BUILDING EXPERTISE IN A NOVEL TREATMENT FOR ANOREXIA NERVOSA IN YOUTH – DR STEPHANIE MILES

FELLOWSHIP REPORT FOR THE CRESWICK FOUNDATION – JULY 2026

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APPLICANT DETAILS

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Type of Org	Orygen is a not-for-profit company limited by guarantee. It is a charitable entity with Deductible Gift Recipient Status and is an approved research institute. The Company has three Members: the Colonial Foundation, The University of Melbourne and Melbourne Health. Orygen is led by a Board of Directors. The Board's operations are informed and supported by committees.

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EXECUTIVE SUMMARY

This Fellowship project aimed to cultivate knowledge on executive functioning and cognition remediation therapy for young people with anorexia nervosa. Further, this project sought to develop relationships with international experts and promote collaborative research projects. A visit to Associate Professor Alix Timko and her team at the Children's Hospital of Philadelphia (CHOP) and The University of Pennsylvania in the United States of America was undertaken in April 2026. Key findings highlight the challenges of cognition in eating disorders research, novel methods to assess cognition, adjunct therapies for anorexia nervosa which target cognitive deficits, and treatment acceptability and effectiveness.

INTRODUCTION

Anorexia nervosa is a serious mental illness which typically onsets during adolescence (Solmi et al., 2022). Current treatment approaches for anorexia nervosa do not work for a large portion of people with the illness (Couturier & Lock, 2006; Eddy et al., 2017) and anorexia nervosa is often characterised by treatment resistance and cognition challenges (Miles et al., 2020). Cognitive remediation therapy (CRT) is an adjunct treatment seeks to improve cognitive difficulties and increase engagement in further anorexia nervosa focused treatment (Timko et al., 2024). Although CRT has been implemented elsewhere around the world as a treatment for anorexia nervosa (e.g., Itay (Brockmeyer et al., 2021), Norway (Thorsrud et al., 2024), England (Leppanen et al., 2018), and the United States (Timko et al., 2021)), CRT is not yet offered in Australia.

This Fellowship was undertaken to learn about CRT, cognition, and eating disorders. Specifically, this Fellowship aimed to acquire valuable knowledge on: best practices for delivering CRT to adolescents, outcomes of clinical trials using CRT, and novel cognition research. This Fellowship facilitated networking with world leading researchers and clinicians who are experts in eating disorders in young people and supported the development of collaborative relationships and research projects.

FELLOWSHIP ACTIVITIES

The fellowship involved a nine-day visit (plus travel time) to the Eating Disorders Assessment and Treatment Program at CHOP.

During the visit, I had meetings with the following people from the eating disorders research team:

- Associate Professor Alix Timko
- Dr Marita Cooper
- Grace Haase
- Jiana Schnabel

I also met with other CHOP and University of Pennsylvania staff:

- Radha Pennotti (senior manager of Policy & Strategy)
- Dr Emily Kuschner (clinical psychologist and researcher, Department of Psychiatry and Behavioral Sciences)
- Dr Ben Yerys (Director, PASSAGE Program, Center for Autism Research)
- Dr Katrina Lenz (clinical psychologist, Assessment and Treatment Eating Disorders Program)
- Dr Jeanna Stokes (clinical psychologist, Department of Psychiatry and Behavioral Sciences)

Other fellowship activities included:

- Touring the CHOP eating disorders research lab spaces
- Attending a colloquium on implementation science
- Completing education and hands on training in CRT

- Participating in a meeting on evaluating treatment fidelity of CRT for young people with eating disorders
- Attended presentation on autism research and related services offered by CHOP
- Providing feedback to an Honours level student on their research presentation
- Brainstorming research paper ideas and opportunities for collaborative research studies
- Drafting an opinion article with Associate Professor Alix Timko
- Shadowed the clinical team at the CHOP eating disorders day patient program
- Shadowed Dr Jeanna Stokes on the CHOP inpatient nutritional rehabilitation ward
- Presented my research to the CHOP eating disorders research team

KEY FINDINGS

This fellowship yielded several notable findings:

PROBLEMS AND PITFALLS OF COGNITION RESEARCH IN EATING DISORDERS

During this Fellowship, several problems in the field relevant to cognition research were identified:

- Poorly defined terminology
- Inconsistency in the assessments used to evaluate cognition, creating challenges for comparing results across studies, sharing data, and generalising findings
- Task impurity problem - tasks designed to evaluate any cognitive domain (e.g. memory) cannot assess the domain in isolation as the successful completion of any task requires the use of several cognitive processes (e.g. attention, cognitive flexibility)
- Scoring of tasks is complex and interpretation of results is challenging
- Existing cognition tasks may lack nuance and have poor ecological validity
- Most cognition tasks assess general cognition (i.e. cognition in everyday life) and are not specific to eating disorder symptoms or contexts - e.g. evaluating overall flexible thinking rather than capturing flexible thinking when making meal choices
- Inappropriate conflation of adolescent and adult populations
- Unclear influence of comorbid illnesses and conditions such as major depressive disorder, autism spectrum disorder, and generalised anxiety disorder

