



ORIGINAL ARTICLE

# Stakeholder views on mindfulness for youth at risk for psychosis

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**ABSTRACT:** *Interventions incorporating mindfulness for youth identified to be at risk for psychosis show promise for symptom management yet to be addressed by other approaches. Important questions remain as to how to safely and effectively implement these interventions with this cohort. The aim of this research was to collaboratively identify with stakeholders of such interventions, namely youth at risk for psychosis, and practitioners with experience working with youth at risk for psychosis – attitudes towards mindfulness and potential intervention adaptations to ensure the safety, uptake, and effectiveness of mindfulness interventions used with youth at risk for psychosis. Consolidated criteria for reporting qualitative studies were adopted. Eight practitioners and six at risk for psychosis individuals were interviewed. Both groups identified significant potential benefits of mindfulness, for stress and relaxation, managing difficult thoughts and emotions, increasing positive emotions, improving functioning, and patient empowerment within treatment participation. Stakeholders identified the helpfulness of including compassion-based practices, emphasizing experiential and concrete material, shorter and guided exercises, the targeting of anxiety and attenuated psychotic symptomology, and making the goals or intent of practice youth relevant. Significant barriers were identified – poor functioning and low motivation, high self-criticism, concurrent medication and substance use, and perceptions of mindfulness that may impact uptake (e.g. it requires relaxation to work). Formulation of and research into comprehensive clinical guidelines will help ensure the safe and effective use of future mindfulness and compassion-based practices with at risk for psychosis individuals.*

**KEY WORDS:** *adolescent, community-based participatory research, mindfulness, psychotic disorders.*

## INTRODUCTION

The development of programmes to identify, assess, and treat individuals in early stages of illness is seen as key in improving healthcare outcomes. For psychosis, early intervention research has focused on the time before the first psychotic episode, where criteria have been developed to identify typically young individuals

at higher risk of future psychosis: the Clinical-High Risk (CHR), Ultra-High Risk (UHR), and At-Risk Mental State (ARMS) criteria (Yung & Nelson 2013). The UHR criteria are predominately used in Australia, but internationally these terms are used interchangeably and generally subsume individuals who have experienced functional decline in conjunction with attenuated psychotic symptomology and a family history of psychosis (Yung & Nelson 2013). Research into interventions for youth at risk for psychosis is important as to date existing treatments for this group appear largely ineffectual at reducing negative symptoms and improving social functioning (Addington *et al.* 2020; Hickey *et al.* 2017). Interventions incorporating mindfulness show promise for the treatment of negative

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symptoms and functioning, and other impacted issues including distress related to symptoms and cognitive problems (Addington *et al.* 2020; Böge *et al.* 2020; Hickey *et al.* 2017).

## BACKGROUND

Mindfulness, in short, refers to a set of cognitive processes and personal practices related to present-focused attention, awareness, acceptance, and non-judgement of conscious phenomena (Van Dam *et al.* 2018). Mindfulness practices appear effective for a range of psychopathological (e.g. anxiety, mood) and cognitive issues (e.g. attention, memory (Keng *et al.* 2011)). UHR individuals often present with attenuated psychotic symptomatology, mood and anxiety symptoms, neurocognitive problems, and general functioning concerns (Conrad *et al.* 2014; Lim *et al.* 2015). Thus, the heterogeneity of the UHR group also points to the utility of a cross-diagnostic treatment like mindfulness (Reich *et al.* 2021).

A 2021 mapping review of mindfulness for stages of psychosis (at risk for psychosis; first episode psychosis; chronic psychosis) found one completed mindfulness study with at risk for psychosis individuals – indicating a crucial need for research here (Reich *et al.* 2021). This completed study showed significant promise for improving social functioning and subject wellbeing, however, was conducted online and individually (Alvarez-Jimenez *et al.* 2018). Greater social connection is a significant positive influence on the course of psychosis, yet social isolation is common amongst UHR individuals, highlighting the potential benefit of in-person group interventions (Alvarez-Jimenez *et al.* 2018; Sheaves *et al.* 2021).

In order to increase the uptake and effectiveness of psychological interventions, researchers have increasingly recognized the importance of participatory research principles. Participatory research incorporates the views of stakeholders in health interventions, like those receiving and delivering interventions, on key factors for the development and evaluation of therapeutic programmes (Levac *et al.* 2019). Some examples include feedback on prioritization of programme components and agenda-setting, and discussion on technical or culturally appropriate language (Slattery *et al.* 2020). Benefits associated with this approach include reduced iatrogenic effects, a strengthened relationship between academia and community, and enhanced programme sustainability (Jagosh *et al.* 2012).

Individuals at risk for psychosis are young people, and thus making any intervention developmentally appropriate is also important (Early Psychosis Guidelines Writing Group and EPPIC National Support Program 2016; Yung 2017; Yung *et al.* 2003). Additionally, the unique factors of the UHR group include its psychosis risk profile and a prevalence of attenuated psychotic symptomatology, factors which can impact uptake and safety of health programmes (Reich *et al.* 2021). For example, by creating anxiety and disrupting social bonding, experiences of suspiciousness and paranoia might interfere with skill uptake in a mindfulness group programme. Concomitantly, these experiences could be leveraged in mindfulness interventions, to make explicit and then ameliorate these processes. Participatory research can utilize young people classified to be at risk for psychosis, and practitioners who work with these young people, to identify such key issues early in programme design – improving delivery and uptake, and thereafter sustained programme effectiveness. Young people and practitioners are central as they comprise the individuals receiving and delivering the training of mindfulness practices.

