



49th Annual Conference



When Competence Fails Under Pressure: Designing AI-Supported Simulation for Emotional Intelligence and Decision- Making in Project Management

Presented by

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Doctoral Consortium Presentation

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11:00am - 11:30am BST / 6:00am - 6:30am EST

THE PROBLEM SPACE



Competence does not reliably translate into performance under pressure.

Individuals may demonstrate competence in stable learning environments while struggling to make effective decisions under pressure.



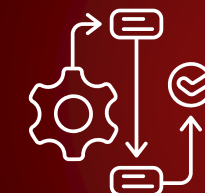
**Research
Problem**



**Why This
Matters**



**Conceptual
Framing &
Implications**



**Proposed
Approach**



**Research
Design**

WHY THIS MATTERS



Professional decisions occur under uncertainty, time pressure, and stakeholder tension.



These conditions shape how situations are interpreted.



Real-world performance depends on decision-making under pressure, not just knowledge.



This creates a **disconnect** between **competence** and **judgement** under pressure.

As uncertainty and AI reshape professional environments, the ability to make effective decisions under pressure becomes increasingly critical.



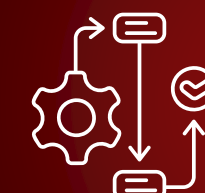
Research Problem



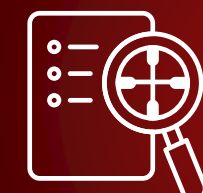
Why This Matters



Conceptual Framing & Implications

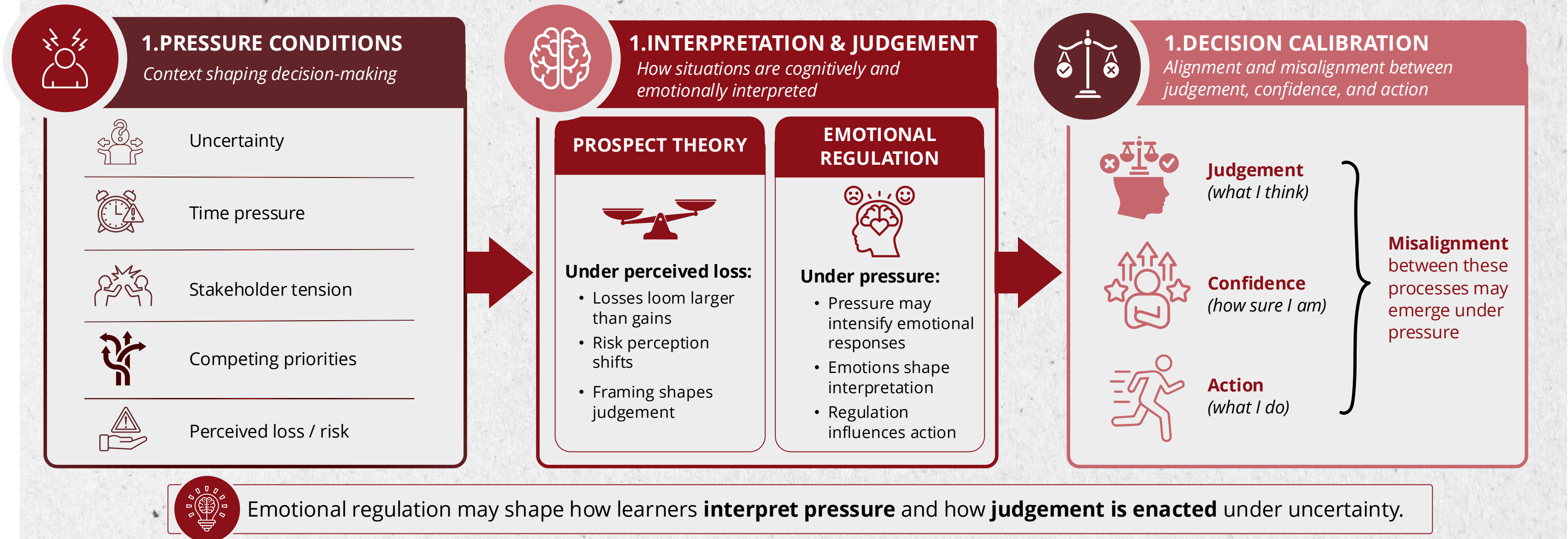


Proposed Approach



Research Design

A CONCEPTUAL MODEL OF DECISION-MAKING UNDER PRESSURE



Kahneman & Tversky (1979); Mayer et al. (2004); D'Mello & Graesser (2012)



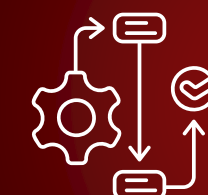
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IMPLICATIONS FOR LEARNING DESIGN

1

Pressure Changes Decision-Making: Uncertainty, time pressure, and stakeholder tension shape how decisions are made.