NOVEL METHODS FOR ASSESSING COGNITION IN EATING DISORDERS

To capture cognition difficulties as relevant to food and eating in adolescents with anorexia nervosa, Associate Professor Alix Timko and her team have adapted the open science online grocery store. This simulated grocery store activity involves participants browsing >10,000 grocery store items (e.g., breads, vegetables, beverages, snack foods), adding them to a virtual shopping cart, and “checking out.” The program records participants activities (e.g. foods clicked on, items added and removed from cart, frequency of viewing nutritional labels

for food items), delivering a behavioural assessment of eating disorder symptoms and cognition.

CRT AS AN ADJUNCT TREATMENT FOR ANOREXIA NERVOSA

CRT was developed following WWII an adjunct treatment that aims to improve functional outcomes by training cognitive skills. Building cognitive skills creates the foundation for future behavioural changes and lays the groundwork for therapy. There are four key components of CRT: a trained therapist, practice of cognitive exercises, attention to the development of cognitive strategies, and transfer of skills to daily functioning.

In the 21st century CRT was adapted into an adjunctive treatment for anorexia nervosa which targets rigid thinking and poor central coherence. CRT has been found to be feasible and acceptable for patients and clinicians, has low dropout rates, and strengthens cognitive abilities in specific domains (Giombini et al., 2017, 2022; Tchanturia et al., 2013). CRT does not directly impact weight gain or eating disorder symptoms as that it not the purpose of the treatment. Rather, CRT is part of a more comprehensive approach that impacts executive functioning and indirectly impacts ED treatment outcomes.

CRT involves the completion of multiple games or activities. Each activity has multiple levels which increase in difficulty as the young person build their skills. Following an activity, a therapist encourages meta-cognition by providing observations, asking questions, promoting self-reflection, and creating opportunities for the young person to draw parallels between the activity and everyday life. This discussion and reflection is the most important part of CRT. As the levels increase in difficulty, strategies which had previously worked to solve problems may no longer be appropriate. CRT teaches the young person to build on what was previously learnt and be flexible and curious about trying something different.

CRT uses stimuli that are neutral and unrelated to eating disorders. These neutral stimuli help to avoid distress and makes it easier to learn. Further, the eating disorder is never raised by the clinician, creating a safe and comfortable therapy environment.

CRT activities can include:

- The map game: Asks the young person to find a route from Point A to Point B on a map. And then another route. And then another. Young people come to see there's more than one way to approach a problem. See Figure 1
- Rush hour Game
- Q-bitz Game
- The Summary Task: Asks the young person to read a short story or letter and then summarize it in one sentence. Young people learn to zoom out from the details
- Visual Illusions: See Figure 2
- Rebus Puzzles

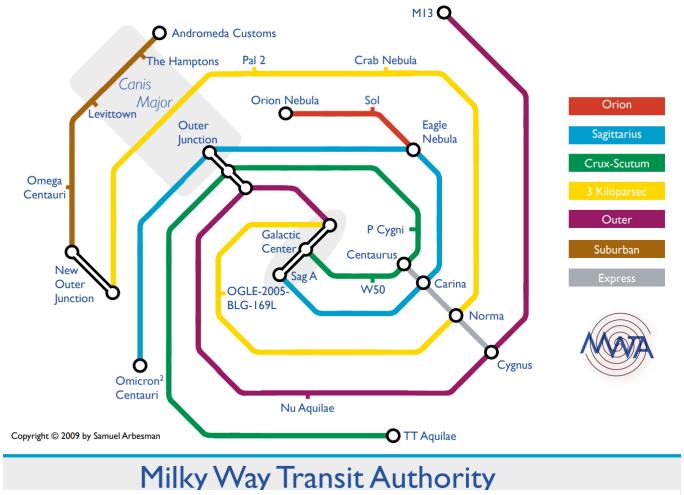

Figure 1: Map game example. Find a route from the M13 to the Carina station. What route could be taken if the grey Express Line is down for repairs?

When working with young adolescents and children, it can be helpful to involve parents or siblings. Young people often find it fun to demonstrate their skills and outsmart their parents by completing a challenging activity before their parents can figure it out.

ADAPTING CRT

Figure 2: Can you find the hidden tiger?

