UNDERSTANDING THE RELATIONSHIP BETWEEN ADHD AND SUICIDAL THOUGHTS AND BEHAVIOURS

Exploring experiences of ADHD and suicidal thoughts and behaviours
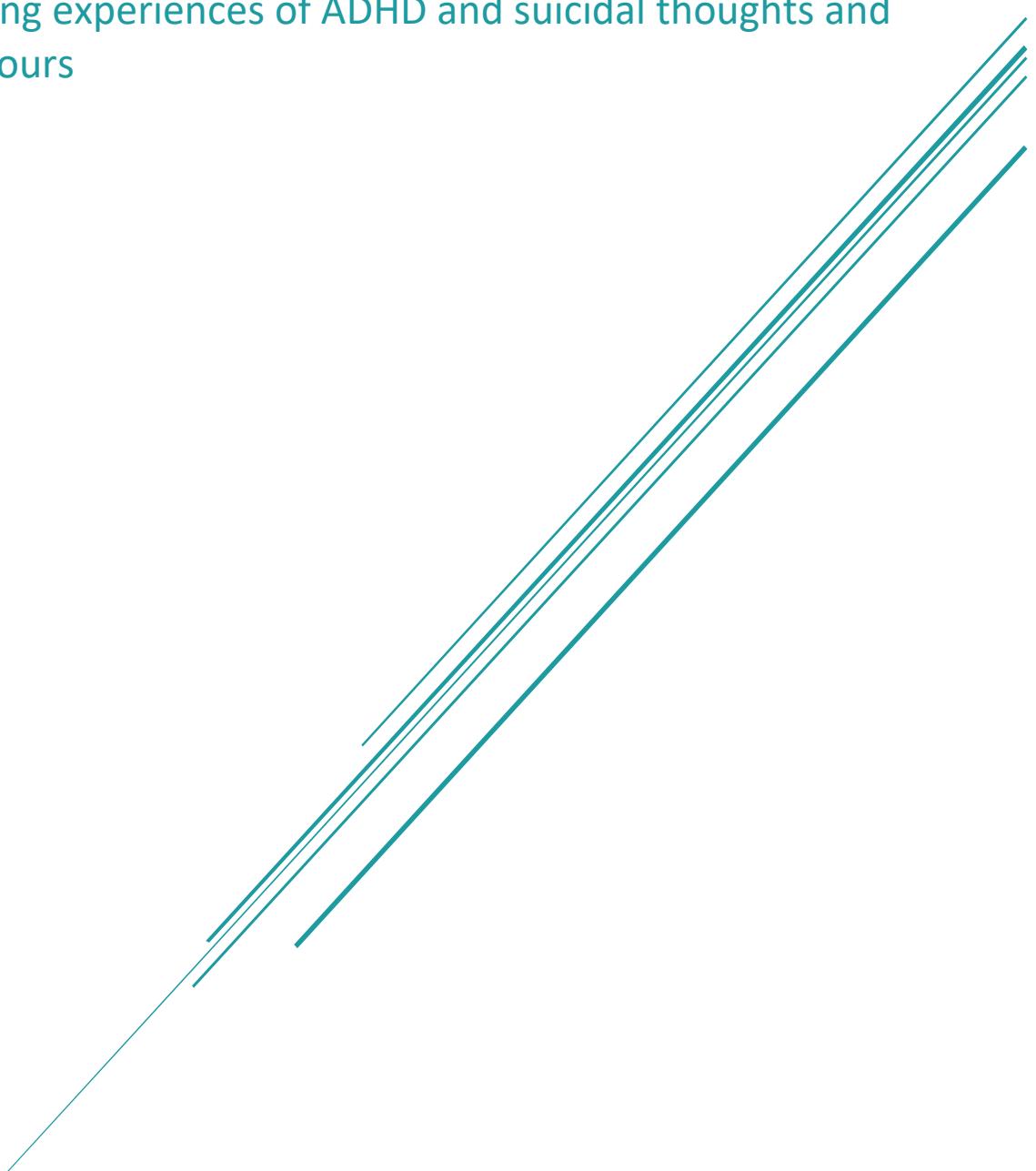
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Summary

Background: Attention Deficit-Hyperactivity Disorder (ADHD) has been associated with vulnerability to suicidal thoughts and behaviours. Quantitative research studies have identified associations between ADHD and suicidal thoughts and behaviours, but there is limited research into how ADHD is experienced by individuals, how it affects their mental health, their coping responses and their suicide risk.

Aims: This study aimed to further our understanding of the ADHD-suicide risk relationship through qualitative interviews with people with ADHD and a history of suicide attempts.

Methods: Eight participants (four male, three female, and one non-binary; age range 18-32 years old, mean age 24.7) who had a diagnosis of ADHD, and had experienced suicidal thoughts and behaviours in the last five years, took part in one-to-one, semi-structured interviews via video conferencing. Interviews explored participants' experiences of ADHD, their suicidal crises, and their views on the ADHD suicide-risk relationship. Interviews were audio-recorded and analysed verbatim.

Key Findings: A number of key themes emerged from participants' experiences. Participants highlighted challenges including interpersonal, academic and societal challenges, along with the impact of internal processes such as rumination and emotional dysregulation and how the interplay between factors may have contributed to their experiences of suicidal crises. The participant's journeys towards self-acceptance was another theme which was identified.

Limitations: As this study used qualitative methodology it was conducted with a small sample of individuals selected for their specific experiences of suicidal crises. While this methodology can provide deeper understanding of suicide risk for some individuals with ADHD, like all qualitative research, it may not be generalisable to the wider population.

Conclusions: Qualitative studies are a valuable tool to enhance our comprehension of suicide risk within high-risk groups such as those with ADHD. Applying both quantitative and qualitative research methods can help identify pertinent contextual and psychosocial factors, which is essential in the development of effective interventions for suicide prevention among individuals with ADHD.

Acknowledgment

Background

Attention-deficit hyperactivity disorder (ADHD) is a common neurodevelopmental condition that begins in childhood and often continues into adulthood. In the UK, the prevalence of ADHD in the community is estimated at around 5% for children and 3-4% for adults (National Institute for Health and Care Excellence [NICE], 2019). However, it is important to recognise that these figures do not represent the full prevalence of ADHD in the general population. The Adult Psychiatric Morbidity Survey (APMS), conducted with around 7,500 adults from the general population in England, found that 1 in 10 adults (9.7%) screened positive for ADHD symptoms using the six-item Adult ADHD Self-Report Scale (ASRS; Kessler et al., 2005) (McManus et al., 2016).

