# **See The Journal of Applied Memory and Cognition (JARMAC)** [**https://psycnet.apa.org/PsycARTICLES/journal/mac/13/4**](https://psycnet.apa.org/PsycARTICLES/journal/mac/13/4) **for the full published version of record.**

To Cite:

Cole, S. N., & Charura, D. (2025). The Dire Need to Examine Relationships Between Prospection and Subtypes of Anxiety. *Journal of Applied Research in Memory and Cognition. Advance online publication*

Abstract

In this article, we give an appraisal of future thinking and emotional disturbance in light of MacLeod’s (2025) target article. MacLeod (2025) provides a timely synthesis of how depression and anxiety can affect future thinking. We concur with many of his central tenets such as the importance of; process and outcome goals, the content of future thoughts, and meta-cognitive beliefs. Nevertheless, in this paper we highlight several points which we believe are equally as important in the developing research on future thinking and mental health. Specifically, we identified and developed five points around a central argument: That the melding of cognitive theory, empirical studies and clinical knowledge is required to bring about a greater understanding of future thinking and its relation to anxiety disorders. This work could bring about a new understanding, and innovative therapies for, anxiety, in a similar way that memory research is pioneering novel treatments for depression.

Keywords: anxiety, future thinking, mental time travel, prospection, emotional disturbance

**The dire need to examine relationships between prospection and subtypes of anxiety**

Conway and colleagues (2016) proposed that a healthy, fully operational psychological system was one that would produce “effective” cognitions about the future. This view aligns with several theoretical approaches that positions future thinking as a critical psychological attribute that allows humans to consider, plan and achieve their goals (Atance & O’Neill, 2001; Baumeister et al., 2016; Kvavilashvili & Rummel, 2020; Suddendorf & Corballis, 2007; Schacter et al., 2017). Although one cannot accurately predict their own future, there is something powerful about how humans view the future than the past, as it presents opportunities for change (Seligman et al., 2016). However, what happens when future thinking transforms from a cognitive tool for positive change to a sign of psychological disturbance and mental ill health? In emotional disturbance, future thinking patterns can emerge as ‘looming’ visions of a dark future (see Duffy et al., 2024; Riskind, 1997) or an absence of any form of positive outlook (MacLeod & Byrne, 1996). The link between emotional disturbance and future thinking was the focus of MacLeod’s (2025) timely synthesis, which highlighted important trends and gaps in the growing experimental and clinical literature – especially in depression (characterised by a lack of positive future thoughts) and anxiety (where future thoughts are dominated by negative scenarios).

This commentary aims to build upon some important points presented in MacLeod (2025), whilst identifying different aspects of future thinking that we believe warrant greater attention. Specifically, we welcome MacLeod’s emphases on goals in therapy, the varieties of how future thought is experienced and the link between meta-cognitive beliefs (i.e., (un)certainty) and future thoughts. MacLeod drew on defining criteria for generalised anxiety (American Psychiatric Association, 2022) and referred to anxiety being related to increased negative anticipation (MacLeod, et al., 1997). He also highlighted how anxiety is related to reduced positive imagery (Stöber 2000); and higher self-ratings of vividness to negative cues and lower ratings to positive cues (Du et al., 2022). Nevertheless, in our view the missed opportunity of MacLeod’s (2025) article was that it was limited in its examination of anxiety and its disorders, in favour of research on depression.

We acknowledge that this focus toward depression is not only in MacLeod’s review but in the wider literature on future thinking in psychopathology. Since the emergence of key theories of depression (Abramson, et al., 1987; Beck, 1979), implicit links have existed for decades between depression and the absence of a positive future outlook. Also, depression is more “homogenous” in its presentation and key symptomology than anxiety disorders that have many and varied forms (Todd & Branch, 2022). Relatedly, theoretically-informed future thinking research is more numerous and mature for depression than anxiety (Gamble et al., 2019; Hallford et al., 2018; Hitchcock et al., 2017).

We propose here that the time is right to now focus on how knowledge of future thinking can be harnessed to *understand* and *potentially inform interventions to help reduce* symptoms of anxiety. As we outline in the sections that follow, the cumulative knowledge from the clinical literature on cognitive components of anxiety, combined with recent developments in understanding how anxiety can be understood through a future thinking lens, has created fertile ground for exploring (and potentially remediating) anxiety and its most pernicious effects. We focus on the following five themes that are related to, but not a focus of, MacLeod’s (2025) review.

