

Project Summary for IAL Website

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Project Title:	Changing Mindsets to Enable Workers to Thrive in an Uncertain Job Market
Project Number:	GA20-05
Year of Approval:	2020
Funding Source:	WDARF
Objectives and intended outcomes of the project:	We will investigate two theoretically novel mindsets as potential solutions to reduce these psychological barriers to upskilling and reskilling. We will design protocols and materials for scalable interventions that can be delivered to working adults. The knowledge and interventions developed in this research will contribute to the WDARF’s goal of identifying strategies to encourage lifelong learning, by creating effective ways to nudge people towards lifelong learning in a cost-effective, scalable manner.
Project Team	
Principal Investigator:	Dr Patricia CHEN
Co-Principal Investigators:	Dr Bernard Cheng-Yian TAN, Dr SUN Li-Ning
Summary of Project (up to 300 words)	
<p>Modern technological advancements and the Covid-19 pandemic have created significant job uncertainty for workers worldwide. To stay relevant and competitive, workers need to continually upskill and reskill. Yet, psychological barriers could hinder their motivation to engage in lifelong learning. One reason why people are reluctant to engage in lifelong learning could be because they do not believe they can learn new, different kinds of skills. Another reason could be because many Singaporeans have a fear of failure.</p> <p>In this research, we introduce two theoretically novel mindsets as potential solutions to reduce these psychological barriers: an “expansive growth mindset” (the belief that one can take up and master new, different kinds of skills) and an “experimental mindset” (an orientation towards approaching any challenging and unfamiliar situation through iterative experimenting like a researcher). Having an expansive growth mindset enables people to see the possibility of succeeding at mastering unfamiliar skills; whereas an experimental mindset psychologically distances people from failures, allowing them to keep learning and growing. By instilling these adaptive mindsets in adults, our research will provide possible ways to motivate greater lifelong learning.</p> <p>We will conduct psychological research on working adults to measure and test the global efficacy of these mindsets. In Aim 1, we will design and validate measures of these theoretically novel mindsets, and examine their relation with people’s learning attitudes and motivations. In Aim 2, we will design and test scalable mindset interventions to motivate greater engagement in upskilling and reskilling. The knowledge and interventions developed in this research will contribute to the WDARF’s goal of identifying strategies to encourage lifelong learning, by creating effective ways to nudge people towards lifelong learning in a cost-effective, scalable manner.</p>	

Summary of Project Findings, Deliverables and Impacts (up to 500 words)

The project investigated three theoretically novel mindsets as potential solutions to the psychological barriers to upskilling and reskilling in an uncertain job market: an Expansive Growth Mindset, an Experimental Mindset, and a Strategic Mindset (an agentic orientation towards generating and deploying better strategies in goal pursuit). Across multiple studies with over 26,000 working adults, the project developed validated psychological scales for the first two mindsets, examined how all three predict career adaptability and lifelong learning, and designed scalable interventions to cultivate these mindsets.

Our findings were consistent and encouraging. These mindsets predicted many outcomes in adapting to an uncertain job market. Workers with more of these mindsets were more willing to take on novel and uncertain tasks, perceived themselves as more marketable within and beyond their current organisations, and showed greater confidence in making drastic changes to their job responsibilities or careers. Faced with job threats from Covid-19 or technological advancement, they were more likely to proactively reskill or switch to a new field rather than wait out the disruption. They also reported more positive and fewer negative emotions at the prospect of starting over in an entirely new career.

Similarly, these mindsets also predicted key outcomes in lifelong learning. Workers with more of these mindsets reported greater engagement in both formal and informal training, stronger self-regulated learning, more adaptive attitudes towards failure, and higher resilience when learning challenges arose.

Crucially, these effects held across gender, age, education level, and income group, suggesting broad applicability for workforce development policy. Furthermore, each mindset makes independent contributions to these outcomes, even after accounting for the effects of the other two. Among Singaporean working adults drawn to reflect the national workforce profile ($N = 2,000$), moderate levels of all three mindsets were observed, suggesting meaningful room for development exists.

The project delivered three key outputs. First, two new psychometrically validated scales (i.e., Expansive Growth Mindset and Experimental Mindset) are available for use in future research and workforce profiling. Second, the project mapped Singaporeans' current mindset, career adaptability, and lifelong learning profiles using two samples of approximately 2,000 working adults each, drawn to reflect the national workforce profile, providing a baseline for tracking changes over time. Third, the team designed and tested an Experimental Mindset intervention and two versions of a Strategic Mindset intervention, both of which successfully enhanced the targeted mindsets and improved career outcomes including openness to novel tasks, adaptation to job disruption, and reskilling attitudes. These interventions are brief and scalable, making them suitable for deployment across a range of adult learning contexts.

The research has received international recognition, with five talks and poster presentations delivered at four top-tier international conferences including APA, APS, and SPSP. The Experimental Mindset work has been awarded the Psychological Science and Entrepreneurship Poster Award by the Ewing Marion Kauffman Foundation at the 2022 APS annual conference. Findings have also been disseminated to local academic and policy audiences, contributing to the evidence base for Singapore's lifelong learning and workforce transformation agenda.