The presentation of ADHD symptoms varies greatly across individuals, genders, and between child and adulthood presentations impeding identification and diagnosis of ADHD. For instance, although inattentive symptoms are thought to occur more frequently, externalised symptoms such as hyperactivity, may be more easily detected (Willcutt, 2012). More recently, these differences have been recognised and specific diagnostic criteria associated with childhood and adulthood presentations have been employed (APA, 2013). Despite advances in understanding the course and presentation of ADHD across the lifespan, the identification of ADHD remains poor.

A further consideration is that ADHD often occurs with somatic conditions, psychiatric conditions (such as mood and anxiety disorders, substance use disorders and personality disorders; Katzman et al., 2017; Sultan et al., 2021) and behavioural impairments (such as antisocial or aggressive behaviours, low self-esteem, social impairment and exclusion; Johnson & Suhr, 2021; Merrill et al., 2020) thereby impeding identification.

ADHD has been associated with problems such as impaired problem-solving abilities, distractibility, lower impulse control, and lower self-esteem, which may lead to problems in educational and interpersonal functioning as well as lower perceived quality of life (Chen et al., 2020; Garas & Balazs, 2020; Wilson & Marcotte, 1996).

Previous research has highlighted an association between ADHD and suicidal thoughts and behaviours (Garas & Balazs, 2020; Giupponi et al., 2018; Septier et al., 2019). For example, in a nationally representative study using the Canadian Community Health Survey–Mental Health, researchers found that suicide attempts were 5 times more likely to be reported by adults with ADHD compared to

those without ADHD (14.0% vs. 2.7% respectively; Fuller-Thomson et al., 2022). This increased risk is further emphasised when compared to the findings from the English APMS which found that 6.7% of the general population had made a suicide attempt (McManus et al., 2016). In addition, ADHD has been associated with higher all-cause mortality, including unnatural deaths and suicide (Sun et al., 2019). A large scale (n= 2,207,840) database study in Taiwan found that those with a diagnosis of ADHD had a three-fold increased risk of dying from suicide than individuals without a diagnosis of ADHD (suicide death; 0.62 vs. 0.19 per 10 000 person-years; Chen et al., 2019).

Although it is clear that a relationship exists between ADHD and suicidal thoughts and behaviours, our understanding of which factors are associated with the increased risk, and under what circumstances remains limited. Indeed, looking at the field of suicide research more broadly, our understanding of some of the major risk factors for suicide has increased in recent years. However a seminal meta-analysis by Franklin et al. (2017) highlighted that after 50 years of research, our ability to predict suicide is only slightly better than chance, meaning it remains difficult to identify individuals within high-risk groups who are at increased risk of taking their own lives than others.

It is well established that suicidal thoughts and behaviours are the result of a complex interplay of biological, clinical, psychological and social factors. Recent psychological models of suicidal behaviour reflect this complexity and the importance of using research methodologies from different disciplines to go beyond identifying factors associated with suicide risk to deepen our understanding of the context in which suicidal thoughts and behaviours may occur. For instance, the Integrated Motivational-Volitional (IMV) Model (O'Connor & Kirtley, 2018; O'Connor, 2011) is a three part model which draws on other areas of health, psychology and suicide research to describe under what circumstances and which factors interact and contribute to the emergence of suicidal ideation, and in the transition from thoughts of suicide to suicidal behaviour.
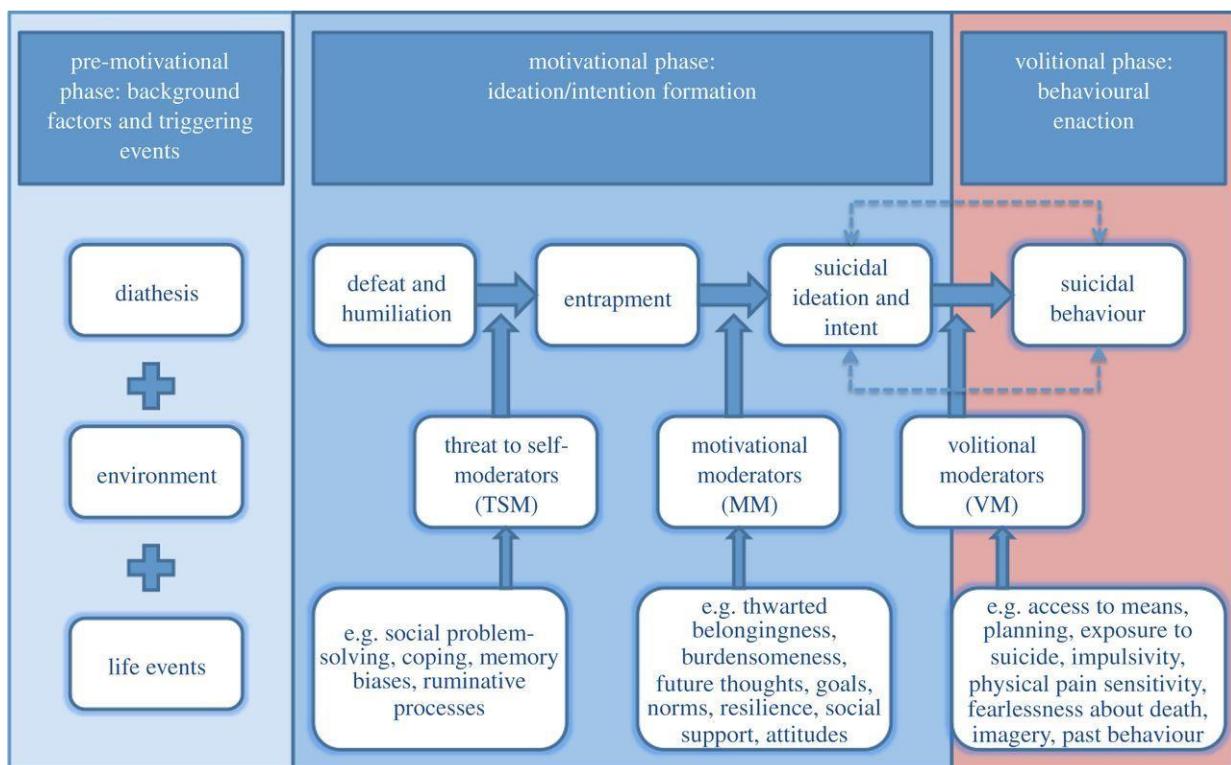
Figure 1. The Integrated Motivational-Volitional (IMV) Model of suicidal behaviour (O'Connor & Kirtley, 2018; O'Connor, 2011).