There is a paucity of mindfulness research conducted with youth at risk for psychosis (Reich *et al.* 2021). The principal aim of this research was therefore to collaboratively identify with youth at risk for psychosis, and practitioners with experience working with youth at risk for psychosis – attitudes towards mindfulness and potential intervention adaptations to ensure the safety, uptake, and effectiveness of mindfulness interventions used with youth at risk for psychosis. This research uses template analysis to surmise the views of the two stakeholder groups, scaffolding stakeholder views with the Template for Intervention Description and Replication (TIDieR) checklist – guidelines for reporting health intervention components (Hoffmann *et al.* 2014). This approach is consistent with recent participatory research for health interventions (Gadaire & Kilmer 2020; Kaufman *et al.* 2019). The principal outcome of this research is a synthesis of stakeholder group views on mindfulness for youth at risk for psychosis, using a combined thematic template merged from separate templates surmising the views of each stakeholder group. This research synthesizes these views in hope of contributing to comprehensive recommendations for mindfulness interventions for youth at risk for psychosis.

## METHODS

### Design

This study involved qualitative interviews with participatory research principles guiding the selection of our stakeholder and end-user interviewee groups, namely, practitioners with experience working with the UHR cohort and young people classified UHR. This study is guided by participatory research principles as these interviews were conducted with the intent of co-contributing to the design of future mindfulness interventions (Leask *et al.* 2019). Due to the novelty of the use of mindfulness interventions with this population and a corresponding absence of a standardized mindfulness programme for UHR (Reich *et al.* 2021), as part of this study no formal mindfulness intervention was administered, with views instead sought from young people with a variety of experience levels with mindfulness. This also allowed an understanding of barriers to uptake of mindfulness from those reluctant to engage with these strategies.

The consolidated criteria for reporting qualitative studies (COREQ) checklist was utilized for this research (Tong *et al.* 2007). This qualitative study acknowledges a relativism ontological position, paired with a social constructivism epistemological position (Denzin & Lincoln 2017). This captures our view we could only access a socially mediated understanding of how a mindfulness intervention might be most beneficially received. For example, we acknowledge participant and researcher views are best understood through various social 'identity' lenses – practitioners delivering mindfulness as healthcare providers, researchers interested in the utility of mindfulness with this group, and individuals receiving mindfulness training for their health.

### Recruitment and participants

To recruit practitioners with experience working with youth at risk for psychosis, a snowball sampling process was applied – with existing contact from researchers in this area leveraged. For youth at risk for psychosis recruitment occurred via team leaders and case managers face-to-face at Headspace youth mental health centres. Headspace centres are non-profit youth mental health clinics established by the Australian government in 2006 as part of an over decade long project aimed at early intervention in mental illness (McGorry *et al.* 2007). Youth at risk for psychosis were eligible if

they were classified UHR by their relevant Headspace service (see Yung *et al.* (2005)).

### Ethics

Individuals were provided a plain language statement and consent form. The plain language statement detailed the purpose of the project, the funding, procedure, possible benefits, possible risks, privacy and confidentiality components, the voluntary nature of the project including allowance for withdrawal at any stage, relevant ethical guidelines, and complaints process. For participants younger than 18, guardian consent was sought with a plain language statement provided. Ethics approval was granted through Alfred Health, a healthcare service provider managing Headspace centres throughout Victoria, Australia (HREC approval number 493/19).

### Data collection

Interviews were 10–50 min long, proceeding in-person and over the phone with a separate semi-structured interview guide for each stakeholder group used (see Appendix S1 in Supplementary Material). Semi-structured interview guides were created in consultation with an expert in qualitative data research, and after consideration of a mapping review (Reich *et al.* 2021) and the TiDieR guidelines, which helped consider key interview areas to consider. There was a focus on open-ended questions with some guidance (e.g. some examples of answers to questions), with avoidance of 'quiz-style' questioning, per best practice guidelines (Flick 2018). A semi-structured approach was adopted to allow elaboration on participant ideas via additional questioning, as it was largely unknown what intervention ideas would arise and present potential value. In-person interviews were preferred but given the UHR group is often difficult to access telephone was offered to aid recruitment (Domingues *et al.* 2011). Data collection proceeded until code saturation was reached, that is, until no issues were identified and the codebook stabilized (Hennink *et al.* 2017). For our stakeholder groups, eight practitioners with experience working with youth at risk for psychosis and six youth classified UHR were interviewed. While code saturation for the UHR group was reached after five participants, given the relatively small sample size an additional person was recruited. This meant a total of 14 interviews for the combined template, consistent with recommendations for data saturation in health

research (Guest *et al.* 2016; Nyanchoka *et al.* 2019). Demographic data is shown in Tables 1 and 2. Of the six youth interviewees, five were male and one female. This is consistent with reviews of this area, which have found higher prevalence rates of psychotic illness in men than women, and earlier average age of illness onset in men than women (Ochoa *et al.* 2012).

