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Guest Editorial

Irritability: what, who, how and why?

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Summary

Irritability is a ubiquitous clinical phenomenon, and yet its definition and specific role within psychiatric disorders have long eluded the field. By understanding what irritability is, in whom it should be studied and how it should be modelled, new insights into the disorders within which it manifests may be gained.

Keywords

Irritability; mood disorders; anxiety; adolescents; gender.

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> 'Everything that irritates us about others
> can lead to an understanding of ourselves.'
>
> Carl Jung (1875–1961)

Feeling irritable is a common human experience that is widely accepted as 'normal', and perhaps rightly so, because it usually occurs when we are hungry, sleep-deprived and experiencing hormonal fluctuations, and often when we are stressed or unwell. But what precisely are we experiencing and why does irritability feature so commonly in psychiatric disorders, often as a defining feature? Here, we address what irritability is, or at least attempt to do so, and suggest in whom it should be studied based on how it manifests and, in doing so, ultimately we argue why modelling irritability is likely to be critical for a meaningful understanding of the many mental conditions it colours.

What is irritability?

Clinically, irritability is seemingly ubiquitous because it is one of the most common complaints proffered by patients suffering from a variety of different disorders. Indeed, within the dominant diagnostic taxonomies, irritability is listed as a symptom or descriptor of over 15 diverse diagnoses, ranging from neurodevelopmental, feeding and eating disorders through to anxiety, mood and psychotic disorders. Such ubiquity questions what distinction irritability confers as a diagnostic feature and, despite its omnipresence, it is seldom assessed or reported in clinical practice and the academic literature. Indeed, even when it is measured, the tools utilised are vague and imprecise, capturing instead arguably different phenomena such as aggression and anger. Furthermore, these measures often rely on external raters such as clinicians or, in the case of young people, their parents, and/or define irritability based on its behavioural consequences such as outbursts, rather than focusing on the patient's subjective experience; this probably stems from the fact that there is no universal agreement for its definition. Hence, research is fragmented because different models are used to describe this complex phenomenon and many irritability measures have been developed for specific populations such as children, for example, making these measures less broadly applicable.

The lack of a consensus definition of irritability and a transdiagnostic approach has resulted in a fragmented understanding of irritability's purported underlying neurobiological mechanisms. For example, it has been linked to deficits in both reward- and threat-processing, as well as to aberrant levels of, and responses to, dopamine in children and adolescents. However, these findings are in contrast to those in adults wherein different brain regions and networks to these have been implicated and, instead, irritability has been linked to increased monoamine transmission.[1] Thus, key gaps remain in our understanding of the mechanisms that potentially underpin irritability and currently these do not sufficiently explain all instances of its clinical manifestation.

In recent years, a detailed definition of irritability has been proposed as 'a mood of partial physiological agitation characterized by an increased sensitivity to sensory stimuli and a non-cognitively mediated lowered threshold for responding with anger and/or aggression to typically less vexing stimuli', which importantly notes that the experience does not necessarily accompany aggressive behaviours.[2] So where should we aim to find and define irritability?

Who should we examine to understand irritability?

Given the difficulty of anchoring irritability to underlying mechanisms, knowing in whom to look for it is essential to tease apart its role across multiple contexts and disorders. One population that may yield helpful insights is adolescents, because it is during this developmental phase that many common psychiatric disorders such as anxiety and depression first emerge. Therefore, pursuing irritability in adolescence is likely to be more successful and may advance our understanding of the role it plays in the evolution of these disorders – for example, as an epiphenomenon indicative of an underlying pathological process.

Notably, it is also during this time of adolescence that gender disparities in the prevalence and trajectories of various psychiatric problems first come to the fore. For instance, prepubescent boys and girls are equally impacted by depression but, in adulthood, twice as many women as men will be diagnosed with depression. Similarly, anxiety is also more common in women than men and it is often a precursor to the later development of depression. Furthermore, men are far more likely to die by suicide but it is women who are more likely to experience self-harm. Thus, there is a clear gender divergence across multiple psychiatric problems that are themselves linked, and it is critical that gender is considered a key factor when examining irritability and understanding its role in the aetiopathogenesis of common psychiatric disorders in adolescence.