In brief, the pre-motivational phase (part 1) details factors which may provide the context in which suicide risk may emerge (e.g. genetics, life events, personality factors, environmental influences). The motivational phase (part 2) highlights defeat and entrapment as important psychological mechanisms underpinning the emergence of suicidal ideation and intent. In other words, people who feel trapped by feelings of defeat are more likely to experience suicidal thoughts. The IMV model also identifies key factors, which by their presence or absence, could increase or reduce the likelihood that an individual progresses along the pathway to suicidal ideation. For example, these factors include cognitive processes which facilitate feelings of defeat becoming entrapment (e.g. ruminative processes, future thinking). The IMV model also shows two key interpersonal psychological factors that increase the likelihood that those who feel trapped (entrapment) develop suicidal thoughts; feeling a burden on others (perceived burdensomeness) along with feelings of not belonging (thwarted belongingness) (Joiner, 2005; van Orden et al., 2010).

The model also argues that the factors that lead someone to become suicidal are different from those that increase the likelihood that someone acts on their thoughts of suicide. The IMV model also identifies a group of factors called the volitional phase factors (part 3) which distinguish between those who have thoughts about suicide and those who engage in suicidal behaviours. As such,

frameworks such as the IMV model provide a useful tool for identifying factors that may increase suicide risk for individuals in high-risk groups.

In our previous study from this research programme (Cleare & O'Connor, 2023) we explored the psychological factors from the IMV model to further our understanding of the ADHD-suicide risk relationship. Consistent with the predictions of the IMV model, we found that defeat and entrapment were associated with recent suicidal ideation in those who had experienced ADHD. We also found that the IMV model's volitional factors, such as impulsivity and mental imagery, differentiated between participants who have attempted suicide and those who had not made a suicide attempt. Suggesting that in the context of ADHD, key factors of the IMV model (e.g. defeat, entrapment, impulsivity) provide an important framework to help us to better understand the ADHD-suicide risk relationship.

The IMV model highlights the importance of using research methodologies from different disciplines to go beyond identifying factors associated with suicide risk, and to deepen our understanding of the context in which suicidal thoughts and behaviours may occur. Although there is a body of research trying to delineate factors associated with suicide risk in people with ADHD, there has been less exploration of the experiences of people with ADHD who have experienced a suicidal crisis. A pertinent step in addressing this is asking individuals with ADHD and a history of suicide attempts how they experience and understand their ADHD, how it affects their mental health, and their coping responses as well as what factors they feel are important in understanding their suicide risk, and what can be done to better identify opportunities for intervention and ultimately suicide prevention.

To this end, in this study we used qualitative interviews to explore the ADHD-suicide risk relationship by asking individuals with ADHD who had a history of suicide attempts to share their experiences about both ADHD and suicidal distress.

Methods and materials

Participants

Eight participants with a diagnosis of ADHD and had experienced suicidal thoughts and behaviours in the past five years took part.

Recruitment and Procedure

Ethical approval was granted by University of Glasgow's School of Medical, Veterinary and Life Sciences ethics committee. Participants learned about the study in the following ways; 1) individuals who had expressed an interest in finding out about ADHD-related research were sent the study advert, 2) the advert was circulated online and interested individuals then contacted the researcher for more information. Screening and recruitment took place between August and October 2023. Where possible, individuals who had received their diagnosis of ADHD at different ages (e.g. childhood, adolescent, adult) were invited to take part in the study.

Interviews were conducted online, and audio recorded. Informed consent was collected from all participants, and it was made clear to participants that taking part was voluntary and that they could withdraw from the study at any time and did not have to answer any questions they didn't wish to.

Measures

Demographic information including age, gender identity, ethnicity, sexuality, marital status and employment status were collected from participants.

Mental health history

Participants were asked about their experiences and any diagnoses of mental health concerns such as depression, anxiety, panic attacks, bipolar disorder, other emotional problems or ADHD. For each of the mental health concerns participants were asked: "Have you ever experienced XX (e.g. depression/ anxiety)?", "If yes, have you ever received a diagnosis of XX (e.g. depression/ anxiety)?"

Interview

Participants took part in individual interviews lasting around 1.5 hours. All interviews were conducted online and were audio recorded with participants' permission. Interviews were transcribed in full and pseudonymised. Transcripts were read in full and themes noted by two researchers (SC and NB). Themes were then discussed and grouped within overarching themes by the whole research team.

The main interview questions explored participants' experiences of ADHD, and their experience of suicidal thoughts and/or behaviours. We also asked participants what they felt could be done to support individuals who have a diagnosis of ADHD and are at risk of suicide.

Results

Descriptive information about the sample is shown in Table 1 below. Participants had a mean age of 24.7 years (range 18-32, s.d 4.89). A quarter of the sample was white (n=2), half of the participants identified as male (n=4), three as female (37.5%), and one participant identified as non-binary (12.5%). As shown in Table 1, the age of ADHD diagnosis spanned from age 8 (n=1, 12.5%) to 32 (n=1, 12.5%) years old.

Table 1. Participant characteristics

	Hazel	Cameron	David	Nikki	Paul	Rosie	Matt	Amar
Gender	Female	Non-binary	Male	Female	Male	Female	Male	Male
Age	32	23	32	22	23	18	25	23
Ethnicity	Multiple ethnicities	Multiple ethnicities	White	Black/African/Caribbean/Black British	Multiple ethnicities	Asian/Asian British	White	Asian/Asian British
Sexuality	Bisexual	Lesbian	Heterosexual	Heterosexual	Heterosexual	Heterosexual	Heterosexual	Gay
Relationship status	Single	Single	Relationship	Other	Single	Single	Relationship	Single
Employment status	Unemployed due to disability	Unemployed due to disability	Regularly employed	Sporadically employed	Regularly employed	Student	Regularly employed	Student
Age ADHD diagnosis	30	22	31	19	23	8	22	21
Current ADHD treatment	Therapy	Medication	Waitlist	No	Waitlist	Medication	Waitlist	Waitlist
Additional MH diagnosis (n)	4	5	3	3	1	1	2	2

All participants reported being diagnosed with at least one other mental health condition, and one participant reported having diagnoses of 5 mental health conditions (Table 1).

The most frequently experienced conditions were depression (n=8, 100%) and anxiety (n=7, 87.5%). Seven of the participants (87.5%) in this study also had a diagnosis of depression, while over half (n=5, 62.5%) had a diagnosis of anxiety. As highlighted in Table 2, half of the participants had received a diagnosis of post-traumatic stress disorder (PTSD). Three other participants (37.5%) discussed experiencing traumatic events, but had not received a diagnosis of PTSD.