Interviews were conducted and audio recorded solely by a male post-graduate trainee psychologist (DR), with 6 years' personal experience with a mindfulness practice and 2 years' experience working clinically. This individual conducted data analysis under the supervision of authors MOS and SE, and kept a reflexivity journal throughout interviewing and analysis. In qualitative research reflexivity refers to the process by which one looks backwards and inwards in a self-aware manner to recognize the role of the researcher (and their inherent biases) in helping construct meaning (Fischer 2009). The reflexivity journal allowed a log of personal perceptions and introspections and monitoring of personal attributes influencing the research. The interviewer had a previous supervisor-supervisee relationship with one member of the practitioner group, but no previous relationship with any other member of either participant group. Participants knew the interviewer was conducting research as part of a doctoral thesis.

## Data analysis

A template thematic analysis approach was taken to the interview data. Template analysis is a form of thematic analysis, differentiated by a structured 'template' from which to organize the themes and codes attributed to the data during analysis (Brooks *et al.* 2015). Templates emphasize the use of hierarchical broader themes to organize successfully narrower themes in a visually

**TABLE 2** Background data of youth at risk for psychosis

	Age	Sex	Experience with mindfulness
P9	23	M	Practices weekly on average
P10	22	M	Practices daily on average
P11	20	M	Tried it a few times
P12	19	M	Uses sporadically
P13	18	F	Tried it a few times
P14	16	M	Tried it a few times

meaningful and useful way (Brooks *et al.* 2015). This approach was favoured as it enables *a priori* themes to be selected to structure the analysis, before the dataset itself is analysed (Brooks *et al.* 2015). *A priori* themes are useful because they allow data to be categorized within health intervention reporting guidelines, facilitating ease of use and integration into future interventions.

This research aimed to produce three templates – two separate templates representing each respective stakeholder group, and a combined template (the focus of the below results) which considers the unique and common views of each group. For the separate templates the data were relied upon to inductively structure the analysis. Guidelines from Brooks *et al.* (2015) were adopted with six steps of template analysis followed: (i) Familiarization with transcripts; (ii) Preliminary Coding of the data; (iii) Organization of themes into clusters; (iv) Definition of the initial template; (v) Application of the template and modification; (vi) Finalization of the template. Transcripts were read in full by each member of the research team and compared to a coding template to ensure faithfulness to the data. Nvivo was used to store and code the datasets. The two separate stakeholder templates are available in the Supplementary Material: Appendix S2 (practitioners) and Appendix S3 (UHR).

The final template combined the two stakeholder group templates using *a priori* themes to deductively structure the analysis. The 12-item better reporting of interventions: template for intervention description and replication (TiDieR) checklist and guide was used to select the *a priori* themes for this analysis. The TiDieR guidelines (Table 3) provide recommendations on key items for health intervention designs to report. Higher-order themes were derived from TiDieR items two (Why), three (What), four (Procedures), five (Who provided), eight (When and how much), and nine (Tailoring). Guidelines from Brooks *et al.* (2015) were again followed and in order to combine templates, the codes

**TABLE 1** Background data of practitioners

Occupation	Sex	Experience level with UHR (years)
P1 Clinical psychologist	M	19
P2 Clinical psychologist	F	13
P3 Clinical psychologist	M	11
P4 Mental health nurse	M	13
P5 Mental health nurse	F	2
P6 Mental health occupational therapist	F	3
P7 Psychiatrist	M	10
P8 Social worker	M	5



from each stakeholder templates were combined into one data set and analysed against the a priori higher-order themes derived from the TiDieR guidelines. Iteration proceeded, with codes representative of the interviews but not relevant to intervention recommendations discarded, and an emphasis on barriers and safety in interviews reflected in the higher-order themes.

## RESULTS

### Combined stakeholder template

Six higher-order themes categorized key intervention-relevant codes from the combined stakeholder group template: (i) WHY provide mindfulness to youth at risk for psychosis? (ii) BARRIERS that exist for the uptake of mindfulness in at risk populations? (iii) WHAT materials and procedures are helpful to teach mindfulness to youth at risk for psychosis, including how TAILORING may help? (iv) WHO provides the mindfulness training? (v) WHEN and HOW

mindfulness training is delivered to increase uptake and efficacy? (vi) SAFETY concerns and procedures that protect participants? See Table S1 in Supplementary Material for the full template and Table S2 in Supplementary Material for illustrative quotes of the six higher order themes.

### WHY provide mindfulness to youth at risk for psychosis?

Practitioners and young people saw many potential benefits of mindfulness – for emotional regulation, management of distressing thoughts and experiences, and for overall stress and well-being. The stress-diathesis model, where stress is highlighted for its role in initiating and exacerbating psychotic processes in vulnerable people, was front of mind for practitioners who perceived mindfulness' ability to regulate physiological arousal as significant. Both young people and practitioners identified mindfulness, through using experiences such as observing the breath, can support relaxation, and help reduce impacts of difficult emotions such as anxiety.