Another reason why it is helpful to regard irritability through a gendered lens is because its perception is often distorted in women due to societal gender biases concerning the expression of negative emotions.[3] Furthermore, irritability is strongly linked to hormonal changes during key transitions such as puberty and menses, and throughout peripartum and perimenopause. Although normal in these contexts, it also forms part of premenstrual dysphoria wherein severe or chronic irritability can cause significant impairment and dysfunction. Thus, understanding irritability and how it differentially impacts men and women would probably yield valuable mechanistic insights.

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How should we investigate irritability?

Currently, the phenomenon of irritability is attracting interest in adolescents and nascent research is examining its relationship with internalising and externalising symptoms in this population. For example, one study has found that behavioural outcomes, such as rejection-associated aggression associated with irritability, differ depending on age.[4] However, frustratingly, although this and similar studies have captured demographic aspects such as gender and age, they did not utilise gender as a framework for the interpretation of their findings.

By contrast, in our research[5] comparing boys and girls cross-sectionally, we found an important interplay among irritability, age and gender on outcomes that are risk factors for the development of psychiatric disorders. For example, in adolescent girls, irritability is associated with both manic and depressive symptoms, and the pathways and factors that mediate the relationships among irritability, anxiety, emotion regulation and mood symptoms differ according to age.[6] Specifically, irritability is associated with depressive symptoms and is mediated through trait anxiety in both early (12–13 years) and late (16–18 years) adolescence, but it is not associated significantly with depressive symptoms in middle adolescence (14–15 years). These findings contrast with those from our study in adolescent boys,[5] wherein irritability had no significant interaction with age across adolescence, even though it was associated with difficulties in emotion regulation and behavioural outcomes such as emotional reactivity, social difficulties, hyperactivity and conduct problems; this prompted us to hypothesise that irritability (perhaps mechanistically) links difficulties in accepting negative emotions (i.e. emotion dysregulation) and behavioural disturbances, as well as anxiety and, ultimately, depressive symptoms.

We are not alone in such conjecture and our findings have been added to by Dissanayake and colleagues, who intriguingly found the converse of our observations, namely that irritability did not interact with age in girls but did so exclusively in boys.[7] Specifically, in girls, internalising symptoms (but not irritability) were positively correlated with age whereas in boys, irritability, externalisation of negative emotions and reactive aggression were all negatively correlated with age. However, unlike our studies, the authors had a broader sample that included both children and adolescents from the ages of 4–19 years, and they also combined both parent and self-report measures whereas our studies utilised only the latter. These differences are probably critical because first, a sample that combines both young children and adolescents may obscure non-linear age effects or differences in age effects between pre- and post-puberty. Second, utilising parental report in adolescence may also conceal gender effects because the concordance between parent and child ratings of outcomes such as internalising symptoms tends to be poor.[8] In addition, parental ratings also exhibit some gender biases wherein parents are more likely to rate boys as having higher irritability than girls during childhood, and to rate boys and girls as having similar levels of irritability during adolescence, despite adolescent girls reporting significantly higher irritability than boys in self-report measures.[9]

Indeed, in our view, consideration of a patient's subjective experience of irritability, which makes use of self-report measures that have satisfactory construct validity but simultaneously do not rely on behavioural outcomes such as outbursts, arguments or aggression, is critical to understanding irritability as a phenomenon. Therefore, not only does gender need to be factored into consideration when examining irritability, but alongside this the subjective experience of irritability needs to be the primary measure of the phenomenon. Currently, and somewhat surprisingly, these two factors, namely gender and subjectivity, are seldom used in research as a lens through which to view irritability in young people. By utilising both these factors in our own research that also builds on research by others, we have developed a theoretical model for how irritability may serve as a mechanistic link between emotion-regulation difficulties and later psychiatric problems such as depression and anxiety in adolescents, depending on gender (see Fig. 1).

Why model irritability?

