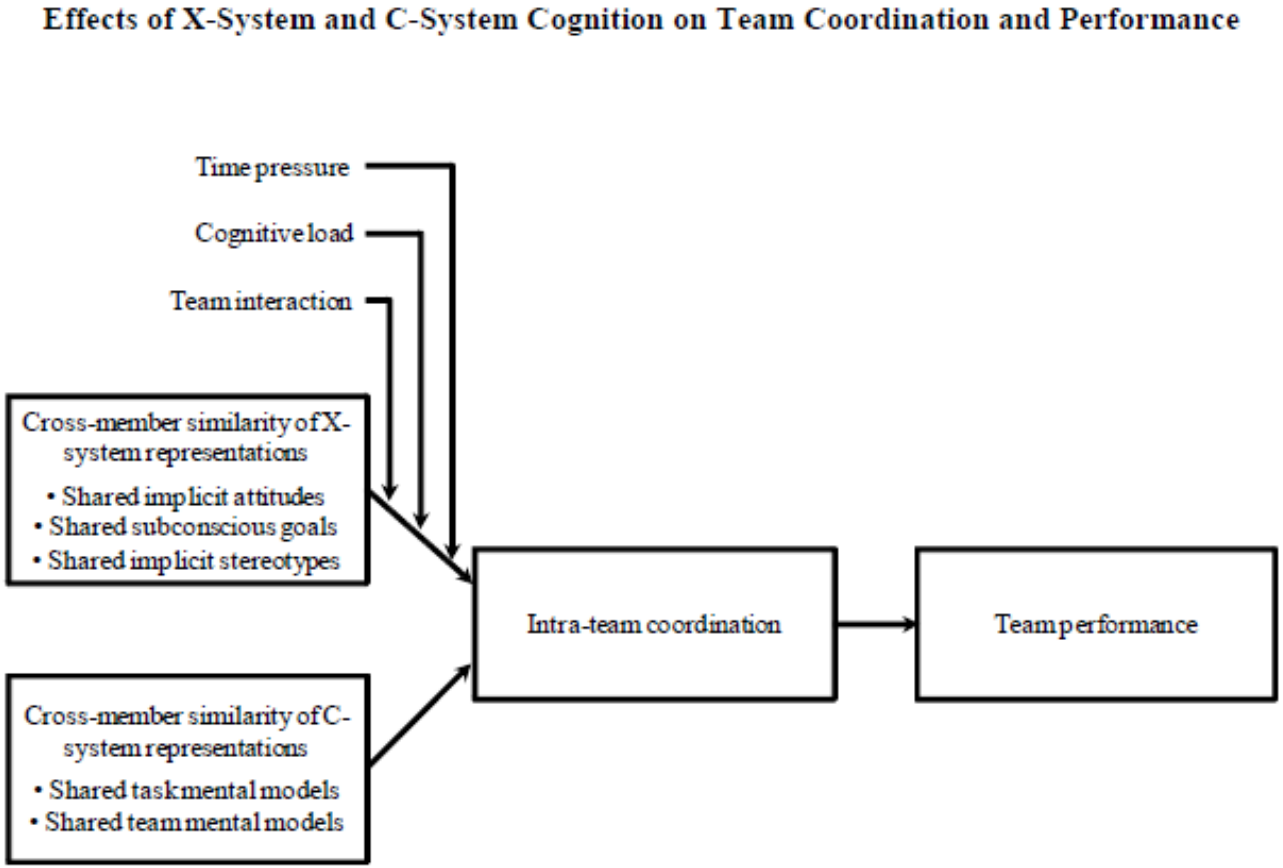
Re-theorizing team cognition

Four Types of Cognitive Concordance/Discordance in Teams



Healey, M.P., Vuori, T. & Hodgkinson, G.P. (in press). When teams agree while disagreeing: Reflexion and reflection in shared cognition. *Academy of Management Review*.

Re-theorizing team cognition



Healey, M.P., Vuori, T. & Hodgkinson, G.P. (in press). When teams agree while disagreeing: Reflexion and reflection in shared cognition. *Academy of Management Review*.