**TABLE 3** *The initial items derived from the TiDieR checklist (adapted from (Hoffmann et al. 2014))*

- 
- Why: Describe any rationale, theory, or goal of the elements essential to the intervention
  - What (materials): Describe any physical or informational materials used in the intervention, including those provided to participants or used in intervention delivery or in training of intervention providers
  - What (procedures): Describe each of the procedures, activities, and/or processes used in the intervention, including any enabling or support activities
  - Who provided: For each category of intervention provider (e.g. psychologist, nursing assistant), describe their expertise, background and any specific training given
  - How: Describe the modes of delivery (such as face to face or by some other mechanism, such as internet or telephone) of the intervention and whether it was provided individually or in a group
  - Where: Describe the type(s) of location(s) where the intervention occurred, including any necessary infrastructure or relevant features
  - When and how much: Describe the number of times the intervention was delivered and over what period of time including the number of sessions, their schedule, and their duration, intensity or dose
  - Tailoring: If the intervention was planned to be personalized, titrated or adapted, then describe what, why, when, and how
  - How well (planned): If intervention adherence or fidelity was assessed, describe how and by whom, and if any strategies were used to maintain or improve fidelity, describe them
- 

#### Psychiatrist:

...I think we talk a lot about stress vulnerability model in psychosis and UHR as well... And I think it (mindfulness) would be a very useful tool to teach young people so they can decrease the impact of stress may have in their lives... or modulate some of the emotional dysregulation they may experience... and as I said before to have a kind of an opposing activity... to intense reflectivity or reflection and being stuck in their own cognition.

#### Young person:

'Umm, yeah... I think so especially the start of the day. If I'm not stressed and I do the meditation, it kind of just puts me into a relaxation. There's this one relaxation I did where you think about your emotions floating by... like a cloud... and like it's really interesting. It puts me in this mindspace where if I'm a bit angry... it'll pass. Emotions, passing'.

Practitioners identified the heterogeneity of the UHR group to be a challenge for health interventions, a facet identified to suit a transdiagnostic approach like mindfulness. Negative symptoms and day-to-day

functioning were highlighted by practitioners as areas of continual struggle for the UHR group for which mindfulness also shows promise. Practitioners too emphasized that mindfulness was not only a tool which could ‘take away’ the impact of difficult experiences, but could improve social functioning and increase experiences of positive emotions such as contentment, joy, and gratitude. Practitioners also recognized the value of mindfulness for UHR as a tool for self-determination and empowerment over treatment choice.

**Psychiatrist:**

I really feel an intervention priority is to empower young people to be the actor in their own life, whatever that means. It means whatever it means in different contexts... empowered in work, empowered in managing their own symptoms... what I think is important is whatever we do is we always have this idea in the mind that we want to empower the young person to actually be auto sufficient and not needing a therapist or medication to rely on...

**BARRIERS that exist for the uptake of mindfulness in at risk populations?**

Low motivation, functioning difficulties, and high self-criticism were frequently identified barriers to mindfulness uptake. Groups highlighted the need for significant support of young people to help begin a mindfulness practice. For example, gentle encouragement and reminders, achievable exercises, relevant goals, psychoeducation around kindness to oneself, and most importantly, an emphasis that practice is not to be a pathway to further self-criticism. Practitioners also suggested specific utility for compassion practices – which may help navigate the self-critical voice associated with psychosis’ emergence.

**Clinical psychologist:**

...Sticking with practice... often we’ve found this clinical group to be fairly chaotic... a lot of difficulty going on in their life and their family generally.. so sticking to regular routine of practice is a challenge across the board with therapy, so obviously that’s going to apply to mindfulness generally as well, if we’re introducing daily

mindfulness exercises, so how to react that in terms of therapy is a challenge... for it to not become a critical sense of failure for the person.

**Young person:**

Um, I guess I’m mainly fearful that I won’t follow through. I like the idea of it, and I’m willing to give it a crack but I’m pretty bad with these kinds of things. But I’m pretty bad with these kinds of things, most likely I will just forget to do it, or forget to try... That’s probably my main concern, that I would procrastinate or just forget.

Symptomatic factors were identified by groups as barriers, namely, social anxiety and experiences such as suspiciousness and paranoia. For example, young people spoke of a distrust of others which may interfere with their sense of safety, engagement with others, and uptake of mindfulness in a group setting. Many practitioners discussed the importance of explicitly referencing social anxiety and paranoia to help manage adverse effects. Other symptomatic barriers discussed include increased physiological agitation and reduced cognitive functioning, where shorter and more achievable exercises were highlighted for utility. Practitioners also discussed that young people often try to avoid attenuated psychotic symptomology – a challenge for acceptance-based practices like mindfulness.

**Clinical psychologist:**

...Things like unusual physical sensations, perceptual experiences... hearing things and so on, and suspiciousness too... the mindfulness approach sort of is sitting with those experiences and observing those experiences which can be inherently destabilizing... it can be more of a challenge for it to stick, if you like, for the mindfulness-type approach to stick, because there can be a greater resistance to... to adopting that mindset or that attitude towards the experience...

**Young person:**

It might seem normal but if you push someone... to completely tense and paranoid the whole time they’ll just feel like ‘alright what’s this guy trying to do what’s he trying to get out of me’, you’re gonna see that fear in them... you can feel it, it’ll just echo off the, and other people with psychosis.

Young people expressed understandings or expectations of mindfulness that could function as potential barriers to mindfulness practice uptake. For example, that mindfulness 'requires' relaxation to work, or involved 'not thinking'. This highlights practitioner comments regarding the importance of psychoeducation, for example, about the nature of the mind (e.g. the mind does not stop thinking) and mindfulness (e.g. mindfulness is *not* trying to block thinking, and mindfulness can initially increase attention to thought). Overall, it is clear young people need significant support (e.g. slow pacing and navigation of common misunderstandings) to better understand and uptake mindfulness.

Young person:

Well... doing it in a way that will allow me to achieve the goal... which is to, I guess, completely relax and focus on the moment. I struggle to achieve that so I guess I feel like I'm not doing it properly.