Table 2. Participants' experience of mental health conditions

MENTAL HEALTH CONDITION	EXPERIENCED EVER N (%)	DIAGNOSIS N(%)
Depression	8 (100)	7 (87.5)
Problems With Irritability or Anger	6 (75.0)	1 (12.5)
Manic-Depression, Mania, or Bipolar Disorder	2 (25)	2 (25)
Panic Attacks	5 (62.5)	3 (37.5)
Other Anxiety	7 (87.5)	5 (62.5)
If Specified		
Generalised Anxiety Disorder (GAD)		2 (25)
GAD, Extreme Anxiety and Public Speaking Phobia		1 (12.5)
Obsessive Compulsive Disorder		1 (12.5)
Alcohol or Drug Problems	5 (62.5)	1 (12.5)
Any Other Emotional Problems	5 (62.5)	5 (62.5)
If Specified		
PTSD/Complex PTSD	7 (87.5)	4 (50)
Emotional Dysregulation	1 (12.5)	1 (12.5)

Findings and Discussion

"life is stressful. And I think ADHD just, kind of, amplifies that stress" Matt, 25 years

In this section, we explore some of the main themes that emerged throughout the interviews. All participants in this study had a history of suicidal crisis and suicide attempts in the last five years. Three participants had experienced multiple suicide attempts starting in their school years.

The main sense from the interviews was that their suicidal feelings were not influenced by one single factor in isolation. In some areas, the IMV model is included as a framework to discuss participants' experiences. Participants discussed intertwined factors which they felt were often exacerbated by their experiences of ADHD, as the above quote from Matt highlights. The complex interaction between different factors which can be associated with increased suicide risk – and recovery – is highlighted by the below quote from Hazel:

"one of my friends ditched me when I was suicidal. And it really impacted my recovery. But mostly, I think mostly it was my emotions, I think I was mentally unwell. And like I say, like the ADHD exacerbates the spiralling and the negative thoughts" Hazel, 32 years

Table 3 provides an overview of the themes and subthemes that emerged from this study. Recurring themes emerged around social isolation, academic difficulties, and interpersonal challenges being frequently discussed. For instance, participants spoke about the impact of feeling different from others, a perceived lack of understanding in society, isolation, negative self-views, feeling trapped because they felt unable to function within the constraints of society.

Table 3. Overview of themes and subthemes

Theme	Sub-theme
Academic	Coping with academic stress
Interpersonal	Isolation
	Rejection
	Being misunderstood
Self-perception	Thoughts (rumination/ overwhelming)

Emotional impulsivity	Negative emotions
	Emotional dysregulation
Society	Stigma
	Mental health services
Going forward/ how can we support people with ADHD	Day-to-day skills
	Acceptance

The themes provide insight into the multifaceted nature of the challenges faced by individuals with ADHD in their mental health journeys.

Academic challenges

One of the main themes for participants was around academic challenges, with many reporting that they were struggling, feeling increased pressure and having to do extra work to prevent falling behind with their workload. These experiences spanned their experiences at school, college/university and employment.

When discussing these academic experiences, there was an underlying feeling of failing to meet others' expectations, and the additional pressure to try make up for their perceived failings. Furthermore, participants repeatedly mentioned the rejection of being told by others that they were letting themselves down, and that they should be doing better. Below are quotes from three of the participants that reflect these feelings:

> "I was really naughty especially in high school. And they would always say to me things like, "Oh, you should be excluded for this but you're so intelligent, why are you letting yourself down", and all this kind of thing. And it's just like, actually I'm really fucking struggling." Hazel, 32 years

Hazel's experience reflects a sense of frustration and could echo a defeating situation where participants were trying hard and 'failing', while their struggles are being dismissed and letting themselves down is perceived by staff to be a choice, or a lack of effort:

> "Self-reflection of, like, "Why can't I do any work?" "Why, why am I not getting anything done even though, you know, I have the time, I have the, the, the surroundings and the, and the

ability to, kind of, you know, do everything that I've set myself out to but I can't sit down and focus?" Matt, 25 years

The sense of frustration from failing to meet expectations of other people as well as themselves comes through strongly in participant's experiences. Nikki reflected on the difference between people's perceptions, and an environment not suited to her needs. The quote from Nikki further emphasises the impact of rejecting, defeating events:

"I struggled with learning, not because I wasn't smart, but I, I needed a more specialised environment to live and I was really, really, really, really struggling and everyone was telling me that I was lazy." Nikki, 22 years

Coping with academic stress

"Because I know I have ADHD, so I will always keep myself in check to not let myself fall behind" Rosie, 18 years

Most participants expressed pushing themselves harder and feeling increased pressure to keep up, to not fall behind academically.

"I was exhausted, I was absolutely exhausted, don't get me wrong. I was up at the age of 11, being up at 6:00am and going, not going to bed until two, three in the morning, just trying to get homework done and all the rest of it. So it was very tiring, but that regimental nature just allowed me to get things done really." Amur, 25 years

Amur's experience really echoes those expressed frequently by participants. In order to keep up with the pressures and expectations they experienced in academic environments, participants adopted coping strategies such as self-monitoring and working before and after class to keep up:

"I could still sort of cope okay but very much felt that that's where I started to develop sort of coping strategies and management strategies to try and get around. It was normal to not really pay any attention in sort of class and lectures and just catch up in my own time" Paul, 23 years

Taken together, consistent with the motivational phase of the IMV model, participants' recollections of academia may echo events that were humiliating and defeating (O'Connor & Kirtley, 2018; O'Connor, 2011). The IMV model highlights that in the absence of adaptive coping strategies, or in the presence of ruminative thoughts, events which are felt as defeating or, humiliating can transition into feelings of entrapment (i.e. feeling unable to escape). There are two components of entrapment. Firstly external, feeling trapped by external situations, and secondly, internal entrapment where individuals can feel trapped within themselves. Feeling trapped may then contribute to thoughts about suicide when levels of social support are low, or when the individual feels like a burden on those around them.

The impact of the emotional dysregulation elements of ADHD may further intensify feelings, and therefore the impact of interpersonal events. Nikki discussed the impact of stress on the overwhelming emotions, and how this became sensory overload.

> "It had a lot of impact. Like I remember going for a three-day orientation for school and my first night there I burst into tears and all the seniors were around me and it's because I, I could of (inaudible 15:25) it was the environment and everything and I know everyone has really bad sensory overload, but one of the aspects of my ADHD" Nikki, 22 years

As discussed below, for most participants, their experiences of ADHD were interpersonally isolating.

Interpersonal

The added burden of trying to balance academic-related work on top of day-to-day tasks, and maintaining relationships comes through strongly in the extract below from Amar.