2

Current Learning Gaps: Most learning environments assess knowledge, not performance under pressure.

3

Opportunity for Reflective and Adaptive Learning: AI-supported simulations may enable reflection, calibration, and adaptive support in real time.

4

Research Direction: This research explores how TEL environments may better prepare individuals for judgement under uncertainty.

This research conceptualizes decision-making under pressure as an **alignment problem** between judgement, confidence, and action.



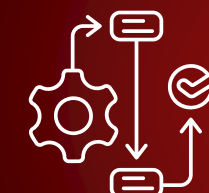
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PROPOSED APPROACH

Learning Environment

Adaptive Simulation Environment

- Scenario-based project environments
- Time pressure, uncertainty, and stakeholder tension
- AI-driven stakeholder interactions

Embedded Learning Support

Reflective & Adaptive Scaffolding

- Reflective prompts during decision-making
- Confidence checks to surface calibration
- Adaptive feedback based on learner responses
- Support for reflective awareness during decision-making

Intended Contribution

Supporting Decision-Making Under Pressure

- Alignment between judgement, confidence, and action
- Reflection on emotional and cognitive influences on judgement
- Reflection under pressure
- TEL design for complex professional learning
- Recognition of judgement misalignment under pressure



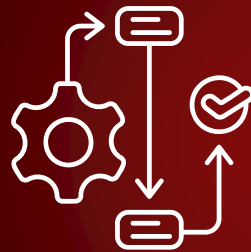
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Conceptual Framing & Implications



Proposed Approach



Research Design

RESEARCH DESIGN

Research Approach



Design Science Research (DSR)

- Iterative design and refinement of a learning system
- Focus on iterative design and refinement of the intervention
- Integrates theory with TEL system design

Proposed Simulation Environment



AI-Supported Simulation Prototype

- Scenario-based learning environment
- AI-driven stakeholder interactions
- Adaptive scaffolding and feedback
- Designed to support reflection under pressure

Evaluation



Planned Evaluation Approach

- Decision-making quality and calibration
- Alignment between judgement, confidence, and action
- Reflective processes during decision-making
- Learner responses under pressure
- Interpretation of uncertainty and perceived risk



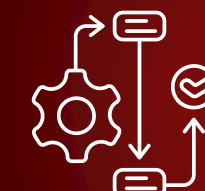
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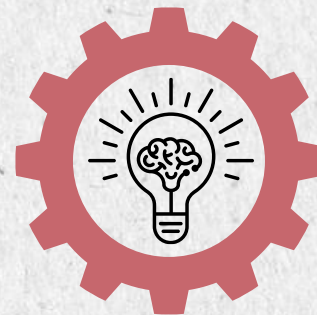


Proposed
Approach



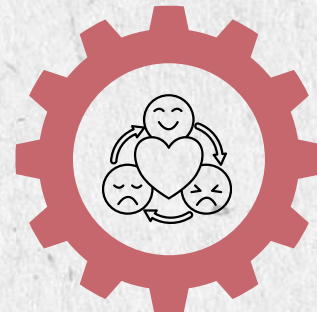
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FEEDBACK & DISCUSSION



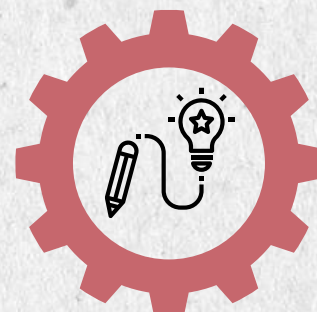
1 — Conceptual Clarity

How should judgement calibration under pressure be conceptualized and operationalized?



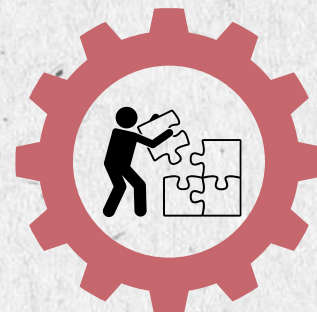
2 — Emotional Processes

How might emotional regulation be represented within simulation environments?



3 — System Design

How can adaptive scaffolding support reflection without reducing learner agency?



4 — Alignment

Does the proposed framework sufficiently address the relationship between pressure, interpretation, and judgement?

Early-stage conceptual and design research — feedback welcomed.

BRIDGING COMPETENCE & PERFORMANCE UNDER PRESSURE

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REFERENCES

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