Our model of irritability, which we have termed MoI[a] (reflecting its pertinence to oneself), builds on our previously published model[5] and aims to capture how irritability may play a role in the development of anxiety and mood disorders in adolescence. Specifically, it requires the inclusion of gender as a key factor because this is likely to lead to differing psychopathological trajectories for boys and girls. In girls, for example, it stipulates that the physiological and psychological impact of menarche, along with the ongoing hormonal fluctuations that follow, place an additional burden on their cognitive resources that are simultaneously drawn upon during emotion regulation. This heightened cognitive demand consequently exacerbates irritability and, potentially, anxiety and depression.

Within MoI, irritability emerges from a lack of acceptance of any negative emotions that an individual is experiencing, which may then lead to emotional and behavioural problems such as social withdrawal and outward expressions of irritability, including argumentativeness and temper outbursts. Crucially, MoI proposes that the individual experiences negative behaviour and feedback from others as a reaction to their emotional and behavioural problems. However, one aspect, not captured by our original model, is with regard to how external feedback in response to irritability may also be gendered: specifically, gender biases held by external observers that may impact their perception of negative emotions in the individual experiencing irritability. Although broadly recognised for decades in terms of gender stereotypes and biases regarding emotional expression, wherein women are generally perceived to dramatise or overexaggerate their internal experiences, the fact that recent research shows these biases are still relevant[3] is pertinent to the gendered experience of irritability, as implicated in MoI.

Therefore, we postulate that these gender biases may result in boys and girls receiving divergent external feedback as regards their emotional and behavioural problems, and this may further contribute to gender differences in the experience of irritability and its links with the development of anxiety and depression. We modelled the potential impact occurring at two points: (a) first, in relation to direct external feedback that they receive; and (b) second, in relation to the individual's degree of acceptance of their own negative emotions, which is a component of emotion regulation. It is our view that consideration of gender biases is an important advance because it captures the differential social feedback received by adolescent girls and boys at a time when they are particularly attuned and sensitive to how others perceive them, and this is likely to have a significant bearing on psychological mechanisms implicated within MoI that contribute to the development of psychiatric problems.

Application of the model

A further novel contribution of MoI is that it allows us to systematically examine various questions, such as why boys and girls follow divergent trajectories in adolescence in relation to anxiety

a. From French, meaning me or myself.