### **WHAT materials and procedures are helpful to teach mindfulness to youth at risk for psychosis, including how TAILORING may help?**

Groups emphasized using shorter and achievable exercises (5–10 min, or as short as 30 s for introductory practice), flexibility over exercise choice, and more-concrete material (i.e. less abstract metaphors and more experiential work). Both stakeholder groups highlighted the importance of repetition, supported via homework, to consolidate learning. Noting psychotic-like experiences can occur during mindfulness practices, practitioners recommended facilitators make reference to the presence of these experiences during exercises. This was suggested to help normalize these experiences, anchor individuals during practice, and support individuals to distance themselves from these symptoms should they appear in everyday life. Both groups commented on the helpfulness of mindfulness exercises accessible day-to-day, for instance exercises incorporating music or physical practices like walking.

Both young people and practitioners commented on the potential for mindfulness practices to heighten the awareness of difficult internal experiences. Here practitioners supported the use of adjunctive compassion practices to help individuals sit with difficult experiences arising from mindfulness, and counter

experiential avoidance. Compassion practices were also discussed as helping reduce the self-punitive voice present for many young people at risk for psychosis.

Mental Health Occupational Therapist:

Yeah, definitely. I think that's why we end up doing a whole range of exercises, because different people... basically there's individual preference, developmental stage, there's yeah individual barriers, or strengths. What else... I mean, I think in the end, you know, length of time, complexity, you know you can modify a lot of these things. It's just more individual preference, which I think is a big part of it, as well.

Psychologist:

...sometimes when we're being mindful, really difficult stuff turns up, which of course makes it really hard to stay present when things are really difficult. But when you bring compassion to it, it actually facilitates it, or makes it possible to stay with the difficult. So, for me, I think at least anyway, now with the experience I have and training I've done, I wouldn't teach one without the other.

Young person:

I think that's one of the only ways I can truly meditate, is by focusing on rhythm, it kind of brings me into the moment and relaxes me.

Practitioners discussed the key goal of making mindfulness relevant to the young person; emphasizing mindfulness was unlikely to be adopted as a skill unless it aligned with the young person's values and goals. Given the youth of this cohort, practitioners commented on using youth-relevant content, for example, using physical activity to demonstrate mindfulness, videos from YouTube, cartoons, and accessible metaphors (e.g. the loss of attention being like falling off a surf board).

Finally, whilst acknowledging the benefit of a group format, the need to make content and process accommodations for young people with social anxiety was reflected on. Practitioners identified the value of providing psychoeducation around anxiety and incorporating references to social anxiety into mindfulness exercises. Additionally, fostering an atmosphere of

relaxation, bonding, safety, trust, and openness – a ‘peer’ feeling, was discussed as key to help ameliorate deleterious effects of social anxiety on engagement. Other desired content, particularly by young people, was information regarding how mindfulness connects to spirituality, and around risks of transition to psychosis attached to mindfulness.

Young person:

You get to make their group bigger, that helps them feel good too, because they might have a small group of friends that have the same issues, and it's like boom you've made another group of the same kind of issues, and they just bond over there, it's like a support group in a support group and it's like everything. You've just got to make it feel like it's a social group...

Mental Health Occupational Therapist:

And trying to do maybe bit-sized things, and maybe, I think we also probably did some warm-up exercises... that were really important to kind of bond the group, because I think pretty much always there's a high level of anxiety about being in a group. And in particular in regards to discussing these sorts of experiences. So, again, normalizing these experiences was important, but also the bonding of the group... to bond to each other not just as people who experience these things... but just as, you know, young people.

### WHO provides the mindfulness training?

The fourth higher-order theme concerned qualities of the facilitating practitioner. Practitioners discussed the importance of adequate training for the facilitator – who they felt required an understanding of how mindfulness interacts with UHR symptoms. Likewise, to help practitioners feel supported, the importance of regular supervision was commented on by practitioners as key.

Psychologist:

I think the obstacles... training.. Obviously, knowing... there's a worry particularly in UHR that this might interfere with symptoms. Knowing about how to do it, knowing adaptations.

Many practitioners commented on the value of the facilitator having their own practice – in order to help understand the benefits but also common pitfalls associated with practice. They noted this fosters an authentic endorsement of the practice by the facilitator, whilst also providing an opportunity for young people to see embodied qualities associated with practice, such as acceptance, curiosity, and compassion. Young people echoed this sentiment – predominately from the viewpoint of wanting an expert who ‘knows’ mindfulness.

Young people discussed practicing a skill which requires vulnerability and within which difficult experiences may arise, requires a comfort level not only with group members, but the facilitator guiding them. Young people emphasized this could be achieved via a practitioner openness around lived experiences of mental health difficulties, and an existing relationship with that practitioner. Practitioners also discussed the importance of making the facilitator available before, after, during and in-between sessions.

Young person:

Yeah, just being open with what you're feeling with them as well. So they can see that you're like them in some way. Like... caring, compassionate, human... because if you just... if you're just there asking them questions and not really making them feel like it's a group more than... like an AA meeting, ‘oh you've got alcohol problems talk to me about your problems.

Psychiatrist:

So I think it's really important to double-check our assumptions with young people and just create an environment of collaboration and transparency rather than thinking we know what the person may need or may think or may react in a particular context.

