What's in this document

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For: iyarn research partners

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Purpose: In order to provide an evidence-based tool for supporting young people's wellbeing, we need to understand (1) how we can design interventions that use the tool effectively in the wider system; and (2) that are grounded in evidence around maintaining and improving wellbeing; and (3) that builds on the wealth of existing resources.

This document does three things:

- 1. Gives an overview of some theories of change and motivation and their implications for design
- 2. It flags some design features for interventions and how these might draw on existing resources might be drawn on in the tool (see also the xlsx)
- 3. It maps some resources for identifying needs and evaluating impact

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Theories of motivation and change

iyarn is informed by Values based Education and Acceptance and Commitment Therapy (ACT). Values based education practices focus on the values clarification, diffusion, acceptance, behavioural activation and exposure (Trindade et al., 2016). Working within an ACT framework requires that values and value-aligned behaviour are identified and measured. Typically, this occurs over time, with identification of important values and barriers to valued living, and assessment of whether they are living according to their identified values (Hayes et al., 2012; Trindade et al., 2016). An inquiry into the role of values-based education in schools was undertaken in Australian schools 'Giving Voice to the Impact of Values Education' (Hamston et al., 2010). It has been argued that values embedded within the learning context play a vital role in determining the quality of the educational experience (Clement, 2010; Lovat, 2010, 2017; Toomey, 2010).

Self-determination theory (SDT) is a theory of motivation that has evolved over the past three decades (Deci & Ryan, 2000, 2013). SDT is a theory of personality and motivation based on 3 innate psychological needs (competence, autonomy and relatedness) to achieve higher levels of performance, wellbeing and persistence of task. SDT is an approach to human motivation driven by the assumption that humans are inherently proactive, have the potential to master their inner forces (drives and emotions) and the external forces (environment). SDT assumes that in order for a person to thrive, they must meet three basic psychological needs of competence, autonomy, and relatedness (CAR). SDT focuses on people's struggle to feel greater self-ownership of motivated behaviour; and explains how authorities and practitioners can best motivate their clients to enable them to internalise suggested behaviours and self-regulate them.

Acceptance & Commitment Therapy

Self-Determination Theory

Both ACT and SDT are considered 3rd wave, "process-oriented" behavioural theories which focus on developing internal resources to support ongoing self-regulation and behavioural change (Ryan, 2021). They are associated with:

- mindful awareness they investigate internal processes and consider awareness "a foundation for improved self-regulation".
- integrative emotion regulation focus on understanding the meaning of emotional reactions, rather than "down-regulating" or "reframing" negative emotion.
- autonomous treatment taking a person-centred approach which respects the patients' own perspectives, values and context, and supports them to pursue "self-endorsed or autonomous motivations".
- motivation these theories do not presume the patient is motivated to change, but instead "conceptualise both motivation and resistance as part of the change process".
- basic psychological needs

Acceptance & Commitment Therapy (ACT) is an "evidence-based contextual cognitive-behavioural intervention which is designed to foster greater cognitive flexibility" and teach people to "compassionately embrace their internal experience for all that it is while also focusing on building repertoires of constructive behaviours that are values oriented" (Jason B. Luoma et al., 2017, p. 2). ACT considers suffering to be common to all, not just individuals experiencing diagnosable mental health conditions (Fumito et al., 2020, p. 72).

ACT seeks to foster six central points of psychological flexibility which Russ (2019) has categorised under three functional units:

- . Be Present flexibly paying attention to and engaging in here-and-now experiences
 - Contact with the Present Moment paying attention to the present moment by "broadening, narrowing, shifting or sustaining" focus as necessary.
 - Self-as-Context "a transcendent sense of self, which is able to notice thoughts and feelings from an observational perspective" (Samuel et al., 2021, p. 4).
- Open Up observing thoughts and feelings objectively, accepting them for what they
 are, and giving them space to "come and go of their own accord".
 - Defusion detaching from thoughts, images and memories and observing them objectively so that they can "guide" but not "dominate" (Harris, 2019, p. 6).
 - Acceptance accepting "unwanted private experiences" (e.g., emotions, thoughts, urges, memories etc.) and allowing them "to come and stay and go as they choose" (Harris, 2019, p. 7).
- Do What Matters "initiating and sustaining life-enhancing action" (Harris, 2019, p. 9).
 - Values "desired qualities of physical or psychological action" i.e. "how we ant to behave on an ongoing basis" (Harris, 2019, p. 7).
 - Committed Action "taking effective action, guided by our values...even when that brings up difficult thoughts and feelings".

