IAPCT

International Association for Perceptual Control Theory

32rd Annual Conference

6-8 October 2022

Perceptual Control Theory (PCT) is the science of purpose: how living things use their actions to produce intended results in an unpredictably changing environment. The technical term for this is control. PCT provides a unified and comprehensive theory and research methodology for the many sciences of life, including biology, ethology, neuroscience, psychology, linguistics, anthropology, and sociology, among others.

Each presenter's field poses unique challenges in identifying and testing controlled perceptual variables, and unique opportunities for reconceptualizing observational and experimental methods and data of the field and doing truly pioneering work. Every field presents challenges communicating with those who do not perceive the phenomenon of control, and opportunities for cross-disciplinary research and discovery that becomes possible with the life sciences all working on a common theoretical, mathematical, and methodological foundation. Session topics include neurophysiology, computer modelling, robotics, and applications of PCT in psychotherapy and in education.

Participants usually are from many different time zones extending from Holland across the United States to New Zealand. This year we'll meet at an online conference using Zoom.

IAPCT Conference Schedule

DAY 1: THURSDAY. 6 OCTOBER 2022

Introduction			
6:00 am PDT 9:00 am EDT 2:00 pm BST 3:00 pm CEST 9:00 pm AWST 12:00 midn AET Fri 2:00 am NZDT	15 min.	Zoom Host	Zoom Meeting Orientation
		Eva de Hullu: IAPCT President	Welcome

Session 1: Perceptual Functions			
6:15 am PDT 9:15 am EDT 2:15 pm BST 3:15 pm CEST 9.15pm AWST Fri 12:15 am AET Fri 2:15 am NZDT	40 min.	Erling Jorgensen	Stacking & Tracking Campfire Perceptual Input Functions: How Does the Image Evolve?
6:55 PDT 9:55 am EDT 2:55 pm BST 3:55 pm CEST 9.55pm AWST Fri 12:55 am AET Fri 2:55 am NZDT	30 min.	Bruce Nevin	Go Configure: The Role of the Cerebellum in Perceptual Control
7:25 am PDT 10:25 am EDT 3:25 pm BST 4:25 pm CEST Fri 10:25 pm AWST Fri 1:25 am AET Fri 3:25 am NZDT	30 min.	Eva de Hullu	Principle Control as the Control of Intrinsic Variables

35 minute break

Session 2: Consciousness & Prediction			
8:30 am PDT 11:30 am EDT 4:30 pm BST 5:30 pm CEST 11:30 pm AWST Fri 2:30 am AET Fri 4:30 am NZDT	30 min.	Rupert Young	Consciousness: The Control of Quality
9 am PDT 12 pm EDT 5 pm BST 6 pm CEST Fri 12 am AWST Fri 3 am AET Fri 5 am NZDT	75 min.	Warren Mansell Liam Mason Sari Goldstein Paul Cisek Adam Safron Rutger Goekoop Roy de Kleijn	Predictive Processing Theories and Perceptual Control Theory: A Discussion

15 min break

Session 3: Computational Modelling of Multiple Agents			
10:30 am PDT 1:30 pm EDT 6:39 pm BST 7:30 pm CEST Fri 1:30am AWST Fri 4:30 am AET Fri 6:30 am NZDT	30 min.	Kent McClelland	A Fresh Look at Collective Control and Conflict
11 am PDT 2 pm EDT 7 pm BST 8 pm CEST Fri 2 am AWST Fri 5 am AET Fri 7 am NZDT	30 min.	Roger K Moore	Communication in Cooperation: a PCT Perspective

DAY 2: FRIDAY, 7 OCTOBER 2022

Introduction: Day 2			
6:00 am PDT 9:00 am EDT 2:00 pm BST 3:00 pm CEST 9:00 pm AWST 12:00 mdn AET Sat 2:00 am NZDT	10 min.	Eva de Hullu and Zoom Host	Welcome, and Zoom Meeting Orientation