(a) Cognitive and clinical research on anxiety and future thinking,

(b) The role of goals in future thinking and anxiety,

(c) The importance of meta-cognitions and behaviour to anxious future thoughts,

(d) The salience of *spontaneous* future thought, especially in anxiety disorders, and,

(e) The importance of a transcultural understanding and critique in exploring anxious future thoughts.

**Cognitive and clinical research on anxiety and future thinking**

In many ways, it is surprising that anxiety has not gained more attention in research in the now popular area of future thinking. As highlighted by MacLeod (2025), whereas depression is about a ‘lack’ of (positive) future, anxiety is often revealed when it is about a vivid, unwanted and negative future. What is defined as “looming” or “apprehensive expectation” (Riskind, 1997; American Psychiatric Association, 2022) in the clinical literature, often refers to a vivid image, which can manifest differently depending on the anxiety disorder in question. We'll now focus on three anxiety disorders. Namely; Generalised Anxiety Disorder, Social Anxiety Disorder and Obsessive Compulsive Disorder.

In generalised anxiety disorder (GAD), individuals experience a preponderance of excessive worries principally about the future (American Psychiatric Association, 2022), as highlighted by MacLeod (2025). Evidence and theory support the idea that people with GAD avoid the negative effects of mental imagery by adopting a more verbal and abstract approach (see Borkovec et al., 2004; Wu et al., 2015). In support of these ideas, but directly related to future thinking, one study found that compared with health controls those with GAD; added fewer details to future thoughts, had more difficulty in simulating positive futures and rated negative events as more subjectively probable (Wu et al., 2015, see also MacLeod, et al., 1997).

In social anxiety disorder (SAD), individuals experience consistent and strong fears around social situations (American Psychiatric Association, 2013). Cognitive models and empirical research of social anxiety disorder emphasise the importance of the generation of negative future images, invariably representing a social misdemeanour that itself can cause feelings of shame or guilt as well as physiological reactions (Hackmann et al., 1998; Heimberg et al., 2014; Rapee & Heimberg, 1997). These negative social-related images can often lead to safety behaviours (e.g., only speaking to one familiar person at a party) which can maintain the disorder (Swee et al., 2022). Those with social anxiety experience spontaneous, negative mental images often, interestingly, through representing the self through other’s perspectives (Hackmann et al., 1998). In sum, clinical models of social anxiety disorder indicate that mental imagery of future scenarios may be a key aspect of social anxiety disorder, although more experimental and direct studies on future-oriented imagery are needed.

Obsessive compulsive disorder (OCD) is characterised by persistent urges and images on the one hand (obsessive thoughts) and behaviours/cognitions that seek to prevent or reduce the anxiety caused by the obsessive thoughts (compulsions), on the other. Someone with health-related OCD, may think, “If I touched a bench with contaminated hands, someone *will* become contaminated in the future and *will* become ill or die”. Here, as in social anxiety, an image of a future outcome (that someone will die) is often vividly imagined as a “feared catastrophe” (p.205, Sundermann and Veale, 2022). This image can then cause a fear response (with related negative feelings of shame and physiological reactions), and lead to rituals, which are performed repetitively and rigidly in response to triggers such as obsessive thoughts or in this example “urges” to clean the “contaminated area” (see Sundermann & Veale, 2022 for other examples). Recent studies have shown that those with higher obsessive-compulsive symptomology have a general tendency to experience more spontaneous future thoughts in everyday life (Cole & Tubbs, 2022) and those with clinical OCD experience uncontrollable, highly negative mental imagery often about the future (Wedge et al., 2024).

What about the “episodic character” of future events in anxiety? In the anxiety disorders described here, future thoughts are seemingly vivid and “episodic” in the sense that people experience themselves “being there” including associated physiological and emotional reactions (del Palacio & Berntsen, 2020). Yet, the picture is nuanced. In GAD, negative future thoughts are substituted for verbal worry, whereas imagery appears to form a key component of the phenomenological experience of SAD and OCD. Thus, a more nuanced approach to how subtypes of anxiety are associated with future thoughts is required.