> "there's [only] so many hours in the day and you're expected to keep on top of academics as well as your social life, relationships but also self-care, cooking and cleaning and all the rest of it and fitness. And if one aspect of those is taking significantly longer because of my inability to sit down and concentrate and get work done in a timely manner, then it's very hard to balance all the other aspects of my life." Amar, 23 years

For Rosie, she felt her ADHD contributed to her being different to others and feeling isolated, thereby highlighting potential mechanisms which may account for the ADHD–suicide risk relationship. Rosie's experience fits with previous research showing that lack of social support and feelings of loneliness

are associated with increased suicide risk (McClelland, Evans & O'Connor, 2023):

> "I feel like if I didn't have ADHD, maybe I would, well I, maybe I wouldn't have formed like this and I wouldn't feel this way. Maybe I could fit in with other people instead of being different and sometimes I would just think that my ADHD was a really big, major reason, like maybe it's not the cause of why I was suicidal but because of my ADHD, it led to the cause and then I became suicidal. There were a few attempts where I tried to like end my life and, because I was isolated…and I felt, so that, that's like, that's, that's a part of the reason for maybe being suicidal at that age where I was being isolated and I didn't know what I was doing wrong and I don't think my mom really, like she didn't understand how severe it was because she just thought it was like isolating" Rosie, 18 years

These findings could provide additional insight into previous research. For example, Triece et al. (2020) examined the role of perceived burdensomeness (feeling like a burden) and thwarted belongingness (feelings of not belonging) in the link between ADHD and suicide risk. The authors found that both perceived burdensomeness and thwarted belongingness had indirect impacts on the relationship between ADHD and suicidal ideation, with perceived burdensomeness exhibiting a particularly strong effect. In our current study, the sense of burdensomeness emerged prominently during interviews.

Self- perception/ self-stigma

Adding further complexity to the ADHD and suicide-risk relationship is the internalisation of perceived negative attitudes. For instance, self-stigma occurs when individuals internalise other's negative perceptions of them (Rüsch, Angermeyer, & Corrigan, 2005) and is associated with feelings of shame and suicidal thoughts.

As illustrated by their experiences from school/academia, participants discussed being perceived as intelligent by others, which conveyed a sense of expectation. However, as Hazel highlights below, there is a lot of frustration both because you struggle to do what you should be doing and you get a lot of criticism even though ADHD is a disability:

> "To me, ADHD is absolutely disability, like I struggle so much day-to-day. And it's really frustrating because I'm intelligent. I know what I should be doing but you can't make your

brain do what it's refusing to do." Hazel, 32 years

Indeed, as the extracts suggest, there seems to be a discrepancy between the perceptions, and the individual's self-perceptions and their internal struggles.

For some participants, being sensitive to rejection, combined with experiencing intense emotions had an impact on the development of their suicidal crises:

"rejection sensitivity, kind of thing, I think quite heightened emotions I imagine, that's something I definitely feel can play into it for sure. And yeah, I think that is, I think that, yeah, I'm not sure if it's fully an ADHD thing but it's, but other people I've talked to, it seems to be something. So getting, asking for help is something that, and this is, applies quite broadly by the sounds of it with other people is that, yeah, getting help, like asking for help, I don't think it's that the issue is it makes you feel weak or anything like that." Hazel, 32 years

Cameron's experiences really emphasise the impact of internalising negative perceptions which can come from a lack of understanding, and highlight the importance that a diagnosis can make for some individuals:

"I think that diagnosis is really important in understanding why. And I know that people with ADHD get criticised a lot more. And if you get criticised a lot more and you don't know why and you don't know it's because you have a disability and it's not your fault. You think that you are the worst person in the world and it's all your fault." Cameron, 23 years

In our previous study from this research programme (Cleare & O'Connor, 2023), we found that participants with ADHD and a history of suicide attempts had higher levels of self-criticism than participants who had attempted suicide and had no experience of ADHD, and those who had ADHD and had never attempted suicide.

David's experiences emphasise the potential impact of self-criticism and self-doubt in the context of a fast moving brain. From the point of view of the IMV model, they could act as threat to self-moderators, translating defeating or humiliating events to events that feel more trapping:

"I'm very much hyper analytical of myself and I basically just gaslight myself at high speed.

And I think that, combined with my lack of self-worth, is that I, my imposter syndrome, I always basically just challenge everything, and I'm very sensitive to situations. So, yeah, I think in a way it's quite easy to undervalue myself and the brain, you know the brain just going as fast as it does. I also, my poor memory all, sort of, like, key functions that I don't have I, I basically don't respect myself and I don't, don't have the compassion for myself." David, 32 years

Emotional dysregulation

Throughout the interviews, participants highlighted the interconnected impact of strong emotions, feeling emotionally dysregulated, and the context of overwhelming thoughts:

"I had like a lot of emotions going on, but I didn't know why, and I just felt like it was my own problem" Rosie, 18 years

Regulation of emotions has been detailed as requiring an awareness and understanding of emotions, in addition to the ability to regulate impulsive behaviours and to apply coping strategies appropriate to the circumstances or goals (Gratz & Roemer, 2004):

"I'm not on the best terms with my family so, but I have to go back home because of the lockdown … I needed more space…I was forced to interact [with family] when I just needed space to handle the drift… I thought I was getting better, my assaulter … tried to get in touch with me, that …triggered a lot for me. So, you can imagine going through something like that with the natural tendency to have overwhelming emotions." Nikki, 22 years

Feelings of exhaustion, depletion of coping strategies also came through the interviews and echo defeat; a key factor from the IMV model of suicidal behaviour:

"[Suicidal] behaviour went on really for years because I had no, I had no other way to cope." Cameron, 23 years

Further, when emotional regulation skills are not accessible, individuals may experience difficulties in regulating their emotions, which has been associated with suicidal thoughts and behaviours in the existing research literature (Gratz & Roemer, 2004; Turton et al., 2021). However, in a recent

systematic review, Turton and colleagues (2021) found that emotional dysregulation was not associated with suicidal thoughts and behaviours when other variables such as demographic characteristics, psychological variables such as experiences of trauma or psychiatric symptoms were included in the analyses. This could indicate that emotional dysregulation is indirectly associated with suicide risk.

Thoughts (rumination/ overwhelming)

Throughout the interviews participants repeatedly mentioned the impact of stress. Stress came from external avenues, such as academic pressures, as well as from internal thoughts, which participants attributed to their ADHD. These stressors are highlighted in the extracts below. All participants felt that they did not get any respite from their intense thoughts.