Session 4: Method of Levels			
6:10 am PDT 9:10 am EDT 2:10 pm BST 3:10 pm CEST 1:10 pm AWST Sat 12:10 am AET Sat 2:10 am NZDT	20 min.	Matias Salgado	Method of Levels (MOL) Training: Trials and Errors
6:30 am PDT 9:30 am EDT 2:30 pm BST 3:30 pm CEST 9:30 pm AWST Sat 12:30 am AET Sat 2:30 am NZDT	90 min	Matias Salgado et al. Warren Mansell & Sara Tai Eva de Hullu	Open Forum: Starting with Method of Levels (MOL): whys and hows [Spanish: ¿Cómo y por qué empezar con MOL?] MOL Training - experiences and experiential practice (English) Interactive meeting: Method of Levels in de Nederlandse GGZ [Dutch] (Practising MOL in the Dutch Mental Health System)

30 minute break

Session 5: Education			
8:30 am PDT 11:30 pm EDT 4:30 pm BST 5:30 pm CEST 11:30 pm AWST Sat 2:30 am AET Sat 4:30 am NZDT	30 min.	Eetu Pikkarainen	The Problem of Choice
9:00 am PDT 12:00 noon EDT 5:00 pm BST 6:00 pm CEST 12:00.midn AWST Sat 3:00 am AET Sat 5:00 am NZDT	20 min.	Hugo Cristo Sant'Anna	A PCT-based Approach to Teaching and Learning How to Program

20 min break

Session 5: Education (Continued)			
9:40 am PDT 12:40 pm EDT 5:40 pm BST 6:40 pm CEST Sat 12:40 am AWST Sat 3:40 am AET Sat 5:40 am NZDT	60 min.	John Kirkland Mike Saywell Mike Smith	A PCT Approach for Deliberately Nurturing Nature in Educational Institutions

DAY 3: SATURDAY, 8 OCTOBER 2022

Introductions: Day 3 and MOL Video			
6:00 am PDT 9:00 am EDT 2:00 pm BST 3:00 pm CEST 9:00 pm AWST 12:00 midn AET Sun 2:00 am NZDT	10 min.	Eva de Hullu	Welcome and Meeting Orientation
6:10 am PDT 9:10 am EDT 2:10 pm BST 3:10 pm CEST 9:10 pm AWST Sun 12:10 am AET Sun 2:10 am NZDT	30 min	Dag Forssell	Method of Levels Video and Discussion

10 min break

Session 6: Innovations in Method of Levels			
6:50 am PDT 9:50 am EDT 2:50 pm BST 3:50 pm CEST 9:50 pm AWST Sun 12:50 am AET Sun 2:50 am NZDT	20 min.	Aimee Wrightson-Hester	MYLO: An Artificial, Text-Based Emulation of Method of Levels - Latest Developments
7:10 am PDT 10:10 am EDT 3:10 pm BST 4:10 pm CEST 10:10 pm AWST Sun 1:10 am AET Sun3:10 am NZDT	20 min.	Susan McCormack	Not Eclectic - A Transdiagnostic Approach to Support Different Clients and Contexts

7:30 am PDT 10:30 am EDT 3:30 pm BST 4:30 pm CEST 10:30 pm AWST Sun 1:30 am AET Sun 3:30 am NZDT	20 min.	Michael Landman	Method of Levels: Therapist Curiosity and Conversational Structure
7:50 am PDT 10:50 am EDT 3:50 pm BST 4:50 pm CEST 10:50 pm AWST Sun 1:50 am AET Sun 3:50 am NZDT	20 min.	Eva de Hullu	Enhancing MOL Adherence

15 minute break

Session 7: Summary Discussion			
8:25 am PDT 11:25 am EDT 4:25 pm BST 5:25 pm CEST 11:25 pm AWST Sun 2:25 am AET Sun 4:25 am NZDT	30 min.	Facilitator: Warren Mansell	Taking Stock of IAPCT 2022

20 min break

Annual IAPCT Meeting

9.15 am PDT 12:15 pm EDT 5:15 pm BST 6:15 pm CEST Sun 12:15 am AWST Sun 3:15 am AET Sun 5:15 am NZDT	1 hour	Eva de Hullu IAPCT President	Elections and Other Matters IAPCT bylaws (PDF)

2022 conference Abstracts

Session 1

Erling O. Jorgensen - Stacking & Tracking Campfire Perceptual Input Functions: How Does the Image Evolve?