Although clinical models of anxiety have documented the importance of future-related imagery for decades, experimental-cognitive research linking this with episodic future thinking (Atance & O’Neill, 2001) appears to be limited. A comprehensive approach could reveal differences in how anxious individuals also experience anticipatory (in the moment) and anticipated (expected) emotions about future events, as in healthy people and those with dysphoria (Hallford et al., 2023; Clayton McClure et al., 2024). Whilst we agree with MacLeod (2025) that more appreciation should be accorded to the varieties in content (through episodic to semantic, visual to verbal), we differ in our view that the evidence supports the view of a “greater preponderance of generic, rather than episodic thinking” (abstract, MacLeod, 2025). In anxiety disorders, such as the ones described above, vivid and stark images of the future have been documented. Indeed, in key theoretical approaches to mental health disorders it is *because* the representation contains mental imagery that it creates an emotional impact (Holmes & Mathews, 2010). Although depression appears to be characterised by more abstract goals and generic future thoughts (Gamble et al., 2019), we emphasise that clinical and experimental data indicate a clear role for mental imagery in future thinking in mental health disorders, especially in the overlooked area of future thinking and anxiety.

**The role of goals in future thinking and anxiety**

Often, goals are not related to one’s belief system and values. For example, someone with OCD who worries that they get aroused by children, may avoid situations with children. This would often lead to a life in contrast to their values of supporting their family. In this sense, goals in OCD are seen as “ego dystonic” – people are aware that the goals of OCD are extreme and do not represent their true values (Sundermann and Veale, 2022). However, this is not always the case as we explore below by exploring the link between personal goals, therapeutic goals and anxiety.

We acknowledge that in some psychotherapy modalities, setting precise, challenging, and measurable goals is often considered “best practice” (Locke & Latham, 2013). Furthermore, self-determined goals are often formulated at the start of the therapeutic intervention and collaboratively set by the patient/client and practitioner. The challenge, however, from clinical experience is that therapeutic goals are not always representative of one’s personal goals and furthermore they are not always an accurate representation of one’s belief system and values.

Within therapeutic contexts, some treatment goals for anxiety may focus on understanding, managing, expressing or challenging negative cognitions, emotions or behaviours. However, in the case of OCD, an individual may see their rituals and behaviour as protective or preventative action as it will stop a future negative event (e.g., tapping three times to prevent a house fire killing one’s family). Yet, if asked if they believe they have the power to control the future, they may voice that they don’t. An important question in this case regarding OCD rituals therefore is whether they are performed automatically (operating without the need for conscious guidance or monitoring) (Tzelgov, 2014) or with high-level cognitive control and a conscious reason in mind (Wairauch et al., 2024). Others have argued that routinized, repeated behaviour, can become automatic over time, yet ritualistic behaviour remains under high-level cognitive control (Boyer and Liénard 2006). In other research where patients were asked ‘What pushed you to complete the compulsion?', all the participants reported performing their compulsive behaviours with a conscious reason in mind (Bouvard et al., 2020) but in a different study in which a similar question was asked participants responded “It happens automatically, without your thinking why you do it” (Starcevic et al., 2011). From these examples it can be argued that goal setting reveals differences in how individuals presenting with anxiety experience anticipatory (in the moment) *and* anticipated (expected) emotions about future events. Furthermore, the unconscious motivational processes to psychopathology and future-directed thinking should not be discounted as the role of goals in anxiety can vary drastically in terms of how specific they are conceptualised and how future-oriented mental states manifest over time.

In general, due to limits to the amount of therapy sessions, there may be an under-appreciation of future thoughts concerning goals by therapists. The focus on goals however as highlighted by MacLeod (2025) may be important to emphasise the use of clinicians appreciating the short medium- and long-term goals of clients. Perhaps simply asking these questions can reveal a lot about them. For example, the ratio of approach and avoid goals, the proportion of goals relating to their mental health and the involvement of holistic goals. Goals may also include exploring ways to reduce symptoms, acquisition of skills to self-regulate emotionally, or making amends for previous destructive behaviour, to make changes for the future (McLeod, 2025). This holistic approach to goals, highlights the complex interplay between thoughts, emotions, behaviours, identity, values, experiences and the salience of *spontaneous* future thought in anxiety disorders.

**The importance of meta-cognitions and behaviour to anxious future thoughts**

MacLeod (2025) rightly highlighted the importance of meta-cognitive beliefs around the future. In depression, it is clear how a lack of positive future thoughts are associated with uncertainty about goals, for example, passing a test or getting a new job. However, as we have seen, anxiety does not always focus on an approach goal (e.g., “I want to *do* X”), rather, the focus is often on avoiding and the use of safety behaviours (e.g., “I must do Y to *prevent* X”).