What's wrong with evidence-based decision making? (as presently implemented)

- Prescriptions predicated on a descriptive model that is not psychologically tenable
- Negation of the emotional roots of (much of) human cognition and decision making
- Neglect of the political and emotional needs and wants of patients and clients (the ultimate stakeholders?)
- Conflation of descriptive, normative and prescriptive aspects
- Increasing complexity of medical and social care systems vis-à-vis EBDM (too simplistic)
  - Increasingly complex cases (competing logics)
  - Increasing inseparability of clinical and management decision making (competing logics)
- End result is a general approach to decision making that is (presently) unfit for purpose

The practical problem

- STEEPLE developments are transforming the world
- Strategy processes seek to address this fundamental challenge by stretching actors' beliefs, broadening their horizons, and challenging their status quo thinking
- However, designers and participants often overlook (or underestimate!) the emotional demands of questioning individuals' fundamental assumptions in the context of uncertain, high-stakes decisions
- Decisional stress can render participants unwilling or unable to confront the future, leading to dysfunctional tactics such as decision avoidance (Janis & Man, 1977)

The conceptual problem

- Strategy making (and all consequential decision making) is a ‘hot’ process, a melting pot of excitement, anxiety, hopes and fears
- Stakes are high, egos run at full throttle and feelings are intense
- However, these characteristics are airbrushed out of traditional theories of strategy
- Instead, strategizing is portrayed as the preserve of rational deliberation (Ansoff 1965; Hofer & Schendel 1978, Porter 1980)
- From this viewpoint, feelings are irrational influences to be eradicated, downplayed or, more often, simply ignored

Clinical and social care decision making: Hot and cold processes in collision

- Typically, health and social care professionals and policymakers are trained and strive to be dispassionate and objective
- But patients/clients and their relatives facing major decisions are incapable of cold information processing (as are many health and social care professionals and policymakers!)

Overall implications for research and practice

- High quality decisions are a product of the analytical ***and*** experiential mind

- Effortful processing of schema inconsistent information is an insufficient basis for aiding adaptation
- Emotional (cognitive-affective) reflection, addressing sensitively actors' ego-protective defence mechanisms, is essential
- Research and intervention tools and processes need to be adapted accordingly
- Create the time and space to surface and explore emotional reactions and reconcile underlying differences of interpretation

© 2008 Belle Mellor

Key skill and capability requirements

- **Emotional self-regulation:** the ability to
  - Recognize and regulate personal feelings (controlling own ego-protective goals and affective responses)
  - Identify, interpret, and respond to the ego-protective goals and affective responses of others

© 2008 Belle Mellor

Implications for transforming

- Key skill and capability requirements in **emotional self-regulation**

- **Leaders must…**
  - Recognize and regulate personal feelings (controlling own ego-protective goals and affective responses)
  - Identify, interpret, and respond to the ego-protective goals and affective responses of others
  - This requires the time and space to surface and explore emotional reactions and reconcile underlying differences of interpretation

Strategic Management Journal
Strat. Mgmt. J., 32: 1500–1516 (2011)
Published online EarlyView in Wiley Online Library (wileyonlinelibrary.com) DOI: 10.1002/smj.964
Received 15 January 2009; Final revision received 9 September 2010

PSYCHOLOGICAL FOUNDATIONS OF DYNAMIC CAPABILITIES: REFLEXION AND REFLECTION IN STRATEGIC MANAGEMENT

GERARD P. HODGKINSON[1]* and MARK P. HEALEY[2]
[1] Warwick Business School, University of Warwick, Coventry, U.K.
[2] Manchester Business School, University of Manchester, Manchester, U.K.

In recent years, there has been a move to identify the behavioral foundations underpinning the evolutionary and economic fitness of the enterprise. Indeed, the dynamic capabilities project now occupies center stage in the field of strategic management. Yet the accounts developed thus far—like much of the field's theory and research more generally—are predicated upon a cold cognition logic that downplays the significance of emotional/affective and nonconscious cognitive processes for strategic adaptation. In this article, we rectify this imbalance by drawing upon contemporary advances in social cognitive neuroscience and neuroeconomics to develop a series of countervailing insights and new prescriptions for the development of dynamic capabilities. Using Teece's (2007) influential framework to organize and illustrate our arguments, we demonstrate how the fundamental capabilities of sensing, seizing, and transforming each require firms to harness the cognitive and emotional capacities of individuals and groups to blend effortful forms of analysis with the skilled utilization of less deliberative, intuitive processes.