While PCT has ways of identifying what sorts of perceptions are being controlled, HOW the brain does it in terms of the neural Perceptual Input Functions (PIFs) is less clear. This presentation summarizes my Chapter 7 of The Interdisciplinary Handbook of PCT, with a number of campfire-related PIFs in the brain, including how they are stacked in ascending layers of sensors covering the visual field.

To convert a campfire from dwindling embers into a blazing fire requires "more brightness, more contrast, more movement." These are pursuit tracking tasks stemming from a higher level, which registers and controls for the harmonic composition of the visual spatial frequencies (SFs). The neurophysiological notion of SFs will be demonstrated, along with the perceptual significance of stacking the harmonics.

Bruce Nevin - Go Configure: Can PCT model the cerebellum?

The cerebellum (‘little brain’ in Latin) is a very complicated place. Its unique ‘crystalline’ structure1 is a highly repetitive matrix with complex nuances of selective excitation and inhibition. Its functions have been deduced from the effects of injuring it, most obviously deficits of motor control. Knowledge of the neurophysiology has advanced since Powers (1973) proposed that the cerebellum controls perceptions of the third order, configurations, and sketched a circuit for motor control as control of the configurations of the body and its limbs. While suggestive, this chapter based on neuroscience of the late 1960s cannot be seriously presented to neuroscientists today without substantial revision. For example, “The parallel fibers inhibit long rows of Purkinje cells, but the climbing fibers each excite just one Purkinje cell” (B:CP p. 116) had been superseded by at least 1988. Bill proposed, and it has often been repeated, that as a theory PCT can inform neuroscience by indicating lines of research and organizing principles, because a generative PCT model that very

accurately and reliably replicates individual behavior has a well-defined control structure which arguably will be found implemented as neural and chemical control systems. In this case, the structures and functions in the cerebellum, and in its connectivity to other parts of the brain, are increasingly well known, and to map the cerebellar system to the control-loop block diagrams that are familiar in PCT appears to call for combinations of them, and aggregate behaviors of them, which are decidedly unfamiliar. The burden of this presentation is to lay out a coherent overview of the cerebellum, pulled together from publications that too often either focus myopically or impose systemic preconceptions that are inimical to a control-theoretic analysis. Since about 2015,2 the role of the cerebellum in 'cognitive', emotional, and social functions has become generally accepted.3 These higher functions are served by evolutionarily recent anatomical extensions, especially in primates and humans, of the very same arrangements of neurological structures that serve motor control.4 Because so great a proportion of the relevant research is not on primates and humans, but rather on monkeys, cats, rats, and mice (among others) data on these aspects are relatively sparse. The role of the cerebellum in learning is well established, and its involvement with limbic systems is not surprising.5 Yet although those functions arise through anatomical extensions which are recent in evolution, with progressive expansion attested in our primate and mammalian ancestry,6 its unique matrix structure is uniform throughout. Whatever means the cerebellum employs for posture, balance, eye direction, and motor control, identical means also serve control of diverse emotional, social, and 'cognitive' perceptions. My conjecture is that these are all configurations of a progressively more 'abstract' kind underlying music, language, and culture, but that is beyond the scope of this survey.7

1 Delgado-García (2001).
2 van Overwalle et al. (2020).
3 Leiner et al. (1986), Barton & Venditti (2014), Rice et al. (2021).
4 See e.g. Ramnani (2006), van Essen et al. (2018).
5 Blatt et al. (2021).
6 See e.g. MacLeod et al. (2003).
7 See e.g. Vandevert (2016) and discussion at Discussion at t.ly/A6bz.