Various cognitive models of anxiety disorders hold that beliefs around the future are very important in the maintenance and subsequent reduction of symptoms (e.g., Sundermann & Veale, 2022). Anxious people often exhibit “black and white thinking”. In relation to the future, this is often observed when situations or scenarios are seen in terms of having all-or-nothing outcomes (e.g., “I will embarrass myself”; “I will cause someone to die”), rather than a more measured evaluation (e.g., “I might embarrass myself”; “There is a chance someone could die”). In this way, anxious individuals perceive certain negative scenarios *will* happen, rather than *might* happen. This belief of certainty around negative outcomes (relating to their specific anxiety disorder) maintains their fears by increasing safety behaviours (Sundermann & Veale, 2022). Therapy could serve to adjust “black and white thinking” to something more measured and logical (e.g., “If X, Y could or could not happen, and it may be the fault of various people, or no-one), by using *behaviour*.

This example of extreme certainty of negative outcomes in OCD highlights the importance of meta-cognition in the maintenance of anxiety disorders. Where negative thoughts about the future remain untested, a vicious cycle proceeds which maintains the anxiety: negative future thoughts>behaviourally avoiding related scenarios>maintains and reinforces negative future thought (Sundermann & Veale, 2022; Swee et al., 2022). It also highlights the importance of behaviour, an often neglected but highly important variable in future thinking research (although see Cole et al., 2021). Most often in future thinking studies (see Cole and Kvavilashvili., 2021 for a review), thoughts are measured, verbally or via subjective ratings, but it is unknown whether these future projections will actually happen (for exceptions see D’Argembeau & Garcia Jimenez, 2020; Spreng & Levine, 2013). In our view, the link between future thoughts and actual behaviour could bring about new insights into the complex and little understood relations between future thoughts, meta-cognitive beliefs and behaviour.

**Spontaneous Future Thought**

We welcome MacLeod’s (2025) acknowledgment of the high frequency and important role of spontaneity or automaticity in future thinking. As reviewed in a recent editorial, Cole and Kvavilashvili (2019) highlighted that voluntary future thinking has been the dominant way of studying and understanding episodic memory and episodic future thinking. MacLeod (2025)’s focus on the dominant research paradigms—using voluntary future thinking—may be due to the greater extant evidence base on voluntary than spontaneous future thinking. Cole and Kvavilashvili (2021) posited that spontaneous future thoughts or SFTs could be the default method of imagining the future, highlighting an incongruence between what is studied in the lab and experienced in daily life. Since the concept of spontaneous future thought arose, it has been examined in relation to transdiagnostic variables such as rumination and compulsions (Beaty et al., 2021; Cole & Tubbs, 2022) as well as SFT patterns in clinical groups (Berntsen, 2019). Some have proposed that spontaneous future thought could play a mechanistic role in new cognitive treatments for depression (Blackwell et al., 2020).

Simple vigilance tasks and sustained attention tasks have been successfully used to capture spontaneous future thoughts (see Cole && Kvavilashvili, 2019) and a recent study proposed a paradigm in which the relation between voluntary and spontaneous future thoughts could be elucidated (McClure et al., 2024). These methods may in time help redress the balance between the study of voluntary and spontaneous processes related to future thinking in emotional disturbance. In our view, spontaneous future thoughts remain an important area especially in understanding psychological ill health.

**Transcultural beliefs and Future Thinking**

MacLeod (2025) noted that there are likely significant cultural differences in the ways people from different cultures engage with, and represent, the past and future. For example, Eastern cultures valuing the past more highly than Western cultures, which tend to be future-oriented (see also, Wang et al., 2025). We agree that this is an area that warrants further research. As we have already argued that anxious individuals also experience anticipatory (in the moment) and anticipated (expected) emotions about future events we here emphasise the importance of the diversity of cultural aspects in social anxiety disorders, and in *spontaneous* future thought.

For instance, in the Japanese diagnostic system, *taijin kyofusho-* which is a culture-specific expression of SAD and believed to be particularly prevalent in Japanese and Korean cultures – SAD is classified into four subtypes: *sekimen-kyofu* (the fear of blushing), *shubo-kyofu* (the fear of a deformed body), *jikoshisen-kyofu* (the fear of eye-to-eye contact), and *jikoshu-kyofu* (the fear of one's own foul body odor) (Hofmann, & Hinton, 2014). Whilst these subtypes are in connection with engagements with others, the interlink with *spontaneous* future thought relates to social contexts and judging one’s own self perception in the future. Within African and African Caribbean communities we have worked with, anxiety can be conceptualised additionally through embarrassment and shame, for the individual as well as for their family, and often voiced by the term ’saving face’ or familial honour (Jimenez et al., 2022). Hofmann, & Hinton, (2014) stated that Cambodian patients’ fear “wind overload” (khyâl ko) is a commonly voiced syndrome that produces catastrophic cognitions and that leads to frequent episodes of panic when one rises from lying or sitting to standing. Thus, the transcultural examination of anxiety disorders across cultures is an important area that warrants more exploration of how factors (such as individualism/collectivism, social norms, experiences of racism or marginalization, self-construal, and gender roles) may vary in different cultures and how they link to future thinking.