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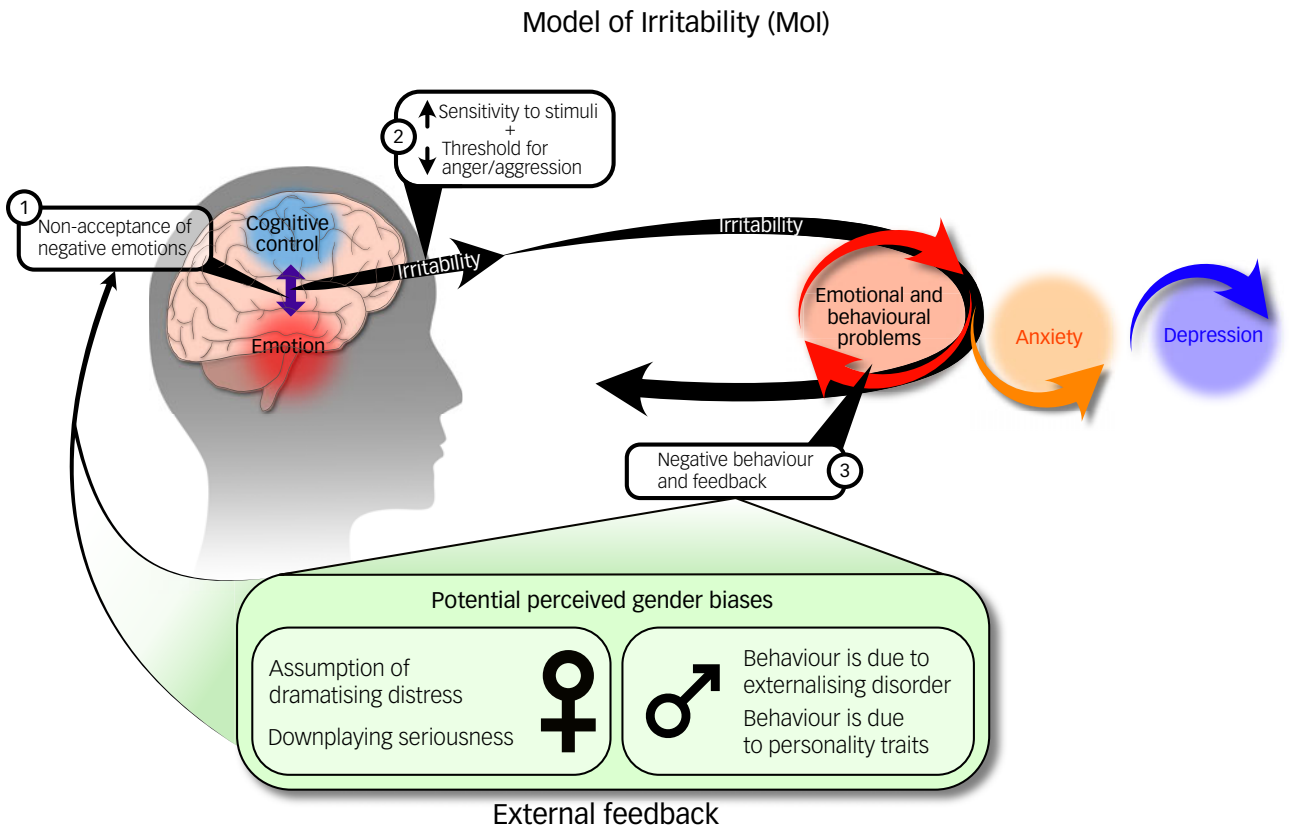


Fig. 1 Model of irritability (MoI) (adapted from Bell et al[5]). Our overarching theoretical model proposes that, for both genders, it is a difficulty with regulating emotions that leads to irritability, which then drives problematic behaviours that generate negative social feedback. This cycle perpetuates the experience of negative emotions and drives irritability, which eventually leads to an increase in anxiety that may later eventuate in depression. Our original model considered potential gender-related factors: for example, in girls, there is an additional cyclical load of monthly hormonal fluctuations that imposes a higher demand on cognitive resources to regulate emotions. This is unsustainable over time and, therefore, in adolescent girls as their internalising symptoms increase over the course of adolescence, there is a diminution of emotion regulation ability, which results in irritability and drives poor behavioural outcomes. By contrast, although boys also experience emotional and cognitive difficulties in adjusting to puberty and adolescence, these changes are comparatively more gradual, consistent and allow for adaptation over time. Nevertheless, if boys experience increased negative emotions and their cognitive control is poor, or their emotions are particularly acute, then they too undergo non-acceptance of negative emotions and irritability that then results in negative emotional and behavioural problems and downstream anxiety and depressive symptoms. Compared with our original model, the current schematic now also includes external feedback and specifies how this may differ according to gender biases. For instance, in girls, emotional and behavioural problems stemming from irritability may be interpreted by an external observer as dramatising the seriousness of any distress and therefore may be downplayed. By contrast, in boys, these problems may be perceived as being due to an externalising disorder and therefore not related to internalising problems such as anxiety and depression, or due to personality traits such as antisocial behaviours, and these may then be perceived as less amenable to change. Thus, by considering the potential gender biases in the external feedback received by an individual, divergent experiences that are gender-dependent may become evident. These insights warrant further research, as does our proposed model, which now incorporates relevant social factors and may help us to systematically understand irritability in adolescence and the role it potentially plays in the aetiology of psychiatric disorders.