Eva de Hullu - Principle control as the control of intrinsic variables

In this talk I will propose that the reorganization process, the control of intrinsic variables and the principle level of control overlap to such extent that they can be considered the same process.
From the principle level, we control variables that inform us of the state of the whole system, for example: safety, health, friendship. Loss of gain of control at this level is associated with feelings and emotions at lower levels. In Method of Levels therapy, we become aware of the controlled variables at this level when we ask 'why' questions, and inquire what is important, what the meaning of something is. Intrinsic variables are those variables that need to be under control to keep the entire system healthy. They are essential for the functioning of the system. Intrinsic error is the driving force for reorganization. Reorganization is the process of changing the forms of functions in the hierarchy of control systems. This process can make changes to the learned hierarchy in order to decrease intrinsic error.

My suggestion is that reorganization is how the principle level controls its perceptions. Principle control is needed when program-level control or lower levels are not able to solve the error in the system. In such cases, the principle level control systems output will randomly select program-level control systems to solve the error, just like any other output system works. Because principle-level is high in the hierarchy, this process happens within consciousness and will impact many lower-level systems.

For example, consider safety. If I am in a social group and one of the members starts insulting one of the other members of the group, this will disturb my principle-level control of social safety. I would feel emotional (shocked, angry) and would be compelled to take action immediately. However, no fixed program exists for dealing with this bullying, and because the threat is immediate, I need to act now. This would look like reorganization: a trial and error process of different efforts to stop the bullying and regain safety. I'd suggest the chair to step in, but if that wouldn't work, try to mute the bully, or try anything else that comes to mind until safety is restored.

This looks like reorganization: a trial-and-error process that serves to regain control over essential variables. These essential variables are principle-level type variables: a complex variable that takes care that the quality of a part of the hierarchy is maintained. That explains the experience of principle-level control as a holistic, intuitive approach that makes use of lower level perceptions (such as emotions) to control in the here-and-now what matters most. In this talk, I will present my hypothesis and discuss its implications.

Session 2

Rupert Young - Consciousness: The Control of Quality.

The world external to our minds is a stark, chaotic and meaningless place. Our nervous system is able to maintain a stable interaction with that chaos not by predicting what output is required, but by varying action dynamically to control complex perceptual inputs, thus adapting to unpredictable disturbances
and the chaotic nature of the world. This process of perceptual control is the ingredient missing from current theories of consciousness and reveals a new, fresh perspective.

Consciousness is not a product of passive information processing, no matter how complex. Neither is it a fundamental property of all matter. Consciousness is an aspect of minds derived from materialistic neural architecture. It is a prosaic evolutionary development, yet yields powerful capabilities to adapt, learn and acquire complex control over an organism's environment and perceptions.
Phenomenal experience is a perception of quality, of our interaction with the environment. Consciousness is the control of that perception by learning and reorganisation. This concept of quality adds a new dimension to our understanding of the phenomenon of consciousness, one that arises from materialistic neural structures, yet is not obviously accessible to current investigations of neural correlates.

Significantly, in contrast to other theories, this perspective illustrates why our appreciation of meaning and value is an inherent aspect of our conscious experience.

Predictive Processing Theories and Perceptual Control Theory: A Discussion

Warren Mansell, Sari Goldstein, Liam Mason, Paul Cisek, Rutger Goekoop, Roy de Kleijn, Adam Safron.

Over the last few decades, the fields of neuroscience, psychology and mental health have seen a burgeoning of work that utilises various forms of 'predictive processing' theories. In particular, the free energy principle (FEP) and the role of active inference and predictive coding have been prominent. Many of these approaches have drawn upon similar sources to PCT, such as control

engineering, cybernetics and homeostasis, and they have incorporated some similar constructs such as hierarchical organisation and error reduction.

Yet, despite these developments, the field of PCT has stayed distinct over the last decade, and further developed in terms of the empirical support for the proposal that the behaviour is the control of input, whether describing the behaviour of humans, living organisms, or effective artificial agents such as robots.