**Conclusions and Recommendations**

As theoretical, empirical, transdiagnostic and psychopathological research progresses apace on future thinking, MacLeod (2025) -who has conducted important and pioneering studies in future thinking and emotion and has made important links with applied clinical psychology (e.g., MacLeod, 2017)- presents a very timely, targeted and impactful state-of-knowledge article. This is much needed in a fast-growing and complex field. There are clearly critical gaps in our knowledge of future thinking in emotional disturbance, including understanding meta-cognitive beliefs around the future, the varied content of future thoughts, and how people imagine outcomes compared with processes (MacLeod, 2025). Obtaining a more coherent understanding of future thinking in mental ill health will enable researchers and clinicians alike to start applying what we know to understand and reduce mental distress, readdressing the link between good mental health and “effective” future thoughts.

As noted by MacLeod (2025), a coherent literature on future thinking and emotional disturbance has emerged. What we argue here is that cognitive-experimental work and theoretical work on the link between *anxiety* and future thinking must learn from and build upon the vast clinical knowledge (via therapeutic models, surveys, case studies and so on, e.g., Riskind, 1997; Todd & Branch, 2022) and how future thinking is used in assessment, formulation and intervention. Anxiety disorders also cannot be assumed to affect future thinking in the same way as depression: In terms of episodic detail and vividness, certainty and goals, anxiety may present a very different picture to future thinking patterns found in depression (Brunette & Schacter, 2023). It may be ineffective or even perilous to treat them similarly, especially when research on future thinking and anxiety is still young. The differences between how anxiety and depression affect future thinking may be more important than their similarities.

We believe the melding of cognitive theory and clinical knowledge, alongside learning from transcultural research, will bring about a new understanding and innovative therapies for anxiety, in a similar way that memory research is bringing about innovative new treatments for depression (Hitchcock et al., 2019). Indeed, in our lab, we have published several recent studies of community non-clinical samples giving promise to the idea that future clinical interventions which change the way one perceives the future could meaningfully reduce anxiety (Duffy et al., 2025).

**References**

Abramson, L. Y., Metalsky, G. I., & Alloy, L. B. (1989). Hopelessness depression: A theory-based subtype of depression. *Psychological Review, 96*(2), 358–372. [https://doi.org/10.1037/0033-295X.96.2.358](https://psycnet.apa.org/doi/10.1037/0033-295X.96.2.358)

American Psychiatric Association. (2022). Diagnostic and statistical manual of mental disorders (5th ed., text rev.).

Atance, C. M., & O'Neill, D. K. (2001). Episodic future thinking. *Trends in cognitive sciences*, *5*(12), 533–539. <https://doi.org/10.1016/s1364-6613(00)01804-0>

Baumeister, R. F., Vohs, K. D., & Oettingen, G. (2016). Pragmatic prospection: How and why people think about the future. *Review of general psychology*, *20*(1), 3-16.

Beaty, R. E., Seli, P., & Schacter, D. L. (2019). Thinking about the past and future in daily life: an experience sampling study of individual differences in mental time travel. *Psychological research*, *83*(4), 805–816. <https://doi.org/10.1007/s00426-018-1075-7>

Berntsen D. (2019). Spontaneous future cognitions: an integrative review. *Psychological research*, *83*(4), 651–665. https://doi.org/10.1007/s00426-018-1127-z

Blackwell, S. E., Dooley, D., Würtz, F., Woud, M. L., & Margraf, J. (2020). Inducing positive involuntary mental imagery in everyday life: an experimental investigation. *Memory*, *28*(9), 1157-1172.

Borkovec, T. D., Alcaine, O., & Behar, E. (2004). Avoidance Theory of Worry and Generalized Anxiety Disorder. In R. G. Heimberg, C. L. Turk, & D. S. Mennin (Eds.), Generalized Anxiety Disorder: Advances in Research and Practice (pp. 77-108). New York: Guilford Press.