Self-Determination Theory (SDT) focuses on the intrinsic and extrinsic motivators which guide behaviour. Under SDT:

- Intrinsic or autonomously motivated behaviour is activated by interest/sense of meaning: "research shows that people who are autonomously motivated to pursue goals have greater goal attainment and improved wellbeing" (Robinson, 2018, p. 67).
- Extrinsic or controlled motivation is activated by external pressures i.e., something you 'should' do, will be reward for doing (or punished for not doing).
- SDT also encapsulates Basic Needs Theory which suggests that competency, autonomy and relatedness are basic psychological needs which must be addressed to achieve "wellbeing and optimal performance" (Robinson, 2018, p. 67).

Acceptance & Commitment Therapy	Self-Determination Theory			
Theory of motivation and change				

Both ACT and SDT emphasise "self-endorsed or autonomous motivations" which are "reliably associated with greater engagement, behavioural persistence, as well as

See above +

Choice Point – the point where an individual must choose between an 'away' or 'towards' action i.e., acting in a way that contributes toward or moves the individual further 'away' from their desired values/outcomes. Harris (2019) emphasises that categorisation of an action isn't fixed, and that it depends on the effect of, and motivation behind, that action (e.g., watching TV to avoid a necessary activity v. to engage with things you enjoy) (Harris, 2019, pp. 9–16).

The 'Choice Point' is used to demonstrate/frame:

more positive experience" (Ryan, 2021, p. 376).

- 1) how daily choices contribute towards and should be values-based
- 2) how being "hooked" by negative thoughts and feelings can create a negative cycle: when an individual chooses an 'away' action in an effort to temporarily alleviate negative feelings this ultimately feeds these feelings by moving them further 'away' from their values. Individuals can use core processes under 'Be Present' and 'Open Up' to "unhook" themselves from the power of these negative feelings and enable themselves to chose 'towards' actions.

As above, SDT proposes that framing tasks through intrinsic motivation supports improved goal attainment and wellbeing (Robinson, 2018, p. 67).

Intervention theory and examples

ACT and SDT recommend techniques which are more "empowering", "autonomy supportive" and "relational" (e.g., listening, reflecting, empathising and facilitating), rather than pursuing pre-determined, theory-directed targets (e.g., teaching, training, shaping and rewarding) (Ryan, 2021, p. 376). As a result, resources should not be overly prescriptive but instead provide a foundation for paired exercises which allow students to clarify their own values/motivations and develop mindfulness and emotional regulation skills.

Emails

Educational resources and reflective exercises could be delivered via email, but must be clear and simple enough for students to understand with limited guidance. Pilot program delivered by Samuel et al (2021) found that students benefited from more straightforward content and revision exercises (Samuel et al., 2021, p. 11).

- Psycho-educational resources can be linked, but should not be overly prescriptive if possible, pair with revision exercise. This could include information on:
- what emotions are, how to define them (names/scaling) and distinguish between cognitive, emotional and physical responses (Fumito et al., 2020).

Emails

- Psycho-educational resources should be relevant to students' experiences (to satisfy relatedness), straightforward (competence) and not overly prescriptive (autonomy).
- Reflection exercises should be paired with education resources so that students
 can develop their competence. These exercises should not be overly prescriptive,
 allow students to work in their own way and apply their own values/motivations
 (autonomy) (Fumito et al., 2020).

One-to-one conversation

Acceptance & Commitment Therapy	Self-Determination Theory
o values and their purpose (Fumito et al., 2020).	One-to-one conversations can support relatedness by allowing students to ask questions, and receive feedback from a trusted adult. They can also provide improve
 Reflection exercises will be essential for the delivery of a person-centred therapy that requires the individual to clarify and act on their own values. This could include exercises which: 	autonomy support if the supporting staff member is able to responsively moderate content to suit the desires and perspective of each student. Having the option, rather than the requirement, for one-to-one conversation supports competence and autonomy (Hsu et al., 2019, p. 2161).
 develop mindfulness skills (e.g., meditation exercises) and defusion techniques (e.g., "Having a Thought v. Being a Thought") (Fumito et al., 2020). 	Class activity Class-based activities can provide an opportunity for students to work together.
 clarify values e.g., distinguish between parts of life "created by another person" (parents/school/ friends) and parts of life "created by themselves" (Fumito et al., 2020). 	supporting relatedness and social support (Hsu et al., 2019, p. 2161). However, class-like environments may be less autonomy supportive.
o Identify values-consistent behaviours	
 Fumito et al (2020) determined that writing about values-consistent behaviour would be too difficult for adolescents and instead provided a list 	
of 42 verbs for participants to choose from (Fumito et al., 2020, p. 73).	
o Develop implementation plans for acting in alignment with values (Fumito et al., 2020).	
One-to-one conversation The above could be delivered through one-to-one interactions with a member of staff. However, the results from the YouthCOMPASS trial intervention indicated that face-to-face interventions may be less impactful for adolescent boys, than remote interventions (Lappalainen et al., 2021, p. 2). Class activity Universal, school-based ACT programmes that provide non-targeted interventions have been found to be very effective, particularly for building resilience and preventing mental health issues (Samuel et al., 2021, p. 3). Additionally, they reduce stigma and foster a positive, social approach to emotional acceptance and value-driven behaviour.	
Some examples include:	
• The DNA-V model, developed for use with adolescents (Samuel et al., 2021, p. 8).	
 Your ACT Auntie videos which were developed specifically for school children as part of the InTER-ACT program (Samuel et al., 2021). 	
 YouthCOMPASS web-intervention, which is comprised of 5 modules divided into an introduction and three different levels including a variety of resources (text, video), and reflection exercises. Students engaged with the program independently, but had access to asynchronous communication with a coach if they had any queries. 	