### WHEN and HOW mindfulness training is delivered to increase uptake and efficacy?

The fifth theme concerned logistical factors for better delivery of mindfulness for youth at risk for psychosis. Practitioners identified structured approaches for teaching mindfulness were helpful, before allowing individuals to shape content later. For example, a few practitioners discussed the utility of facilitators giving



more frequent direction during exercises and expectation setting early in the programme, before developing into more participant guided exercises and participant identified goals for later session(s).

Clinical psychologist:

we've always found actually starting groups off, with more of a structured type approach to begin with, and then becoming more open-ended as the groups progress has been quite useful. So even having a slightly more lecturey or didactic type aspect to things in the first several sessions, can be quite useful, and then people can kind of relax and listen to that.

Both groups discussed the value of peer input, for example, peer co-facilitation, to help relax group members and normalize experiences. Finally, some young people expressed a preference for individual over group formats to learn mindfulness. This was often discussed in the context of social challenges presented by anxiety and attenuated psychotic symptomology, particularly paranoia. As identified by a few young people, a combination of different formats (online, individual, and group) could be offered. As discussed by one young person, ensuring a group format adopts a 'peer feeling' might help ameliorate hesitance for group work.

Young person:

...depending on the people you're around, like the group, is at risk, being open about it, just telling them, maybe if you're gonna do a support group make sure you've got people who are able to deal with it and have some control over it come in and talk about their experience, like I'm happy to do it, I'm happy to help out. ...

### **SAFETY procedures that protect participants?**

The final higher-order theme related to safety concerns related to mindfulness and procedures to protect participants, including the helpfulness of co-facilitation by two practitioners. This was discussed as allowing improved monitoring of challenging experiences, like trauma or dissociative-responses, both during and outside of practice.

Exercise adaptations were discussed by practitioners, for example, so as to reduce the chance of individuals becoming lost in distressing phenomena, shorter

exercises with reduced periods of silence. Practitioners highlighted how incorporating explicit references to psychotic-like phenomena (e.g. unusual voices, paranoid thoughts) was important to help anchor people if these experiences were to occur. Practitioners also suggested for young people experiencing or at risk of dissociative symptoms, avoidance of excessive observation or intense focus exercises. For attenuated psychotic symptomology such as hallucination-like experiences which bother individuals during practice, practitioners discussed the utility of grounding exercises (e.g. touching ones chest, mindful walking, five senses grounding) in lieu of or in combination with traditional mindfulness exercises.

Clinical psychologist:

I think one of the things is, at the start it's very much about making sure there's enough language in the actual guidance... so it means that there's not too much... you don't give them too much space to let the mind wander too liberally. So give them more to anchor on.

Clinical psychologist:

I would think that... We would need to know when someone is having attenuated symptoms, particularly hearing voices and things like that, doing mindfulness at that point if anything more of a grounding exercise... this would be better, using an anchor, using the environment right now, or using your breathing, a very light touch mindfulness rather than a traditional okay let's go into meditation.

Given high rates of trauma in this cohort and the potential for mindfulness practices to initiate trauma-responses such as flashbacks and dissociation, many practitioners emphasized applying trauma-sensitive principles to work with this cohort. Trauma-sensitive recommendations included being wary of somatic responses (particularly to body-scan exercises), emphasizing flexible participation or withdrawal from exercises or the practicing room, and greater guidance or intervention from facilitators when trauma-reactions occur.

Clinical psychologist:

I think that would be the most important one... because a lot of young people with UHR for

psychosis, they have trauma. So I think that's one of the things you probably should be discussing.

Mental health occupational therapist:

I think for me trauma as well, so, sexual trauma... how that might impact on someone if we're doing body-based mindfulness exercises... body-scans. Yeah... just being really really open and aware that, you know, we're... I think we were quite gentle in our facilitation that, you know, everyone will find different exercises that they prefer and that, if there is a time where it just feels like it's something that you ever want to... if there's an exercise you don't want to do you've always got the choice to not do it, without judgement.

Finally, the issue of substance use was discussed by practitioners throughout – for its potential to interfere with skill uptake (e.g. by impacting an individual's ability to understand information), but also for the risks (such as exacerbating psychotic phenomena) attached to an intoxicated individual practicing mindfulness meditation. Some practitioners identified excluding individuals who use substances from participation, whereas others identified discussing with the young person the impact of substance use on attention and ability to engage with a mindfulness practice.

Social worker:

the other ones that I've thought about are dissociation, and substance use particularly the risks of meditating or using mindfulness when someone is intoxicated.

## DISCUSSION

Mindfulness practices, with their emphasis on non-judgement moment-by-moment awareness of conscious phenomena, show great promise for the emotional regulation, social functioning, and negative symptoms of individuals at risk for psychosis (Hickey *et al.* 2019). How to safely and effectively implement mindfulness for this group, however, remains poorly understood. This participatory research sought the perspectives of youth at risk of psychosis and practitioners with experience working with these individuals regarding mindfulness as a therapeutic modality. Potential benefits and risks of mindfulness practices

were identified as well as recommendations for their safe and effective implementation with this cohort.