CRT was originally developed as an intervention that is be administered to a patient by a psychiatrist or psychologist during individual sessions or in a group format. However, recent research by Associate Professor Alix Timko and her team is trialling the delivery of CRT to adult parents instead of adolescent patients (see Timko et al., 2021). Their team has also implemented telehealth delivery of CRT which has been found to be enjoyed by adolescents and feasible. The CHOP team and I also discussed other adaptations which could be made to CRT so that it would be feasible for outpatient services with limited resources and time constraints. Although the CHOP team delivers 9 weekly, 1 hour CRT sessions, we considered reducing the sessions to only 15 minutes long, delivered at the start of a regular therapy appointment. While this approach would require CRT to be administered over several months rather than weeks, we think it might be an appropriate adaptation when young people are unable to attend multiple sessions per week and/or clinicians do not have the capacity to add extra sessions to their case load.

EATING DISORDERS TREATMENT ACCEPTABILITY AND EFFECTIVENESS

The acceptability of eating disorder treatments, in particular family-based treatment, is considered to be much higher in the United States than Australia. Cultural and health system differences were reviewed as possible influences on the differences between countries. Changes in parenting styles over the past 20 years, in particular moves away from authoritarian parenting styles since the development of family-based treatment in 2001, were considered as possible contributors to the mixed success of the treatment. Overall, clinicians delivering family-based treatment had positive opinions of the treatment and felt that it was the most appropriate first-line treatment for adolescents with anorexia nervosa. Telehealth delivery of family-based treatment is a new approach which requires further evaluation.

PROFESSIONAL DEVELOPMENT OUTCOMES

This fellowship provided significant professional growth opportunities through:

- Development of international professional network and potential collaborations
- Insight into novel approaches for assessing food-related flexible thinking in young people with anorexia nervosa – e.g. a mock grocery shopping activity
- Building my reputation as a leader in the field e.g. through networking, presentations, and sharing my knowledge with others
- Upskilling in CRT knowledge and skills which have been shared with Australian clinicians and can inform clinical practice at the Parkville Youth Mental Health and Wellbeing Service

DISSEMINATION

PROFESSIONAL PRESENTATIONS

Learnings from this fellowship have been disseminated through:

- Presentation for the Scientific Work in Anorexia Nervosa Research Group on the 28th of May 2026. This session was attended by researchers, psychologists, and PhD candidates studying eating disorders
- Professional development session for the outpatient eating disorders team at the Parkville Youth Mental Health and Wellbeing Service on the 1st of June 2026. This session was attended by psychologists, psychiatrists, dieticians, social workers, family workers, and mental health nurses

In addition, I plan to further share my knowledge through:

- Presentation at Orygen's Colloquia on the 18th of September 2026, attended by:
    - Orygen staff (including researchers, knowledge translation specialists, clinical staff, policy and communications specialists)
    - Clinicians from the Royal Children's Hospital and the Royal Melbourne Hospital
    - Clinicians and lived experience experts from the Victorian Centre of Excellence in Eating Disorders
- Guest presentation at a quarterly meeting for the Victorian Eating Disorders Research Network, attended by:
    - Eating disorder researchers across all career levels
    - A representative from Eating Disorders Victoria
    - Michelle Roberton, Manager of the Victorian Centre of Excellence in eating Disorders

UPCOMING PUBLICATION

During my visit to Philadelphia, Associate Professor Alix Timko, other eating disorder researchers, and I discussed the issues in our field regarding cognition research (see findings section above). Based on our discussions, we identified the need for a journal article which summarised these issues for the field and provided solutions and future directions. We are co-authoring an opinion piece (tentatively titled "*Food for Thought: Positives, Problems, Pitfalls, and Possible Directions for Executive Functioning Research in Eating Disorders*") which we hope to publish in either European Eating Disorder Review or the Journal of Eating Disorders. The article will be submitted to a journal before the end of 2026 and if possible, will be published open access.

COLLABORATIVE PROJECTS

Associate Professor Alix Timko and I identified several shared interests and possibilities for future collaborative projects. These projects have the overarching aim to better understand cognitive inefficiencies in young people with anorexia nervosa and improve approaches to assessing these difficulties. We are keeping in contact and taking steps to initiate this novel research (e.g. applying for funding).

ONGOING CONNECTIONS

I will maintain and develop connections made during the Fellowship through:

- Meetings to identify future opportunities for collaboration - e.g. since returning to Australia, I have met with Children's Hospital of Philadelphia researchers
- Exploring collaborative conference presentations and grant opportunities
- Face-to-face meetings at international conferences

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Orygen acknowledges the Traditional Owners of the lands we are on and pays respect to their Elders past and present. Orygen recognises and respects their cultural heritage, beliefs and relationships to Country, which continue to be important to the First Nations people living today.

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