'The decision-making paradigm, as it has developed, is the product of a marriage between cognitive psychology and economics. From economics, decision theory inherited, or was socialized into, the language of preferences and beliefs and the religion of utility maximization that provides a unitary perspective for understanding all behavior. From cognitive psychology, decision theory inherited its descriptive focus, concern with process, and many specific theoretical insights. Decision theory is thus the brilliant child of equally brilliant parents. With all its cleverness, however, decision theory is somewhat crippled emotionally, and thus detached from the emotional and visceral richness of life.' (Loewenstein, 1996: 289)

Keywords: dynamic capabilities; intuition; emotions in strategic decision making; organizational adaptation; strategic change; strategic cognition; behavioral strategy
*Correspondence to: Gerard P. Hodgkinson, Warwick Business School, University of Warwick, Coventry CV4 7AL, U.K.
E-mail: Gerard.Hodgkinson@wbs.ac.uk

INTRODUCTION

Since its earliest days, the field of strategic management has been preoccupied with developing rational and analytical models and theories (e.g., Ansoff, 1965; Hofer and Schendel, 1978) to understand the nature and causes of sustainable enterprise performance (Teece, Pisano, and Shuen, 1997). From Porter's (1980) analysis of competitive positioning informed by the structure-conduct-performance paradigm, to game theoretic analyses of competitive interaction (Brandenburger and Nalebuff, 1996), to the more recent evolutionary (e.g., Nelson and Winter, 1982) and resource-based (e.g., Barney, 1991; Wernerfelt, 1984) perspectives

STRATEGIC MANAGEMENT JOURNAL

Enabling emotional reflection and reframing in strategy making

Hodgkinson, G.P., Wright, R.P. & Anderson, J. (2015). Emotionalizing strategy research with the repertory grid technique: Modifications and extensions to a robust procedure for mapping strategic knowledge. *Advances in Strategic Management* , *32*, 509-551.

Table 1. Most frequently mentioned strategic issues elicited in Study 1 (N=25)

	Strategic Issues Impacting Owner/Managers' Business	Frequency Mentioned
1	Current availability of skilled workers in UK	14
2	London 2012 Olympics	10
3	Growing dominance of E- and M-commerce retail markets	9
4	Current availability of credit in UK	8
5	Current state of Euro Zone	8
6	Current cost of fuel in UK	8
7	UK trade union strikes	6
8	Bailout of European banks	6
9	UK benefits system	6
10	CSR for businesses	6
11	Rewarding failure (Bankers' Bonuses)	5
12	Economic migration to UK	5
13	Tax avoidance (legally avoiding tax)	5
14	Global warming	4
15	Increased university tuition fees	4
16	Potential online censorship	4
17	Recent hacking scandals in Telephone and IT industries	4
18	Economic rise of China	3
19	Asylum seeking in UK	3

Note. We used the PESTLE framework to help categorize these 19 environmental stimuli impacting owner/managers' businesses. Cohen's Kappa analysis between two raters showed an agreement of 0.802 when coding these 19 issues using PESTLE framework.

These 19 strategic issues were used as the (researcher supplied) elements in Study 2