In maintaining its identity, there has been little direct competition, comparison, adversarial collaboration, cross-fertilisation or integration between PCT and the predictive processing theories. The aim of this discussion is to try to identify such opportunities.

Specifically, what, if any is the relationship between PCT and predictive processing theories including FEP? What they could learn from one another in terms of theory specification, modelling, research and clinical applications, with a view to future collaborative research that may be adversarial, comparative, or integrative?

Adam Safron: We are currently seeing a surge in interest in predictive models as a basis for intelligent, adaptive control for autonomous systems. To what extent might models of consciousness both inform and be informed by our understandings of different kinds of world models? What kinds of computational principles and inductive biases/constraints are required for robust, integrated system-world modeling?

Sari Goldstein: When the mind comes to live inside the body: The early clock of developmental set point shifts as a changeable control system.

Rutger Goekoop: Resolving the semantic confusion about ‘prediction’ and its role in living systems

Paul Cisek: Relationships between PCT, predictive processing, and three concepts that are perhaps even more fundamental: autopoiesis, allostasis, and affordances.

Session 3

Kent McClelland - A Fresh Look at Collective Control and Conflict

In a series of papers beginning about thirty years ago, I introduced the concept of collective control. The computational simulations reported in those papers demonstrated that even small differences in control agents’ references for a jointly controlled variable can lead to a rapid escalation of conflict between them. In the decades since then, the concept of collective control has gained some acceptance in the PCT community, but misconceptions about it still linger. Lately, with greater computing power available, I have built enhanced versions of the simulation models that supported my original papers, and these new models have allowed me to answer some questions left open in my earlier work. Do conflicts between control agents continue to escalate indefinitely? (No, my new simulations show that escalation always has its limits.) Is it ever rational for control agents to work together when their references conflict? (Yes, my new models show how collective control with

conflict can sometimes be more efficient than working alone.) I conclude by offering some new questions prompted by my recent explorations of collective control.

Roger K. Moore - Communication in Cooperation: a PCT perspective

PCT tells us that agents are able to cooperate on a joint task simply by sharing the same 'intention' (reference signal). The consequence is that the effort required to complete the task may be distributed among the agents, and the collective can be viewed as a single agent. This is even true for agents that do not possess the same abilities (output function), so long as (i) the combined actions are sufficient to complete the task, and (ii) the task does not contain any 'local minima'. If these two conditions hold, then a cooperative task can be accomplished without any communication between the contributing agents. However, for tasks that do have local minima, the global solution can only be reached if at least one of the agents adapts its intention at the appropriate moments. Such behaviour requires coordination between the agents, and this can only be achieved by appropriately timed communication. In other words, in cooperative tasks, the function of communication is to coordinate actions in a complex search space that contains local minima. These principles have been verified in a computer-based simulation environment in which two independent one-dimensional agents are obliged to cooperate in order to solve a two-dimensional path-finding task. This talk will demonstrate the experimental setup employed and present results for a range of search tasks of varying complexity. It will conclude with some insights into optimal behaviour that emerge from the simulations.

Session 4

Matias Salgado - Method of Levels (MOL) training: trials and errors

Method of Levels (MOL) therapy is one simple solution to many of the issues and complexities of mental health provision around the world. Besides its simplicity, MOL therapy may sometimes need extensive practice so that therapists can acquire curiosity-based interrogation skills to undertake its two goals. We propose to design, apply, and evaluate a 4-month Introductory Method of Levels (MOL) training that can work as a bootcamp for Spanish-speaking practitioners that have little or no previous knowledge about this approach. The purpose of this course is to allow clinicians to have an introduction to MOL, both through the familiarization of the contents of Perceptual Control Theory (PCT) and through the practice of MOL by means of questions in the interaction with others. Learning objectives and its organization are presented. Attendee´s course feedback will be gathered, shared, and discussed. Their account may become helpful to improve the design of future trainings both conceptually and experientially, and for the dissemination of PCT and MOL in general.