Bouvard, M., Fournet, N., Denis, A., Achachi, O., & Purdon, C. (2020). A study of the Repeated Actions Diary in patients suffering from obsessive compulsive disorder. *Clinical psychology & psychotherapy*, *27*(2), 228–238. <https://doi.org/10.1002/cpp.2422>

Boyer, P., & Linard, P. (2006). Precaution systems and ritualized behavior. *Behavioral and Brain Sciences, 29*(6), 635–650. doi:10.1017/S0140525X06009575

Brunette, A. M., & Schacter, D. L. (2021). Cognitive mechanisms of episodic simulation in psychiatric populations. *Behaviour research and therapy*, *136*, 103778. <https://doi.org/10.1016/j.brat.2020.103778>

Clayton McClure, J. H., Riggs, K. J., Dewhurst, S. A., & Anderson, R. J. (2024). Differentiating anticipated and anticipatory emotions and their sensitivity to depressive symptoms. E*motion, 24*(7), 1642–1651. <https://doi.org/10.1037/emo0001371>

Cole, S.N., Tubbs, P.M.C. (2022). Predictors of obsessive–compulsive symptomology: mind wandering about the past and future. *Psychological Research,* *86***,**1518–1534. <https://doi.org/10.1007/s00426-021-01585-4>

Cole, S. N. and Kvavilashvili, L. (2019) [Spontaneous future cognition: The past, present and future of an emerging topic](https://doi.org/10.1007/s00426-019-01193-3). *Psychological Research, 83*(4), 631-650. doi: <https://doi.org/10.1007/s00426-019-01193-3>

Cole, S. N & Kvavilashvili, L. (2021) . [Spontaneous and deliberate future thinking: a dual process account. *Psychological Research*](https://link.springer.com/article/10.1007/s00426-019-01262-7). *Psychological Research, 85*(2), 464-479. doi: <https://doi.org/10.1007/s00426-019-01262-7>

Cole, S. N, Smith, D. M., Ragan, K, Suurmond, R. & Armitage, C. J. (2021). [Synthesizing Effects of Mental Simulation on Behavior Change: Systematic Review and Multilevel Meta-Analysis](https://doi.org/10.3758/s13423-021-01880-6). *Psychonomic Bulletin & Review, 28***,**1514–1537*,* doi : <https://doi.org/10.3758/s13423-021-01880-6>

Conway, M. A., Loveday, C. & Cole, S. N. (2016). [The Remembering-Imagining System](https://t.co/T0HsKJ9hRA). *Memory Studies, 9*, 256-265. doi: 10.1177/1750698016645231

D'Argembeau, A., & Garcia Jimenez, C. (2020). The predictive validity of belief in future occurrence. *Applied Cognitive Psychology, 34*(6), 1265–1276. [https://doi.org/10.1002/acp.3708](https://psycnet.apa.org/doi/10.1002/acp.3708)

del Palacio-Gonzalez, A., & Berntsen, D. (2020). Involuntary autobiographical memories and future projections in social anxiety. *Memory, 28*(4), 516–527. [https://doi.org/10.1080/09658211.2020.1738497](https://psycnet.apa.org/doi/10.1080/09658211.2020.1738497)

Du, J. Y., Hallford, D. J., & Busby Grant, J. (2022). Characteristics of episodic future thinking in anxiety: A systematic review and meta- analysis. Clinical Psychology Review, 95, Article 102162. <https://doi.org/> 10.1016/j.cpr.2022.102162

Duffy, J., Cole, S.N., Charura, D., & Shevchenko, J. (2024). Depression and looming cognitive style: Examining the mediating effect of perceived control. Journal of Affective Disorders Reports. 15, 2666-9153. <https://doi.org/10.1016/j.jadr.2023.100698>.

Duffy, J., Salt, G., Cole, S. N., Charura, D., & Shevchenko, J. (2025). Anxiety and Future-Self Clarity: Can Future Thinking Influence Self-Esteem? Psychological Reports, 0(0). <https://doi.org/10.1177/00332941251315091>

Gamble, B., Moreau, D., Tippett, L. J., & Addis, D. R. (2019). Specificity of future thinking in depression: A meta-analysis. *Perspectives on Psychological Science*, *14*(5), 816-834.

Borkovec, T. D., Alcaine, O., & Behar, E. (2004). Avoidance theory of worry and generalized anxiety disorder. In Heimberg, R. G., Turk, C. L., & Mennin, D. S. (Eds.), Generalized anxiety disorder: Advances in research and practice (pp. 78–108). Guilford Press.

Hackmann, A., Surawy, C., & Clark, D. M. (1998). Seeing yourself through others’ eyes: A study of spontaneously occurring images in social phobia. Behavioural and Cognitive Psychotherapy, *26*, 3–12.