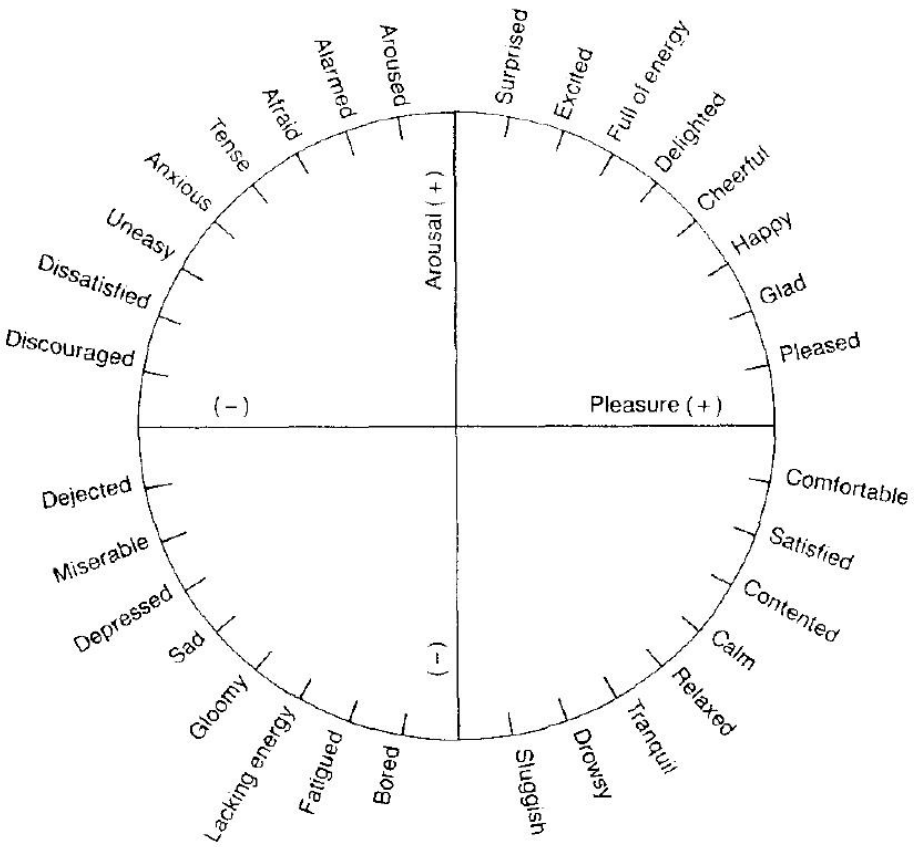
PLEASE NOW TURN THE PAGE TO CONTINUE WITH THE QUESTIONNAIRE

Rewarding Failure (Bankers' Bonuses)

Surprised	1	2	3	4	5	6	7	Bored
Sad	1	2	3	4	5	6	7	Cheerful
Satisfied	1	2	3	4	5	6	7	Discouraged
Tense	1	2	3	4	5	6	7	Relaxed
Excited	1	2	3	4	5	6	7	Fatigued
Depressed	1	2	3	4	5	6	7	Happy
Contented	1	2	3	4	5	6	7	Dissatisfied
Afraid	1	2	3	4	5	6	7	Tranquil
Full of energy	1	2	3	4	5	6	7	Lacking Energy
Miserable	1	2	3	4	5	6	7	Glad
Comfortable	1	2	3	4	5	6	7	Uneasy
Alarmed	1	2	3	4	5	6	7	Drowsy
Enthusiastic	1	2	3	4	5	6	7	Gloomy
Dejected	1	2	3	4	5	6	7	Pleased
Calm	1	2	3	4	5	6	7	Anxious
Sluggish	1	2	3	4	5	6	7	Aroused