Acceptance & Commitment Therapy	Self-Determination Theory		
Efficaci	cy		
• Mindfulness interventions – there is strong evidence for improvement across a diverse array of student outcomes (e.g., "resilience, concentration, emotional regulation and academic performance") (Samuel et al., 2021).			
"The focus within ACT on clarification of personal values, with the aim of creating a rich, satisfying and meaningful life, is also inherently empowering for young people, representing a refreshing departure from dominant educational (and broader societal), narratives privileging achievement and the competitive pursuit of goals and targets." (Samuel et al., 2021, p. 5).			
 Evidence of efficacy in adults substantial – review of 20-meta analysis found it had transdiagnostic effectiveness, though was less effective than targeted approaches (e.g., CBT) for specific issues" (Samuel et al., 2021, p. 4). 			
Multiple instances of successful application of ACT in school-based settings:			
 Meta-analysis found that it was more effective than usual treatment and no treatment for anxiety and depression, among other issues – again less effective than targeted CBT (Samuel et al., 2021, p. 4). 			
 ACT-based web-interventions for adolescents has been found to be a "viable early intervention for preventing mental health problems in adolescents" (Lappalainen et al., 2021). 			
 ACT found to reduce avoidance and hyperactivity even when delivered as a "low dose", universal intervention (total 6 hours of bi-weekly group session) (Fumito et al., 2020). 			
 Evaluation of school-based ACT intervention developed for use in the UK found that: 			
 it was important to use resources that were "specifically for young people" so that content was understood and students' experiences were normalised (Samuel et al., 2021, p. 9). 			

Acceptance & Commitment Therapy	Self-Determination Theory
 Useful to have materials that can be provided to parents 	

How resources can be built into, and evaluated in, the tool?

- Email timing
 - One study found that emails scheduled to be delivered at fixed intervals over a period of time were "superior to as-needed participant initiated email support in a sample of participants with panic disorder" (Shim et al., 2017). Studies trialling other modes of delivery similarly found that fixed, scheduled interventions (phone-based, and face-to-face) were more effective than as-needed interventions for depression and anxiety but not social phobia.
- Email responsiveness/level of guidance
 - One study found "that the change of depression symptoms was not significantly different between groups receiving emails from a counsellor (d = 1.00) versus automated emails" (Shim et al., 2017).
 - Meta-analysis of studies comparing the efficacy of different modalities and levels of guidance for Internet-based Psychological Interventions (IPIs) found that "based on the available research, it is unclear whether adding guidance to IPIs is necessary to improve treatment adherence and outcomes" (Shim et al., 2017). However, the study further stated that the impact and utilisation of guidance in IPIs is mediated by:
 - The specific mental health condition being treated e.g., citing Newman et al (2011) who found that self-guidance was more effective for the treatment of anxiety disorders, whilst therapist guidance is supportive for treating clinical levels of depression.
 - 2. The preferences and abilities of specific patients
 - 3. The "quality and navigability of the IPI"

ACT and SDT recommend techniques which are more "empowering", "autonomy supportive" and "relational" (e.g., listening, reflecting, empathising and facilitating), rather than the use of pre-determined, theory-directed targets (e.g., teaching, training, shaping and rewarding). This suggests that the messaging and resources provided in intervention emails should be straightforward, but not overly prescriptive and instead provide a foundation for paired exercises which allow students to clarify their own values/motivations, and develop mindfulness and emotional regulation skills.

In addition, based on their review of mental health smartphone apps, Bakker et al (2016) recommend that individuals be provided with a range of activities that are actively engaging (as opposed to passive), including:

- Activities that directly enhance mood improvement (Mood Lifters ML): these are behaviours which have been shown to directly improve mood, such as exercise and listening to music (Bakker & Rickard, 2018).
- **Behavioural Activation** (BA): encourages goal-setting and the planning of activities that will expose individuals to new opportunities and allow them to develop skills in order to (1) improve their sense of competence and self-efficacy; and (2) break cycles of avoidance and inactivity that perpetuate low moods, the reliance on mood-dependent behaviours and "play a key role in the development of anxiety, depression, and many other psychological disorders" (Bakker et al., 2016).
 - May be useful to categorise behaviours as routine, pleasurable or necessary to clarify the different motivators and benefits of engaging in them.