### Benefits of mindfulness and barriers to uptake for youth at risk for psychosis

Stakeholder groups identified many potential benefits of mindfulness practice for youth at risk for psychosis, in particular, for management of difficult thoughts, emotions, and experiences. This aligns with research indicating efficacy of mindfulness for improved emotional regulation and stress management across different disorders, including later stages of psychosis (Guendelman *et al.* 2017; Vignaud *et al.* 2019; Wielgosz *et al.* 2019). The heterogeneity of the UHR group was a factor identified to suit the transdiagnostic nature of mindfulness. Stakeholder views were consistent with research suggesting promise of mindfulness for the negative symptoms and functioning of youth at risk for psychosis – areas yet to be effectively treated by other approaches (Addington *et al.* 2020; Böge *et al.* 2020; Hickey *et al.* 2017). Additional identified benefits include mindfulness' potential to help social anxiety and increase experiences of positive emotions like joy and gratitude. This likely reflects mindfulness and compassion-based approaches unique potential to down regulate the 'threat system' and activate the 'safety system' (Gilbert 2010; Hickey *et al.* 2017).

Some barriers to mindfulness uptake were identified, including high negative symptoms, functioning difficulties, self-criticism, attenuated psychotic symptomatology, and social anxiety. Higher negative symptoms scores strongly relate to poorer functioning in UHR groups, and thus it is no surprise symptoms like avolition may impact uptake of mindfulness (Devoe *et al.* 2020). One key task is ensuring difficulty with mindfulness does not become a critical sense of failure for the young person, particularly when existing perceptions around mindfulness may interrupt uptake (e.g. mindfulness *requires* relaxation). Psychoeducation around self-criticism and the nature of mindfulness practice (e.g. it does *not* require relaxation) are important. Experiences such as suspiciousness were discussed for their potential to interact with learning, particularly in a group setting – echoing research showing a close relationship between attenuated psychotic symptoms and functioning (Cadenhead *et al.* 2010; Harvey & Jones 2019). Similarly, greater social anxiety, a common experience for at-risk cohorts, has been found to correlate with higher negative symptoms and poorer social functioning (Kuhney *et al.* 2021). Groups

discussed the importance of social bonding and a 'peer' group feeling to help ameliorate effects of social anxiety and paranoia. Greater social connection has a significant positive influence on the course of psychosis (Norman *et al.* 2005; Sheaves *et al.* 2021); and whilst some individuals expressed hesitance to participate in a group setting, the benefit of doing so once anxiety and paranoia is addressed is apparent. This is apparent in qualitative research investigating the use of group mindfulness for later stages of psychosis – where the supportive social element of the group has been described as key in helping people learn mindfulness as well as improve relationships with others (Ashcroft *et al.* 2012; Dennick *et al.* 2013; May *et al.* 2014).

Medications and substance use, due to potential impact on cognition and functioning, were also discussed as possible barriers to skill uptake. While use of antipsychotics in UHR is cautioned against, their use still occurs with this cohort, as does benzodiazepine use, particularly for comorbid disorders (Catalan *et al.* 2021). For example, akathisia occurs for around 20% of individuals using antipsychotics and was discussed by both groups in this research (Pringsheim *et al.* 2018). Physiological and cognitive issues arising from medication use could be preempted with psychoeducation provided and alternative practices to traditional breath-focus exercises offered, like mindful walking. Other treatment options could also be discussed, such as alternative second generation antipsychotics which often have lower risk of akathisia (Pringsheim *et al.* 2018). A recent review found ~50% of individuals at risk of psychosis use cannabis (Farris *et al.* 2020). This highlights the importance of psychoeducation around avoiding intense practice while intoxicated.

## How to best deliver mindfulness to youth at risk for psychosis

### *Content and tailoring*

One key content recommendation included utilizing adjunctive compassion practices – a finding consistent with previous literature (Hickey *et al.* 2017; Reich *et al.* 2021). Compassion practices can help soothe distressing increases in awareness of thoughts and emotions which mindfulness practices can initiate, and help address high levels of self-criticism and trauma found in this group. Echoing recommendations for later illness stages, suggested exercise adaptations included shorter exercises (e.g. 30 s early in the programme and 5–10 min later), reduced periods of silence (via greater facilitator guidance), and explicit facilitator references

to psychotic-like phenomena during exercises (Chadwick *et al.* 2005; Reich *et al.* 2021).

Developmental considerations were front of mind for stakeholders, who emphasized mindfulness training needs to be relevant to young people with suitable values-work and goal setting, like framing mindfulness to target social anxiety. Similarly, interventions should use youth-appropriate explanatory material (e.g. videos; cartoons) and exercises (e.g., music; physical activities). This echoes researchers emphasizing the importance of developmentally appropriate interventions for this group (Early Psychosis Guidelines Writing Group and EPPIC National Support Program 2016; Yung 2017).

### *Who provides the training*

Both groups discussed helpful qualities for mindfulness facilitators to have, including adequate training and supervision, and cultivation of personal practice. Personal practices can aid facilitators understand the benefits but also common resistances and difficulties associated with mindfulness, and help facilitators 'sell' the practice with conviction. This is no surprise given strength of belief in a treatment can affect provider comfort and authenticity in conducting treatment, and thus expectations of clients and efficacy of treatment (Chen *et al.* 2019). Young people also commented on the importance of comfort in relation to the facilitator, including desiring both an existing relationship with the facilitator, and facilitator openness around personal mental health. The implication is that for this cohort, as for many young people, less traditional 'therapist-client' relationships are desired (Radez *et al.* 2021).

### *When, and how*

Suggestions regarding the timing of mindfulness training were made, including earlier intervention sessions having clearer goals and facilitator direction than later sessions. Both groups commented on the utility of peer co-facilitation (to help normalize participant experiences) and the benefit of smaller groups (e.g. 4–8 people). Smaller groups were identified to help manage paranoia and social anxiety, while not so small to prevent social bonding or increase pressure to share personal experiences. This echoes wider health research recommendations for optimal group sizes (Biggs *et al.* 2020).