MOL Training - experiences and experiential practice (English)

This session will be led by Warren Mansell and Sara Tai who will share their experiences training MOL to a wide range of individuals, including psychological therapists, other mental health professionals, and 'novices'. Sara will also share her experiences providing MOL to support people receiving psilocybin treatment as part of an international controlled trial. We will continue the session with practice, reflection and demonstrations to support those with a knowledge of PCT to put it into practice as MOL.

Interactive meeting: Method of Levels in de Nederlandse GGZ [Dutch] (Practising MOL in the Dutch Mental Health System)

In deze sessie bieden we Nederlandstalige deelnemers de gelegenheid om met elkaar hun ervaring te delen over de toepassing van MOL in de Nederlandse GGZ. Hoe past MOL bij de meest gangbare benaderingen in de GGZ? Op welke manier gebruik je MOL binnen de bestaande kaders? Wanneer kom je door gebruik van MOL in conflict met andere systemen? Op welke manier kan je je praktijk zo inrichten dat je zo dicht mogelijk bij MOL blijft?

Open Forum: Starting with Method of Levels (MOL): whys and hows (¿Cómo y por qué empezar con MOL?)

Authors: Matias Salgado, Alejandro Olivera, Sonia Mazzera, Alejandro Picco Plencovich
Language: Spanish

Perceptual Control Theory (PCT) and Method of Levels (MOL) bring a new perspective on psychopathology that allows clinicians to focus just on the therapeutic components of therapy, achieving, therefore, a more effective and efficient way of helping people with their problems, beyond any diagnosis. The PCT perspective has even been understood as a new paradigm in psychology. Although MOL is a parsimonious, simple, and effective approach with clear objectives and principles, these very qualities and its foundations can clash with previous clinicians' backgrounds and understandings. Stepping into MOL and PCT can generate conflict with therapist's previous understanding of psychopathology and its treatment. This forum proposes to set up a safe and stimulating environment for clinicians to share their different experiences regarding starting with MOL, particularly theirs conflicts between a) their academic & training background, and b) the PCT principles & MOL goals. Gaining awareness of possible therapists' conflicts and their reorganization when beginning with MOL could shed some light to this transitional process every clinician has to carry out. At the same time, having detailed therapist's accounts of this process may contribute with useful clues to facilitate clinicians' first steps towards MOL in future trainings and supervisions, and could be useful in the dissemination of PCT and MOL among therapists.

Session 5

Eetu Pikkarainen - The Problem of Choice

There is a PCT Mantra: "Many Means to the same End". In one situation one way may succeed and in another situation another way may be better. But is it possible to choose and how the choice could take place according to the PCT concepts? I will consider different conceptual possibilities and compare them to some non-PCT conceptions like a philosophical view that choice is an essential feature of especially human action (e.g., Donagan 1987) and a biosemiotic view that choice belongs to all meaningful action of all living organisms (e.g., Kull 2015). Especially I will try to sharpen the concept of selective motivation which I introduced in my chapter of the second interdisciplinary handbook of PCT.

Hugo Cristo Sant'Anna - A PCT-based approach to teaching and learning how to program

Research about learning how to program computers is commonly based on constructivist and social constructivist theories. The former, operating at the psychological level, assumes mental structures or representations about programming concepts built by novices during learning. The latter, characterized at the psychosocial level, deals with properties and dynamics of learning situations, social interactions, and cooperation between novices and experienced programmers to foster learning. This presentation proposes a PCT interpretation of computer programming learning processes, connecting psychological functioning and social interactions under the same framework. Controlled variables at different levels describe diverse local, bottom-up goals of each learning phase: discovering primitive programming language elements, sequencing primitives, translating sequences into loops, and finally building abstractions. In the other direction, top-down reference signals describe global goals of teaching and learning how to program, with decreasing influence of tutoring and direct instruction. The balance between bottom-up and top-down processes is hypothesized as a gradual transfer of control by explicit teaching or peer-interaction to self-built programs which control programming behavior. A case study from a year-long undergraduate teaching experience in Brazil is presented to illustrate the theoretical proposal. Future studies intend to design a PCT model of student behavior during learning processes.
Prof. Dr. Hugo Cristo
www.hugocristo.com.br/