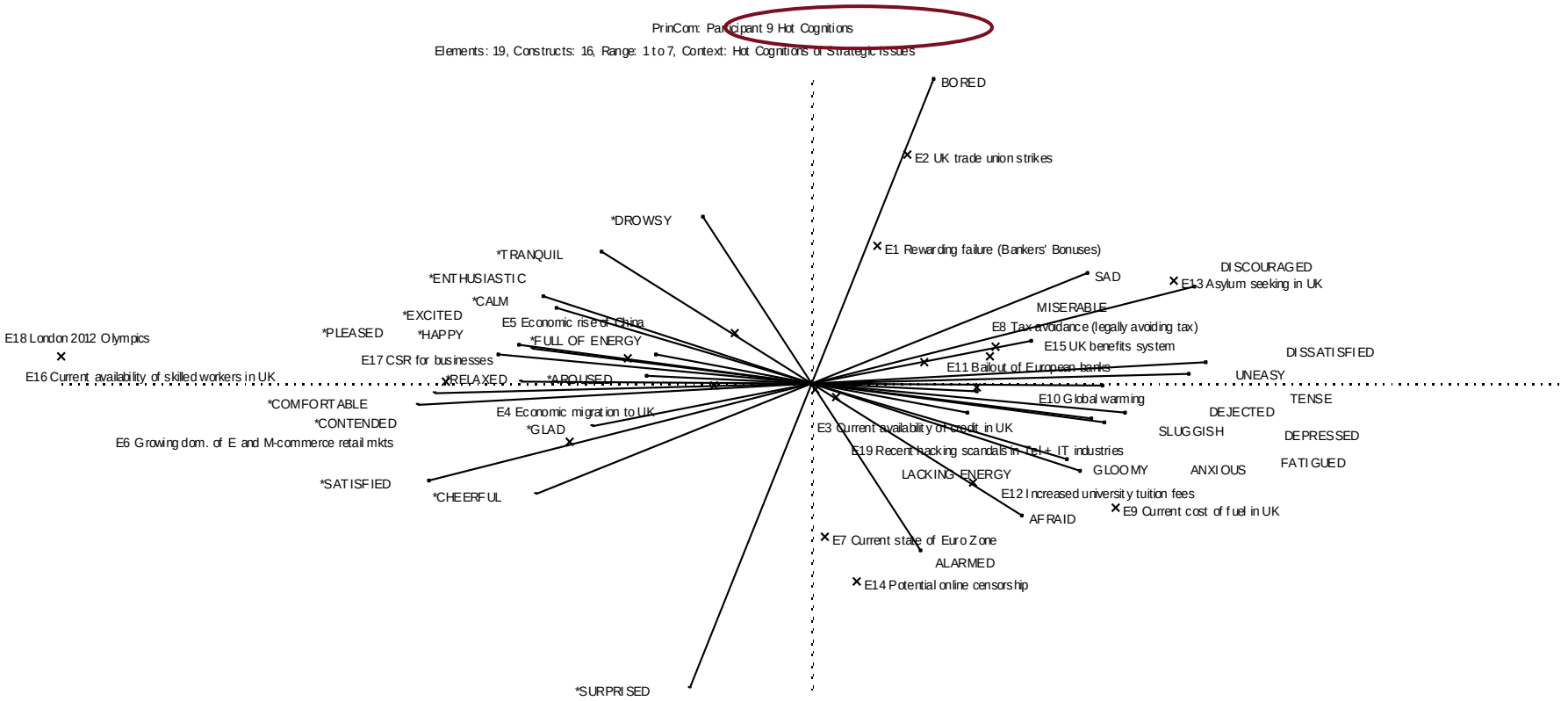
Comments:

Affective Circumplex (Warr, 2002)