### *Safety considerations*

Some safety considerations were identified, including the need to apply trauma-sensitive principles to mindfulness with UHR individuals. A 2015 meta-analysis of

six UHR cohorts ( $n = 765$ ) found a prevalence rate of 86.8% of childhood trauma in UHR, compared to between 42.7% and 60% in the general population (Kraan *et al.* 2015). Trauma-sensitive recommendations included inviting rather than requiring participation, ensuring easy withdrawal from exercises, and using individually-preferred grounding anchors (e.g. touching the chest, using the five senses). One key point was to be careful of exercises that bring attention to the body, such as body-scan mindfulness. For many individuals these can trigger trauma responses and should be cautiously approached (Frewen & Lanius 2015). Similarly, for dissociative symptoms, an avoidance of excessive observation or intense concentration practices was discussed, for fear these might exacerbate dissociative processes. To help monitor distressing experiences the helpfulness of co-facilitation was discussed.

Per recommendations made for mindfulness with more florid psychotic symptoms, to help prevent individuals becoming lost in attenuated psychotic symptomatology, practitioners discussed using grounding techniques, reducing the use of silence during facilitator-guided practices, and explicitly referencing attenuated symptoms during exercises (Reich *et al.* 2021). Some exclusion criteria were discussed, including individuals with histories of rapid (over a period of weeks to months) deteriorations in mental state. Some practitioners identified excluding substance users, or at a minimum ensuring individuals do not practice mindfulness while intoxicated. For safety concerns expressed by young people, psychoeducation is important. For example, the lack of evidence mindfulness interventions induce psychosis (Boge *et al.* 2021; Reich *et al.* 2021), and communication that the common experience of mindfulness 'increasing thinking' often reflects an increased attention (vs avoidance) of thought (Kostanski & Hassed 2008). Finally, it should be noted that although this research highlights important ways to safely use mindfulness with youth at risk for psychosis, we do not know for those who do develop psychosis how mindfulness skills might help or hinder the process of transition.

## LIMITATIONS

While this study presents a depth of qualitative analysis of two key stakeholder groups guided by intervention reporting guidelines, some limitations are present. The UHR population is highly clinically heterogeneous, including varied psychopathological and cognitive symptoms, and thus the small sample size of this study's

group is noted (Addington *et al.* 2020). Although data points were minimal it is possible with greater recruitment additional viewpoints may have emerged. This is a group often less accessible and more difficult to recruit – including barriers from UHR individual's self-stigma, poorer functioning, social anxiety, as well as hesitations from case managers to inform subjects of their 'at risk' status (Domingues *et al.* 2011). Additionally, early research suggests UHR young people had particularly negative psychological responses to the COVID-19 pandemic – driven in part by greater stress vulnerabilities and high rates of social anxiety deleteriously affected by public health measures (e.g. physical distancing encouraging avoidant behaviours (DeLuca *et al.* 2020)). This likely contributed to difficulties recruiting UHR participants. Regardless, a larger and more gender-diverse sample would allow greater confidence to be placed in the findings. Importantly, the practitioner sample size, whom per the inclusion criteria had at a minimum 3 years' experience working with UHR individuals, reflects strength of analysis. The length of experience with mindfulness for UHR individuals was also not obtained, which would help understand the transferability of the results. Additionally, inclusion criteria and aims were broad (i.e. included young people with minimal mindfulness experience) in part due to the novelty of this research area and to investigate barriers to uptake. Future research could discretely investigate how experiences of specific types of mindfulness (i.e. types of programmes, practices) affect stakeholder delivery and end-user engagement and intervention effectiveness. Finally, although an effort was made to monitor personal processes via reflexivity, and questioning focused on possible deleterious effects, the interviewer and research team have an interest in the clinical application of mindfulness. Interviews may have thus been biased towards positive interpretations of mindfulness.

## CONCLUSION

This research identified stakeholder views on mindfulness for youth at risk for psychosis. This research identified potential benefits of mindfulness for this group, particularly for emotional regulation, stress, negative symptoms, and social functioning. Barriers to practice were also identified, including negative symptoms and self-criticism, with ways to address these discussed, including utilization of compassion practices, psychoeducation, and youth-friendly programme tailoring. Given the novelty of this research area, it is important these considerations be formulated into comprehensive

clinical recommendations with research examining their implementation and efficacy.

## RELEVANCE TO CLINICAL PRACTICE

This participatory research helps outline important ways to maximize the safe and effective use of mindfulness with youth at risk for psychosis. The usefulness of compassion practices, trauma-sensitive principles, and youth-relevant material were highlighted, alongside ways of targeting anxiety and attenuated psychotic symptomology. Barriers to mindfulness uptake were discussed, including poor functioning, self-criticism, low motivation, and substance use. Mental health nurses, as a frequent front-line contact points for UHR individuals, are key avenues from which to appropriately educate regarding and help implement safe and effective mindfulness strategies, such promising adjunctive treatments for youth at risk for psychosis.

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## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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## SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article at the publisher's website:

**Appendix S1.** Interview Scripts.

**Appendix S2.** Template for practitioners.

**Appendix S3.** Template for youth at risk for psychosis.

**Table S1.** Combined stakeholder template.

**Table S2.** Quotes illustrating the six higher-order themes of the combined template.