John Kirkland et al - A PCT Approach for Deliberately Nurturing Nature in Educational Institutions

John Kirkland, Massey University, Palmerston North, NZ
Mike Saywell, The Design School, Palmerston North, NZ
Mike Smith, Independent e-learning web designer, Brisbane, Aus

Hundreds, if not thousands, of articles, dissertations, conference papers as well as popular press articles continue to address an outstanding and ongoing international educational problem, namely the longtail of student failure. This crisis may be summarized as a question: How is it that with all this available documentation many students remain illiterate and innumerate after suffering several years of formal schooling?

Unfortunately, some progressive approaches have morphed into a rejection of societal requirements for having students advance their understanding of substantive content. That's because they'd hitched themselves to the laissez faire freedom wagon, further deactivating students' prospects for acquiring sustainable learning skills in core curricula.

Fortunately, many tutors have developed exciting pedagogical programs within formal institutions which invite students to become engaged as sustainable, enquiring learners. These tutors bootstrapped themselves to develop responsible student-centric pedagogical designs which have, perhaps unknowingly and unwittingly, several hallmarks of PCT.

Our presentation consists of five sections: a few observations regarding an implicit but pervasive socio-cultural bias restricting student learning opportunities and, in contrast, our advocacy for getting nature on side; a brief report of a PCT perspective regarding an established pedagogical

practice arising from the large US middle school Measures of Effective Teaching study, including a participatory exercise; an illustrated show-and-tell of a design embedded in a tertiary-level cognitive startup project; additional remarks highlighting selected features when applying PCT principles to the design of authentic learning opportunities; finally, a couple of wrap-up epigrams aimed at capturing the essence of our PCT inspired pedagogy.

We acknowledge several authors and practitioners have and are continuing to make important contributions for helping school administrators and teachers apply PCT principles in their classrooms. We seek to join this small group of proselytizers. As will become evident, our aim is to continue assisting students grapple with managing their own learning activities during acquisition of curriculum content.

Session 6

Aimee Wrightson- Hester - MYLO: An Artificial, Text-Based Emulation of Method of Levels - Latest Developments

Manage Your Life Online (MYLO) is an AI-based conversational agent (or 'chatbot') that has been designed to emulate a Method of Levels (MOL) therapist. Users can freely type about a problem they are experiencing, and MYLO aims to aid participants in solving their problem by responding with questions. These questions adhere to the principles of MOL and aim to increase users' awareness of conflicts they are experiencing. MYLO began as a computer-based program roughly 10 years ago (Gaffney et al., 2014). Since then, several studies have provided support for the acceptability (Gaffney et al., 2014) and effectiveness of MYLO with participants across the lifespan (Bennion et al., 2020; Bird et al., 2018). We received funding from the Western Australian Department of Health to improve MYLO, as a potential option to address the current shortfall of available mental health services for young people in the state. To achieve this goal, we are currently engaged in a co-design process with a consumer panel of young people in Western Australia. MYLO is being rebuilt as a progressive web application, making MYLO accessible on smartphones, as well as modernising and improving the MYLO interface so it is more accessible and appealing to young people. Once the design phase is completed, roughly October 2022, we will conduct a case-series to test the feasibility and acceptability of the new app with a small group of young people. These participants will provide feedback on MYLO and the study protocol that will inform improvements to both before moving on to a fully powered randomised trial next year. The trial will investigate changes in users' mental health other 4 months of using MYLO and at 4-month follow-up. We are also aiming to undertake an analysis of past user conversations with MYLO to examine the theorised mechanism of change.