- Among Fogg's 3 factors for determining behaviour engagement (triggers, motivation and simplicity), Bakker et al (2016) argue that simplicity is the "most relevant" to selecting appropriate BA activities: as factors such as time, money, physical efforts, social deviance, and routine are likely to affect an app user's ability to engage.
- Further, Bakker et al (2016) recommends that it useful to pair BA with reflection exercises to encourage individuals to reflect on the benefits of engaging in the activity and "promote self-discovery".
- Coping Skills Training (CS): resources which support the development of coping skills are "the most direct way of improving self-efficacy", specifically Coping Skills Efficacy (CSE). CSE refers to "an individual's perceived ability to effectively cope with adversity and stress", and is associated with: reduced avoidance behaviours and "problematic maintenance cycles"; improved mental wellbeing; and reduced health impacts resulting from stressful events. Bakker et al (2016) also suggest that it is beneficial to support individuals to develop a varied repertoire of CS, to allow them to choose which strategies suit them best and improve their sense of choice and control which should, under SDT, "feed intrinsic motivation toward self-improvement".
- Psycho-educational resources (PE): "Psychoeducation, an integral part of CBT, presents clients with mental health information in an attempt to teach them about the psychological processes underlying their distress and inform them of resources available to manage it". The provision of PE resources was found to have preventative and community-level benefits: improving attitudes toward mental health issues and supportive behaviour among recipients.

Based on this theory, UTS suggests that, if possible, intervention emails should provide students with:

- 1. a selection of different resources (PE, BA, CS and ML) in order to (1) target different psychological processes and (2) allow each individual to choose the resources that suit their personal needs/preferences.
- 2. a set of reflective questions to accompany these resources, in order to support students to refine their own values, relate the information provided to their own context, develop their competence and reflect on the benefits of integrating any useful strategies into their routine.

Intervention Type	Acceptance & Commitment Therapy (ACT)	Self-Determination Theory (SDT)	
Overarching Theory	ACT and SDT recommend techniques which are more "empowering", "autonomy supportive" and "relational" (e.g., listening, reflecting, empathising and facilitating), rather than pursuing pre-determined, theory-directed targets (e.g., teaching, training, shaping and rewarding) (Ryan, 2021, p. 376). As a result, resources should not be overly prescriptive but instead provide a foundation for paired exercises which allow students to clarify their own values/motivations and develop mindfulness and emotional regulation skills.		
Emails	Educational resources and reflective exercises could be delivered via email, but must be clear and simple enough for students to understand with limited guidance. Pilot program delivered by Samuel et al (2021) found that students benefited from more straightforward content and revision exercises (Samuel et al., 2021, p. 11). • Psycho-educational resources can be linked, but should not be overly prescriptive – if possible, pair with revision exercise. • Reflection exercises will be essential for the delivery of a person-centred therapy that requires the individual to clarify and act on their own values.	 Psycho-educational resources should be relevant to students' experiences (to satisfy relatedness), straightforward (competence) and not overly prescriptive (autonomy). Reflection exercises should be paired with education resources so that students can develop their competence. These exercises should not be overly prescriptive, allow students to work in their own way and apply their own values/motivations (autonomy) (Hsu et al., 2019, p. 2161). 	
One-to-one	The above could be delivered through one-to-one interactions with a member of staff. However, the results from the YouthCOMPASS trial intervention indicated that face-to-face interventions may be less impactful for adolescent boys, than remote interventions (Lappalainen et al., 2021, p. 2).	One-to-one conversations can support relatedness by allowing students to ask questions, and receive feedback from a trusted adult. They can also provide improve autonomy support if the supporting staff member is able to responsively moderate content to suit the desires and perspective of each student. Having the option, rather than the requirement, for one-to-one conversation supports competence and autonomy (Hsu et al., 2019, p. 2161).	
Class Activity	Universal, school-based ACT programmes that provide non-targeted	Class-based activities can provide an opportunity	

interventions have been found to be very effective, particularly for building resilience and preventing mental health issues (Samuel et al., 2021, p. 3). Additionally, they reduce stigma and foster a positive, social approach to emotional acceptance and value-driven behaviour.

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- Your ACT Auntie videos used in InTER-ACT program (Samuel et al., 2021).
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for students to work together, supporting relatedness and social support (Hsu et al., 2019, p. 2161). However, class-like environments may be less autonomy supportive.

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