Hallford, D. J., Austin, D. W., Takano, K., & Raes, F. (2018). Psychopathology and episodic future thinking: A systematic review and meta-analysis of specificity and episodic detail. *Behaviour research and therapy*, *102*, 42-51.

Hallford, D. J., Rusanov, D., Yeow, J. J. E., Austin, D. W., D'Argembeau, A., Fuller-Tyszkiewicz, M., & Raes, F. (2023). Reducing anhedonia in Major Depressive Disorder with Future Event Specificity Training (FEST): A randomized controlled trial. *Cognitive Therapy and Research, 47*(1), 20–37. [https://doi.org/10.1007/s10608-022-10330-z](https://psycnet.apa.org/doi/10.1007/s10608-022-10330-z)

Heimberg, R. G., Brozovich, F. A., & Rapee, R. M. (2014). A cognitive-behavioral model of social anxiety disorder. In Hofmann, S. G., & DiBartolo, P. M. (Eds.), Social anxiety: Clinical, developmental, and social perspectives (3rd ed., pp. 705–728). Academic Press. doi:10.1016/B978-0-12-394427-6.00024-8

Hitchcock, C., Werner-Seidler, A., Blackwell, S. E., & Dalgleish, T. (2017). Autobiographical episodic memory-based training for the treatment of mood, anxiety and stress-related disorders: A systematic review and meta-analysis. *Clinical psychology review*, *52*, 92–107. https://doi.org/10.1016/j.cpr.2016.12.003

Hofmann, S. G., Anu Asnaani, M. A., & Hinton, D. E. (2010). Cultural aspects in social anxiety and social anxiety disorder. *Depression and anxiety*, *27*(12), 1117–1127. <https://doi.org/10.1002/da.20759>

Hofmann, S. G., & Hinton, D. E. (2014). Cross-cultural aspects of anxiety disorders. *Current psychiatry reports*, *16*(6), 450. <https://doi.org/10.1007/s11920-014-0450-3>

Holmes, E. A., & Mathews, A. (2010). Mental imagery in emotion and emotional disorders. *Clinical psychology review*, *30*(3), 349–362. <https://doi.org/10.1016/j.cpr.2010.01.001>

Jimenez, D. E., Park, M., Rosen, D., Joo, J. H., Garza, D. M., Weinstein, E. R., Conner, K., Silva, C., & Okereke, O. (2022). Centering Culture in Mental Health: Differences in Diagnosis, Treatment, and Access to Care Among Older People of Color. *The American journal of geriatric psychiatry*, *30*(11), 1234–1251. <https://doi.org/10.1016/j.jagp.2022.07.001>

Kvavilashvili, L., & Rummel, J. (2020). On the nature of everyday prospection: A review and theoretical integration of research on mind-wandering, future thinking, and prospective memory. *Review of General Psychology*, *24*(3), 210-237.

Liénard, P., & Boyer, P. (2006). Whence Collective Rituals? A Cultural Selection Model of Ritualized Behavior. *American Anthropologist, 108*(4), 814–827. [https://doi.org/10.1525/aa.2006.108.4.814](https://psycnet.apa.org/doi/10.1525/aa.2006.108.4.814)

Locke, E. A., & Latham, G. P. (Eds.). (2013). *New developments in goal setting and task performance.* Routledge/Taylor & Francis Group. [https://doi.org/10.4324/9780203082744](https://psycnet.apa.org/doi/10.4324/9780203082744)

Miranda, R., Wheeler, A., Chapman, J. E., Ortin-Peralta, A., Mañaná, J., Rosario-Williams, B., & Andersen, S. (2023). Future-oriented repetitive thought, depressive symptoms, and suicide ideation severity: Role of future-event fluency and depressive predictive certainty. Journal of affective disorders, 335, 401–409. https://doi.org/10.1016/j.jad.2023.05.050

MacLeod, A. K., & Byrne, A. (1996). Anxiety, depression, and the anticipation of future positive and negative experiences. *Journal of abnormal psychology*, *105*(2), 286.

MacLeod, A. L. (2025) Future-directed Thinking and Emotional Disorder. *Journal of Applied Research in Memory and Cognition.*

McLeod, J. (2025).  An Introduction to Counselling and Psychotherapy: Theory, Research and Practice. United Kingdom: McGraw-Hill Education.