On top of this, the presence of intense fast-moving thoughts, and overwhelming (dysregulated) emotions often created a spiral which can trap participants:

> "Fast, continuous thoughts…that I think not having that time to, kind of, shut down and process anything else that's not work definitely, yeah, definitely plays an impact on just, I think ... just stress, constant stress." Matt, 25 years

Higher levels of stress, and stress reactive rumination (rumination in response to stressful events) have previously been associated with suicidal ideation in people with ADHD (Yeguez et al., 2018). This high speed stress, reactive cycle was a recurring theme from participants:

> "generally speaking your mind is probably going faster than average. So for me it, you know, it's very much I'm in that spiral. And because I've got this like fast creative brain, it's just constantly, it's going too fast for me to handle…" Hazel, 32 years

This feeling of small things becoming overwhelming in a high speed, ruminative spiral came through strongly. When participants were in a positive mind-set, this was often experienced as inspiration and creativity:

> "I also think it's very easy to think from maybe it's one small thing, but then you just, it just evolves into something really, really, really big and you just get overwhelmed from it." Rosie,

18 years

On the other hand, however, many participants discussed that if they were in a negative headspace and a minor concern emerged, this would then escalate and spiral rapidly into potentially very difficult, distressing thoughts which felt out of control, and overwhelming:

> "it does get overwhelming, to be honest especially when your mind is drifting concerning something that can potentially make you anxious. Because if you're drifting on something happy, that's fine. Well, when you're drifting on something that's upsetting you, it can slip into overthinking, triggering your anxiety because imagine you're thinking, yes. Imagine you're having a drift about your boyfriend cheating on you, your mind can drift to oh how many times he did something that was looking suspicious to where is he, oh how many times have you done something like this? I think you're going, going, going, going, going and the next thing you know you can come to a conclusion that he's left here for Greek ladies" Nikki, 22 years

As the above quotes show, participants often experienced their thoughts as uncontrollable, difficult to disengage from and overwhelming. This is something that Nikki expressed as contributing to her suicidal crisis:

> "Nothing was going right and the voices, the drifting, it was too much. To be honest, I think I just got to a place where the drifting would stop and I know this may sound like really mad, my brain just did some type of crazy ass …the only way this drifting stops is if you die. I need a break, I can't keep … I, I wanna go cause I, I don't know how long I can keep doing this." Nikki, 22 years

Other participants, such as Hazel, discussed becoming so overwhelmed by the high speed ruminative thoughts that it created an internal tunnel vision, impairing their memory of what support they had available, potentially also contributing to their feelings of not belonging. Such thoughts also had an impact on participants' ability to keep themselves safe from harm when experiencing suicidal crisis:

> "I just can't handle it, it's like too fast and it's just negative thought after negative thought. I struggle when I'm feeling like that, I struggle to remember who exists in my life, like who I can go to for help." Hazel, 32 years

Participants' experiences emphasise how diverse and intense their thoughts can become. However, Nikki also went on to discuss (below) accepting her mental drifts rather than fighting them as she felt they allowed her varied perspectives and they contributed to a sense of self and creativity. Further, Nikki also expresses concern that ADHD medication could suppress the latter, potentially changing the core aspects of her identity:

> "it's like your brain is all over the place in your head, like it's like, I don't wanna call it inner voices, it's just like it's everywhere, everything, everywhere, all at once. I'm kind, I'd miss it because I feel it, I feel like having different perspectives in my head opens my mind to different things. I, I feel that that's part of what makes me me, because if they weren't there, I feel I'd be very rigid…

> My mind drifts a lot and a lot of people [with ADHD] are, are uncomfortable with the drifts. I, I have just learned to roll with the drifts because the drifts sometimes takes you to very different places. And some people, I remember reading some people that took medication suppresses the drift, and by the time you started taking medication to suppress the drifts, they missed the drift because they were like it's really quiet in my head, I'm not used to that." Nikki, 22 years

Other participants expressed benefits from experiencing high speed thoughts. For instance, David attributed his ability to cope with high pressure situations to his ADHD:

> "I feel like I am absolutely cool as a cucumber in emergency situations which I, I do end up in… it's almost like it's 'cause my brain's just used to operating at that speed anyway" David, 32 years

Society

A common theme among participants related to the challenges they faced when engaging with mental health services. Cameron and Hazel spoke about their experiences with mental health services when seeking support for suicidal crises as rejecting and triggering experiences:

> "I feel like literally every single interaction I've had with someone in like a position of power

or someone that should have helped, I feel like I've just been, I feel like I'm cursed. Like I feel so unlucky…

I called them [crisis line] once and I, I got frustrated with them because like he basically in, interrupted me when I was explaining something, just to impose his opinion on something. And then I didn't want to talk to him anymore and I was like, "Can I speak to somebody else?" And he was like, "No." And this was bratty, but it was how I was feeling. I basically said, "Oh, okay, so shall I just kill myself then?" And I'm not lying, he just responded saying, "Bye bye", and hung the phone up" Hazel, 32 years

These extracts also highlight missed opportunities to intervene and support the individual through their crisis. Participants' interactions with mental health services can foster an air of mistrust, and subsequently, for some, had a detrimental impact on their help seeking behaviours. Furthermore, the perception of negligence and lack of care from mental health professionals, for Hazel and Cameron, these interactions led them to disengage from formal support. For Hazel, this happened during her mental health crisis, whereas for Cameron they found it impeded their recovery:

"Don't get me wrong because as people go, I was getting a fair amount of support. Like I had a CPN [community psychiatric nurse], you know, I had a thing, I was being seen, you know, weekly. I had therapy, sometimes I would have the, the, the home treatment team and they would come over every day. They weren't very helpful though to be honest…. I discharged myself from the mental health team, I was, because they were so much of a trigger to me. They, they really triggered me, and they triggered me by like their, like their negligence and their lack of care and the, the things they would say to me. You know, and also a big thing for me was like asking for help and needing help and, them then down-turning me" Cameron, 23 years

Cameron went on to discuss a positive experience with mental health services, and the power of feeling heard following hospitalisation for a suicide attempt:

"One time when I was in hospital I had a really good psychiatrist, and he was great. And he listened to my thoughts about ADHD and why I had it. And then he agreed to do like the initial assessment to see if I was eligible for a referral. And he did that initial assessment and he saw it and he said that he suspected that I had ADHD" Cameron, 23 years

Stigma

Cameron also spoke about their family's reluctance to seek help for their mental health as they had concerns about the potential negative effects of mental health support on their child's mental health:

"my parents didn't want me to be seen by CAMHS.... they were worried that it would be like a self-fulfilling prophecy. And if, how do I explain it? They were worried that if I was getting help for my mental health that I would, it would make my mental health worse." Cameron, 23 years

The attitude expressed by Cameron's parents may indicate a broader societal issue of stigma and misconceptions surrounding seeking support for mental health, further complicating the journey towards mental well-being.