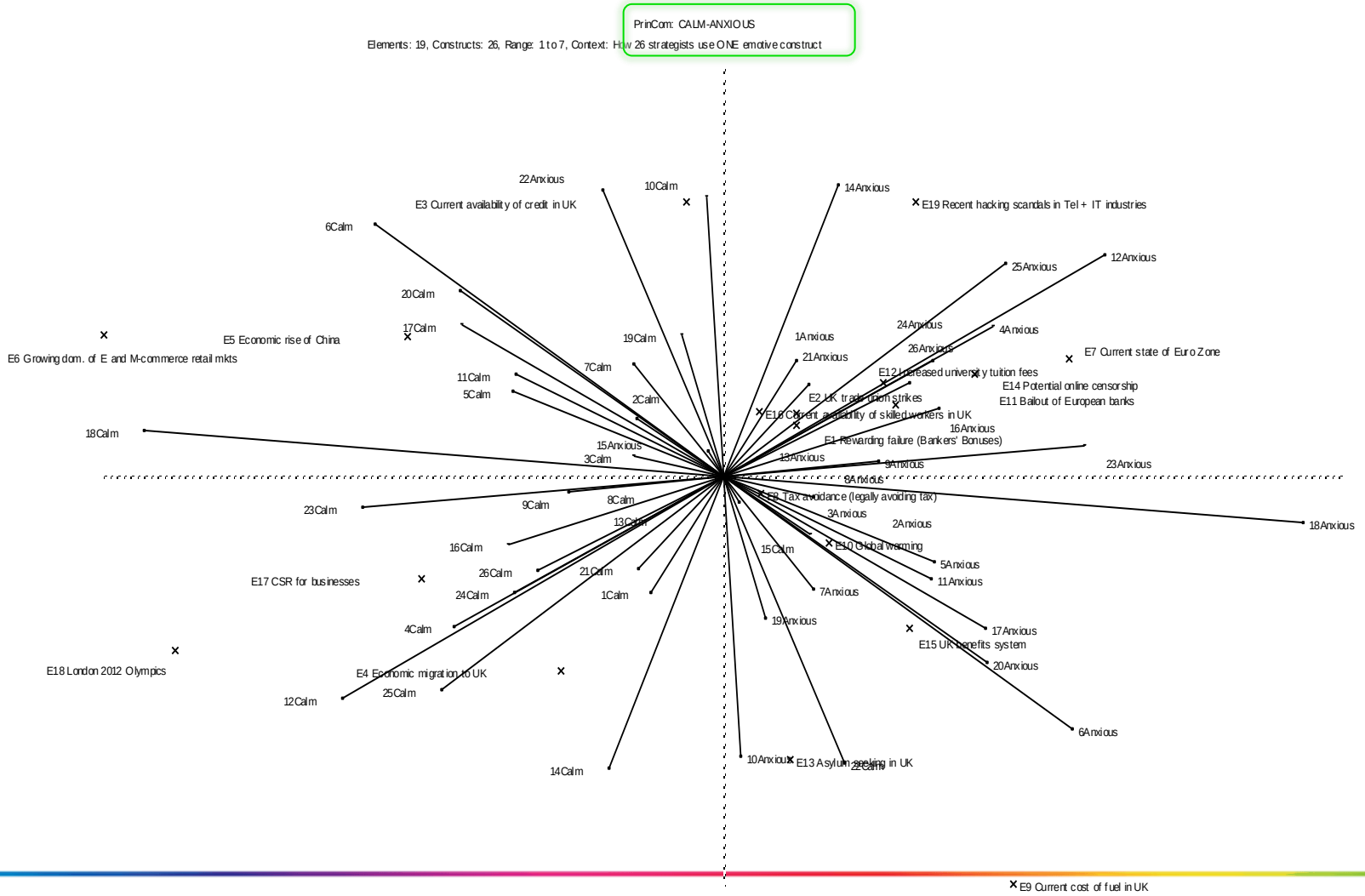


In Study 2 (N=26), rather than eliciting constructs on an idiographic basis, we elected to supply a common set of constructs to the participants. For this purpose we employed the ***affective circumplex*** (Barrett & Russell, 2009; Russell, 1980; Warr, 2002) to generate a set of ***16 researcher-supplied seven-point bi-polar rating scales***, incorporating the full range of constructs comprising this **well-known and widely accepted model of human emotions**, adopting the construct labels specified in Warr's (2002) depiction of the model.

The contrasting cognitive-affective representations of Participant 9 revealed via principal components analysis of the corresponding participant matrices.