and mood disorders. Specifically, it allows us to examine what role irritability may play in the emergence of these disorders within this developmental window. For example, it may be the case that boys and girls differ with respect to both their intrinsic experiences of irritability and negative emotions, as well as in the external feedback they receive in response to these experiences. Thus girls may experience increased irritability and internalising symptoms due to additional stresses such as menses, with regard to both the entailed hormonal fluctuations and ongoing psychological burden of managing this monthly cycle. Furthermore, these symptoms are compounded by external feedback that diminishes the legitimacy of their distress. On the other hand, boys too may experience difficulties in emotion regulation and irritability, leading to symptoms that may be potentially misinterpreted as being due to an externalising disorder or personality traits. Consequently, both girls and boys may have difficulties in help-seeking for their distress and this may also contribute to the development of psychiatric problems. These hypotheses require careful, systematic investigation incorporating principles from MoI, such as the capturing of the subjective experience of irritability and gender.

Hence, MoI provides a framework and reference point for future examinations and adaptations, and to this end there are several key aspects that warrant further investigation. First, longitudinal studies over adolescence that employ valid self-report measures of irritability and measure gender-specific aspects such as the impact of pubertal changes are needed to test the model sufficiently. Importantly, these investigations should occur in samples that are representative of wider populations and are generalisable. For example, cultural expectations or beliefs probably play a critical role in gendered experiences of negative emotions such as irritability, as well as help-seeking, and therefore these should be captured. Second, it will also be critical to test which (if any) aspects of the model apply to other populations such as those belonging to a gender or sexual minority and/or experiencing additional pressures

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because of a disability. In addition, because irritability is a transdiagnostic phenomenon, developing and testing models to capture its manifestation in the context of other psychiatric disorders is critical to assist in developing a comprehensive understanding that may elucidate a clear model of its underlying neurobiological mechanisms. Testing and refining MoI and using it as a common reference point will aid in harmonising and comparing findings in this area, which too often suffers from research that is siloed or narrowly focused on a specific population. It is hoped that by using a common schema and adopting a broader perspective, the enigma of irritability may be incrementally deciphered.

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Data availability

This study did not involve the novel creation, generation or analysis of primary research materials. All relevant literature is cited in the References.

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References

1 Bell E, Boyce P, Porter RJ, Bryant RA, Malhi GS. Irritability in mood disorders: neurobiological underpinnings and implications for pharmacological intervention. *CNS Drugs* 2021; **35**: 619–41.

2 Toohey MJ, DiGiuseppe R. Defining and measuring irritability: construct clarification and differentiation. *Clin Psychol Rev* 2017; **53**: 93–108.

3 Paganini GA, Summers KM, ten Brinke L, Lloyd EP. Women exaggerate, men downplay: gendered endorsement of emotional dramatization stereotypes contributes to gender bias in pain expectations. *J Exp Soc Psychol* 2023; **109**: 104520.

4 Quarmley M, Vafiadis A, Jarcho JM. Irritability and rejection-elicited aggression in adolescents and young adults. *J Child Psychol Psychiatry* 2023; **64**: 1346–58.

5 Bell E, Boyce P, Szymaniak K, Malhi GS. Viewing irritability in adolescence through a gender lens. *Australas Psychiatry* 2026; **34**: 284–91.

6 Malhi GS, Das P, Outhred T, Bell E, Gessler D, Mannie Z. Irritability and mood symptoms in adolescent girls: trait anxiety and emotion dysregulation as mediators. *J Affect Disord* 2021; **282**: 1170–9.

7 Dissanayake AS, Dupuis A, Arnold PD, Burton CL, Crosbie J, Schachar RJ, et al. Is irritability multidimensional: Psychometrics of The Irritability and Dysregulation of Emotion Scale (TIDES-13). *Eur Child Adolesc Psychiatry* 2024; **33**: 2767–80.

8 Patalay P, Fitzsimons E. Development and predictors of mental ill-health and wellbeing from childhood to adolescence. *Soc Psychiatry Psychiatr Epidemiol* 2018; **53**: 1311–23.

9 Vidal-Ribas P, Krebs G, Silver J, Tseng W-L, Ford T, Stringaris A. The hidden burden: self-reported irritability in adolescent girls signals higher psychiatric risk. *BMC Public Health* 2025; **25**: 1832.

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