An additional consideration for some participants was their concerns around society treating ADHD as a trend, without understanding the significant impact that ADHD can have on peoples' everyday lives. In Nikki's quote below, she discusses how hurtful she finds this misguided trendification of ADHD:

"one of the things that really hurts me is today, ADHD, people carry it like it's a trend. I really don't know why I'm talking about this, I just … people carry it like it's a trend, and it's really hurtful because there's a difference between forgetting where you kept something and having these symptoms impair your ability to function, whether you are, whether you are high functioning or mostly are impairing you, it just shows for some people more than others. But don't you say you have ADHD because oh, you forgot where you kept your keys. Anyone forget, can forget where you put your keys. But when it starts getting to the point where your mum's calling you, 'you're so, why are you acting so stupid? Don't you have anything … because of the consistent … you can tell me something and I will literally forget as I'm leaving and it's not deliberate, but it's just the way it is. But on the flip side, when my mind decides to hyper-fixate on something, we can end up finding out how the flag of Latvia came to be." Nikki, 22 years

Participants also highlighted the detrimental role of social media in terms of trivialising their experiences of ADHD as the below extract from David highlights:

"I absolutely, I hate it [ADHD]. I, I see all the, the sort of, like, pop-y TikToks and stuff like that. And I see it come up and it's all, like, very quirky and it's like, "Oh if you do this you may have ADHD, if you do this." But for me it's, I struggle with self-value, self-worth and I see … I know that what I'm capable of, but I struggle at work and the sort of level of management I'm at it's, it comes out in the open. So yeah, I very much, quite frankly, hate myself really when it comes to a lot of it" David, 32 years

Throughout the interviews, participants' complex relationships with ADHD and suicidal crises was evident. They emphasised the additional pressures that ADHD can bring for individuals to try and keep up with classmates, and the stress associated with having a very fast creative brain. Participants spoke about experiencing intense emotions and not being able to break the intense thoughts. Additionally, many emphasised how isolating their experiences had been, feeling let down by society, feeling rejected by peers, and often by themselves.

Going forward/ how can we support people with ADHD

We asked participants what they felt was important to support people with ADHD and potentially reduce risk of suicide. An important reoccurring theme raised by participants was the need for greater psychoeducation and raising awareness among society and support networks.

The below quote from Rosie, who had received her diagnosis of ADHD as a child, illustrates how isolating and detrimental a lack of understanding can be:

"No one really knew what ADHD was, but this, she spread that I had ADHD and said it was like contagious and some sort, and I didn't defend myself because I didn't know, like I didn't know if it was true or not…I was bullied for having ADHD for two years" Rosie, 18 years

Further, the lack of awareness about ADHD may contribute to individuals developing self-blame, as individuals may internalise criticism without recognising the presence of a disability. Cameron gives a very detailed overview of a multilevel approach to psychoeducation and highlighted the need to support individuals with ADHD and their carers:

"I would love that [psychoeducation], for, to see the other aspects of ADHD that aren't necessarily as part of the criteria, like the emotional dysregulation. I would love to see them

discussed more. And I would love to see more information about them. And I would love to see targeted things, you know, available, by like health services and schools and stuff to like, you know, do psychoeducation for people with ADHD. Like teaching them about the difficulties that they might come up across and you know, how to, how to regulate those and how to handle those and where to go to get help with those.

Psychoeducation for early intervention, if these people are being diagnosed as children, I, or teenagers. I don't think the psychoeducation should just be directed at them. I think it should also be directed at the families because I think that the family, like family and the people around them is really big in terms of helping prevent things or manage things like drug addiction and drug abuse.

If parents were taught and/or, you know, caregivers were taught to, how to watch out for that stuff and what to do and how to come at it from an understanding of knowing. Like there is a good chance their child may, you know, and that doesn't mean that now they're, you know, their, their kid's a bad kid." Cameron, 23 years

Day-to-day skills
Another area that participants felt was important was supporting daily living skills to support individuals before getting to the point of crisis. Here are two examples from Matt and Hazel:

"Learning how to, like, deal with stress or, or task management, taking this skills to living, kind of, into your head. You know, like, understanding actually what you learn." Matt, 25 years

"remembering to drink water, it's really hard to do. And taking care of food as well, I mean like I struggle with making meals, but I also struggle eating sometimes. Like yesterday I couldn't eat my dinner because it was boring, like eating is literally, like sometimes I can't be arsed to do it because it's so boring." Hazel, 32 years

Tailoring support and interventions for people with ADHD
For some participants, they felt that given their creative and active brains they should be able to find a way to solve their own problems. For instance, Paul felt that a barrier to them help seeking had been "wanting to problem solve and wanting to find your own way to do it" Paul, 23 years

In the extracts below, Amar and Matt raise important considerations in supporting individuals and the delivery of psychological interventions, which are often designed to suit society more generally, rather than being tailored to accommodate people who have ADHD:

"Maybe the ADHD also means you're less likely to be able to successfully engage in the psychological interventions. Because if you're sitting in a, in a therapist's room for an hour, are you really, you know, being able to focus and talk about yourself for an hour or if you're, you know, you're looking all over the place and is your mind everywhere? So that kind of resistance to treatment…" Amar, 23 years

Similarly, in terms of using distraction, participants mentioned the need to have challenging, or more involved distractions so their time didn't feel wasted, and because the speed at which their brains operate meant they needed higher intensity distraction for it to be effective. Here's a quote from Matt about distraction:

"I don't think a distraction that isn't productive did very much for me… it did feel like I'm wasting my, my time, my opportunity, the, the, the gift I've been given, you know?" Matt, 25 years

For one participant, Cameron, learning about emotional regulation, and how regulating strategies was very powerful. For them, somatic grounding techniques were very important:

"[I got a] good old ADHD hyper fixation about my nervous system and about how dysregulation… could be leading to like all my feelings and all my impulses and all my like suicidal, a lot of my suicidal attempts and stuff. And so I learnt about that, and I learnt about like, emotional regulation techniques more intensely.

I started to learn about, I know this might sound a bit weird, but, you know, somatic experiencing, like instead of working from top down, working from bottom up. And basically working with my body to try and handle my feelings and my emotional dysregulation and my triggers and stuff. So I started learning how to do that, I literally went on YouTube." Cameron, 23 years

It could be that for some individuals, more constructive, tangible techniques could provide a more effective distraction and provide an avenue to break away from the overwhelming thoughts.