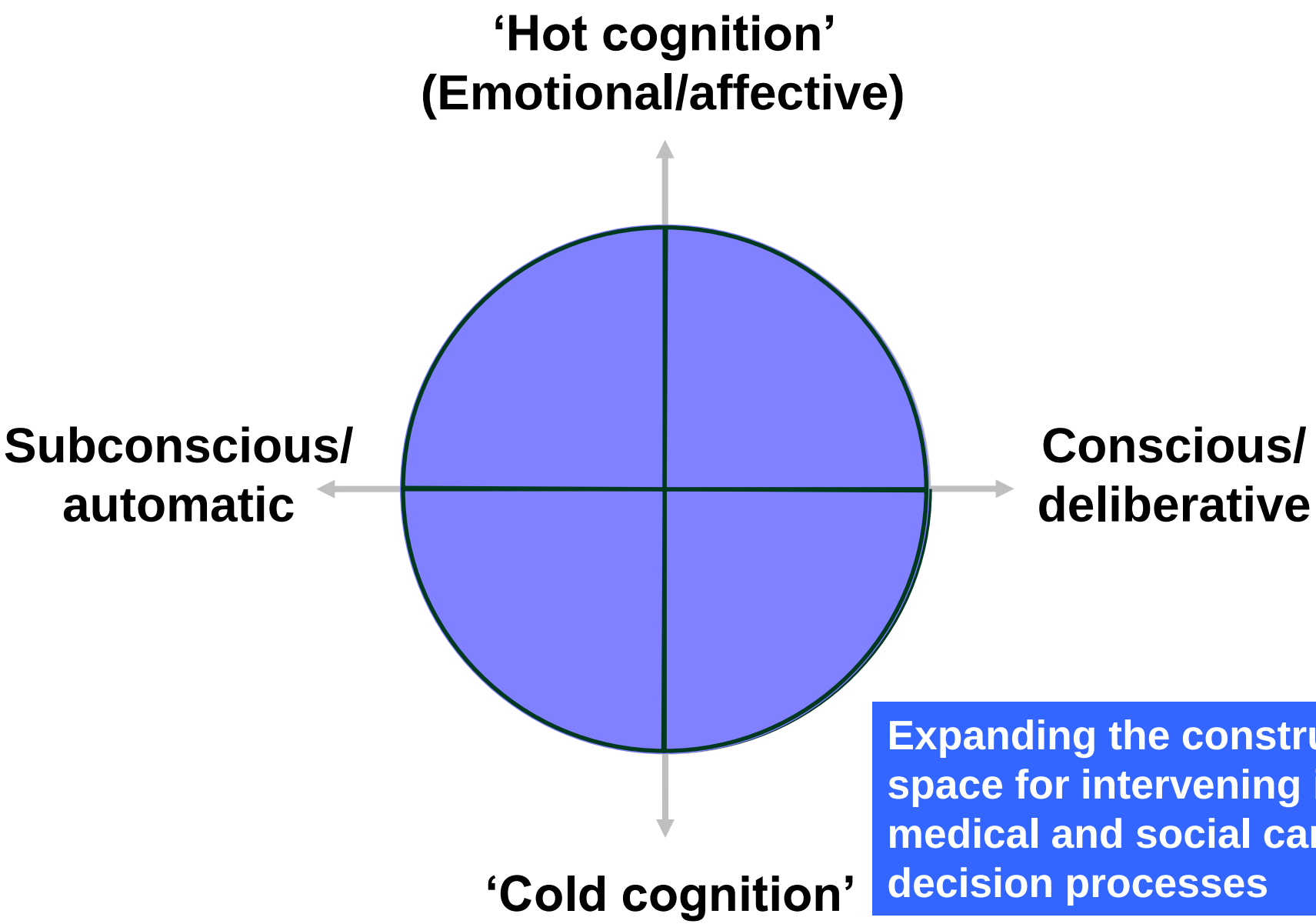


The contrasting emotional viewpoints of the 26 participants pertaining to the strategic issues vis-à-vis the calm-anxious construct, revealed via principal components analysis



Concluding Remarks

- ‘Behavioural plausibility’ of the psychological foundations of evidence-based practice within and across policy, organizational, and clinical domains
  - Social neuroscience view of human functioning
- Dynamic capabilities entail reason and emotion in tandem
  - New skills, processes, procedures, decision rules, and disciplines
  - Organizational adaptability requires architectures and support systems that embrace and augment, rather than ignore or militate against, ‘less deliberative’ and ‘hot’ cognitive processes



Expanding the construct space for intervening in medical and social care decision processes

Source: Adapted from G.P. Hodgkinson and M.P. Healey, Psychological foundations of dynamic capabilities: Reflexion and reflection in strategic management. *Strategic Management Journal*, Vol. 32, P. 1503.

Key challenges

- How to embrace less conscious forms of cognition (e.g. intuition, subconscious goals) and affect in an increasingly regulated, risk averse, and audited world?
- How to blend hot and cold approaches to decision making?
- How to reconcile competing decision logics in the design and implementation of decision processes and systems, or at least develop processes that can accommodate competing logics more effectively than present practices?

Adaptation: Thinking, feeling and acting across levels of analysis

Evidence-based decision making: Toward a critical realist design science agenda for social and health care reform

Gerard.Hodgkinson@wbs.ac.uk