MacLeod, A. K., Tata, P., Evans, K., Tyrer, P., Schmidt, U., Davidson, K., Thornton, S., & Catalan, J. (1998). Recovery of positive future thinking within a high-risk parasuicide group: Results from a pilot randomized controlled trial. *British Journal of Clinical Psychology, 37*(4), 371–379. <https://doi.org/10.1111/j.2044-8260.1998.tb01394.x>

Macleod, A. (2017). Prospection, well-being, and mental health. Oxford University Press. <https://doi.org/10.1093/med:psych/9780198725046.001.0001>

Rapee, R. M., & Heimberg, R. G. (1997). A cognitive-behavioral model of anxiety in social phobia. Behaviour Research and Therapy, *35*, 741–756. doi:10.1016/s0005-7967(97)00022-3

Riskind, J. H. (1997). Looming vulnerability to threat: A cognitive paradigm for anxiety. *Behaviour Research and Therapy*, *35*(8), 685-702.

Seligman, M. E., Railton, P., Baumeister, R. F., & Sripada, C. (2013). Navigating into the future or driven by the past. *Perspectives on psychological science*, *8*(2), 119-141.

Schacter, D. L., Benoit, R. G., & Szpunar, K. K. (2017). Episodic Future Thinking: Mechanisms and Functions. *Current opinion in behavioral sciences*, *17*, 41–50. https://doi.org/10.1016/j.cobeha.2017.06.002

Spreng, R. N., & Levine, B. (2013). Doing what we imagine: completion rates and frequency attributes of imagined future events one year after prospection. *Memory (Hove, England)*, *21*(4), 458–466. <https://doi.org/10.1080/09658211.2012.736524>

Starcevic, V., Berle, D., Brakoulias, V., Sammut, P., Moses, K., Milicevic, D., & Hannan, A. (2011). Functions of Compulsions in Obsessive–Compulsive Disorder. *Australian and New Zealand Journal of Psychiatry, 45*(6), 449–457. 10.3109/00048674.2011.567243

Stöber, J. (2000). Prospective cognitions in anxiety and depression: Replication and methodological extension. *Cognition and Emotion, 14*(5), 725–729. <https://doi.org/10.1080/02699930050117693>

Sündermann, O., & Veale, D. (2022). Obsessive-Compulsive Disorder: An Updated Cognitive Behavioral Approach. In G. Todd & R. Branch (Eds.), *Evidence-Based Treatment for Anxiety Disorders and Depression: A Cognitive Behavioral Therapy Compendium* (pp. 197–221). chapter, Cambridge: Cambridge University Press.

Suddendorf T., Corballis M. C. (2007). The evolution of foresight: What is mental time travel and is it unique to humans? *Behavioral and Brain Sciences*, 30, 299–313. <https://doi.org/10.1017/S0140525X07001975>

Swee, M. B., Wilmer, M. T., & Heimberg, R. G. (2022). Cognitive Behavioral Therapy for Social Anxiety Disorder. In G. Todd & R. Branch (Eds.), *Evidence-Based Treatment for Anxiety Disorders and Depression: A Cognitive Behavioral Therapy Compendium* (pp. 93–114). chapter, Cambridge: Cambridge University Press.

Todd, G., & Branch, R. (Eds.). (2022). *Evidence-Based Treatment for Anxiety Disorders and Depression: A Cognitive Behavioral Therapy Compendium*. Cambridge: Cambridge University Press.

Tzelgov, J. (2014). Automatic but conscious: That is how we act most of the time. In *The automaticity of everyday life* (pp. 217-230). Psychology Press.

Wang, Q., Suo, T., Mei, L., Guan, L., Hou, Y., & Dai, Y. (2025). Do future actions matter more than past deeds? Temporal moral attribution in U.S. and Chinese school-age children.*Developmental Psychology, 61*(2), 228–240. <https://doi.org/10.1037/dev0001825>

Wairauch, Y., Siev, J., Hasdai, U., & Dar, R. (2024). Compulsive rituals in Obsessive-Compulsive Disorder – A qualitative exploration of thoughts, feelings and behavioral patterns. *Journal of Behavior Therapy and Experimental Psychiatry, 84*, 101960. 10.1016/j.jbtep.2024.101960

Wedge, H. E. F., Waddington, L., & Thompson, A. R. (2024). Experiences of imagery in obsessive-compulsive disorder: An interpretative phenomenological analysis. *The British journal of clinical psychology*, 10.1111/bjc.12518. Advance online publication. <https://doi.org/10.1111/bjc.12518>

Wu, J. Q., Szpunar, K. K., Godovich, S. A., Schacter, D. L., & Hofmann, S. G. (2015). Episodic future thinking in generalized anxiety disorder. *Journal of anxiety disorders*, *36*, 1-8.