Acceptance

> "I have always struggled with self-worth and that stems from childhood. And, yeah, I do hold a lot of resentment from myself at times. I struggle with the basically just being in my own head" David, 32 years

Throughout the interviews, participants frequently spoke of feelings of guilt and self-blame and the challenge of feeling different from others:

> "I really hope that, you know, I'm still the same personality even if I didn't have ADHD. Because I like that I'm full of ideas, I like that I'm enthusiastic and all these things but it's a scary thought to think that that might only be because of like this condition." Hazel, 32 years

Rosie, who had discussed feeling alienated from peers because of her ADHD, expressed her desire to foster a mindset of growth and acceptance of her ADHD. In the quote below, Rosie emphasises the ongoing journey towards self-acceptance where she recognises the influence of ADHD on herself. Rather than blaming herself for being unique, works towards changing her perspective and the realisatation that being different doesn't equate to being flawed:

> "I can't change that I'm going to be different from other people, but I can try to … grow with it instead of thinking that everything's my fault, even though sometime, sometimes I still do…" Rosie, 18 years

The journey towards self-care and acceptance is often difficult. As the quote from Hazel below shows, looking after oneself can feel self-indulgent and selfish:

> "I'm very hard on myself as well. I need to, I've been, since hospital I've been really trying to kind of not do too much. I've been prioritising fun stuff and rest. And I know that's kind of selfish but whatever." Hazel, 32 years

Nikki had a very reflective and compassionate stance to herself.

"there is nothing that makes me any less worthy of the love and compassion I put out." Nikki, 22 years

Feeling accepted by others

Social support and feelings of belonging are well established protective factors in reducing suicide risk (Kleiman & Liu, 2013). Rosie spoke directly about the protective effect that connecting with another person at school had on her.

"the reason why I didn't die was cause there was this one girl who approached me even though everyone else was like telling her not to ...she also got bullied for being, like, approaching me...the biggest reason why I didn't try to, to suicide because I felt like there was someone like in the same boat as me. So, we were, like we were kind of like each other's support. We were surviving together." Rosie, 18 years

For David, he had felt excluded and that he didn't fit in up until the global ADHD-UK conference in October 2023. This could link back to the points made by participants about the importance of decreasing stigma, increasing awareness of support and resources.

"I couldn't express how awesome I felt after that conference [ADHD-UK conference] and just like, honestly I was glued to the tele and a part of that was, you know, feeling like I've found my tribe." David, 32 years

The experiences shared by participants provide insight into the multifaceted nature of the challenges faced when trying to understand the suicide-risk relationship for individuals with ADHD. Some of the main themes in this study are around feeling isolated, which contributes to a lack of understanding, and further internalising the blame for this. The impact of this interaction on participants was twofold: Firstly, a perceived lack of understanding from others adds to people with ADHD's experiences of isolation and feeling different from others, and it echoes perceived stigma from society (Luoma et al., 2012). Further, the perception of experiencing stigma from others can lead to internalised stigma and shame, which is characterised by an individual's belief that they are flawed or unlovable (Tangney, Stuewig & Mashek, 2007).

In this study, participants repeatedly expressed low self-worth, low self-esteem, high self-criticism and self-blame for letting themselves and others down, and not understanding what they were doing wrong', or why. These negative self-perceptions are seen in many psychological disorders, and are associated with a range of internal, and interpersonal problems and are repeatedly associated with suicide risk (O'Connor & Nock, 2014). Shame impacts upon various areas of interpersonal functioning including interpersonal problem solving, and interpersonal disengagement. Furthermore, for the person experiencing shame, their perspective becomes essentially tunnel vision, and internally focused thoughts of a 'bad self'. The interplay of these shameful thoughts and interpersonal challenges alongside emotional dysregulation may become an overwhelming and inescapable spiral in which, suicidal thoughts may emerge.

These findings are consistent with predictions from the IMV model of suicidal behaviour (O'Connor, 2011; O'Connor & Kirtley, 2018) which, for example, theorises that in the absence of social support the likelihood of entrapment is increased. Also, a core premise of the IMV model (O'Connor & Kirtley, 2018) is that entrapment (feeling trapped and unable to escape) is the key driver to the emergence of suicidal ideation. Many of the participants reported feeling trapped by symptoms and characteristics of their ADHD. Research into entrapment has found that internal entrapment (feeling trapped by your own thoughts and feelings) has a particularly pervasive effect on the development of suicidal thoughts (O'Connor & Portzky, 2018). Indeed, internal entrapment may be linked to rumination and self-criticism, both of which are often present in those who have poor mental health (Gilbert, 2001), and in those who are suicidal.

A consideration for people with ADHD who are experiencing internal hyperfixation, might be how to break this overwhelming and seemingly inescapable spiral. The tunnel vision experienced by participants seems to reduce their ability to keep themselves safe by affecting their recollections of who they can turn to for support, and seems to block out focus on the usefulness of internal coping strategies such as distraction. The experiences of participants discussed here could suggest that alternative strategies such as more tactile interventions, for example, socially assistive robots (e.g. Williams et al., 2023) might help to shift focus away from internal processes. In addition, more complex cognitive based tools could be used to support emotional wellbeing and emotional regulation.

Another important avenue for individuals with ADHD could be targeted interventions focused on developing emotional regulation strategies. To this end, interventions, such as compassion focused

therapy, have been found to be effective in addressing feelings of shame and guilt, and supporting individuals to develop greater self-compassion and self-acceptance (Gilbert & Procter, 2006). They have also been used effectively for individuals with experiences of trauma (Lee & James, 2012), and could potentially be useful for people with ADHD.

Limitations

In this study we carried out interviews to explore the experiences of individuals with a history of suicide attempts and ADHD. Qualitative research methods offer valuable insights into the experiences of individuals. However, it is important to view the findings in the context of the study's limitations. First and foremost, due to the small and purposefully selected sample, our findings may not be generalisable to larger populations. Furthermore, the interpretation of qualitative data may also be affected by the researchers' own experiences, biases and perspectives. To mitigate this, two researchers independently coded the interview transcripts.

Conclusions

The overarching aim of this study was to explore the experiences of individuals with a history of suicide attempts and ADHD to deepen our understanding of this complex association. Integrating the IMV model of suicidal behaviour into ADHD-related research may provide a useful framework to enhance our understanding of key risk factors in this relationship. Building upon this work, it is important to use the experiences of individuals with ADHD to inform the development of effective interventions for suicide prevention among individuals with ADHD. Future studies of the ADHD suicide-risk relationship may wish to employ mixed methods studies combining theoretical models of suicidal behaviour within different study designs to elicit key risk and protective factors.

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