Susan McCormack - Not Eclectic – A Transdiagnostic Approach To Support Different Clients and Contexts

By Susan McCormackMode Rehabilitation a charity that supports divergent client groups in different contexts by applying transdiagnostic approaches to psychopathology. Method of Levels (MOL), a psychological therapy based on perceptual control theory, is a method of assisting individuals in reducing psychological distress. This therapeutic process has systematically proven to help individuals navigate their distress by shifting their awareness to the potential source of conflict. It is transdiagnostic and can be applied across a range of presenting problems and psychiatric diagnoses. The approach was implemented and clients attended between one and five sessions. In this

symposium, discussing the efficacy and sustainability of employing MOL, analysing the client experiences when engaging in the MOL approach will be the major focus on our sessions. In this regard, four different client groups were investigated: (i) Young People (YP): MOL is particularly advantageous in this group since YP and parents navigate present moment stressors by drawing attention to their individual conflicting goals. Talking through differing values illuminated patterns of control that are perpetuating distress. The MOL sessions enabled the YP to shift his awareness from rigid core beliefs to understand higher goals which resolved deep rooted systemic issues and facilitated harmonious relationships between the YP and parents, improving family engagement, a greater focus/attention on staff engagement and school attainment; (ii) The Armed Forces Community: Veterans described their unresolved conflict, ranging from intrusive childhood trauma memories, physical and sexual abuse, factors that motivated/pushed them into joining the British Army. When the goal of maintaining identity, purpose and meaning was lost through the opportunity to serve and feel valued, an emerging perception of letting their fellow comrades down arosse, conflicting goals manifested, consequently resulting in withdawal from society, smptoms relief of anxiety, rumination which further led to isolation aggressive behaviour and thoughts of suicide. Clients revealed that the PCT techniques and the application of MOL was uniquely helpful, flexible and impacted their mental well-being in a positive way in developing awareness of higher goals such as, maintaining 'macho' integrity, employment and education (iii) Victims of Homicide: the feedback from the MOL approach on the client group was that it was gentle, non-invasive, coercive and creates a safe environment to talk about the turmoil one is suffering, without explaining unimportant matters; attention to the grief (at a level directed by the victim) or helping the client navigate their day-to-day struggles; (iv) Death Row and Capital Crime Prisoners: The immediate goal in this group was reducing anxiety symptoms, to shift awareness of what was blocking, and creating disempowerment from maintaining important goals. Through accessing background thoughts and exploring possibilities/goals of moving forward in the confinement of incarceration; MOL helped the clients focus on arbitrary control measures and prisoners were able to shift perspective, by explore background thoughts and raising awareness of important goals, such as, one prisoner said, he was denying himself to make choices that he described as helpful, and in turn, destroying the ability to the right for exploring self-control. A desired change in behaviour, functional recovery, MOL is the most appropriate therapy to use on the Polunski Unit; it allows for whatever is in the person's awareness, maximises symptomatic and functional remission; avoids arbitrary control (entanglement of content) and spontaneous change. "All I want is to be free, having nothing dark and ugly, hidden within me; to make good wherever I can on Death Row".

Michael Landman - Method of Levels: Therapist Curiosity and Conversational Structure

A Method of Levels (MOL) therapist aims to (i) facilitate conversation about a problem (conflict), and (ii) facilitate attention to problem-related background mental events. Although these overarching aims are dichotomous, the therapist utterances generated to achieve these aims are highly variable. Such variation has even been postulated as an irreplaceable feature of MOL therapy. Human therapists' features of MOL therapy, such as purposeful variation and curiosity, are difficult, and perhaps impossible, to replicate artificially. To inform the development of MOL-inspired chatbots, a qualitative investigation of within-session MOL therapy was undertaken. Conversation analysis was used to investigate the basic structure of MOL conversation, and an inductive content analysis was used to identify types of MOL therapist utterances. Seven publicly accessible video-recordings (231 minutes), of exemplary MOL therapy were analyzed for the purpose of this study.

Eva de Hullu - Enhancing MOL Adherence

Authors: Eva de Hullu, Warren Mansell, Ana Churchman

We will present our progress on developing an instrument to measure the quality of MOL sessions (as rated by the therapist or observer) that could serve in a formal MOL accreditation process. We will share our efforts to design this instrument with the help of MOL practitioners, and show how the current version, that will need to be tested by practitioners, fits the PCT principles.

Last update 9 September 2022 by EH