GAD: Development of Intolerance of Uncertainty Model and Contrast Avoidance Model

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Abstract: Generalized Anxiety Disorder (GAD) is a mental disorder characterized by extreme and uncontrollable worry. Current studies emphasize the importance of the Contrast Avoidance Model (CAM) and the Intolerance of Uncertainty Model (IUM) in comprehending GAD. The reliability of IUM is supported by empirical evidence that Intolerance of Uncertainty (IU) has a direct impact on worry. Although long-term strategies are required, Cognitive Behavioural Therapy for IU (CBT-IU) has demonstrated promise in reducing symptoms of both IU and GAD. Attachment styles play a crucial role, with IU mediating the influence of early experiences on GAD. In the IUM framework, pathways involving Positive Beliefs about Worry (PBW) and Negative Problem Orientation (NPO) have been delineated. CAM predicts GAD independently of IU and exhibits distinct effects on fear and sadness. The impact of Contrast Avoidance (CA) in worry is proved by prior studies. Future studies can draw attention to the association between CA and other variables.

Keywords: GAD, Intolerance of uncertainty, Contrast Avoidance

1.   Introduction

Generalized Anxiety Disorder (GAD) refers to the mental illness characterized by excessive and uncontrollable anxiety, higher level of bodily tension, and other abnormality of cognition. GAD is complex, more is crucial for effective treatment and intervention. The Intolerance of Uncertainty Model (IUM) and the Contrast Avoidance Model (CAM) provide a different perspective for detecting the mechanism of GAD.

These models offer insight evidence for the etiology, maintenance, and treatment of GAD. The present summarize the outcomes of GAD studies, in particular, this paper summarizes and compare the theories of IUM and CAM and their empirical evidence.

2.   IUM in GAD

2.1. Evidence Supporting the IUM

IUM aims to interpret the association between Intolerance of Uncertainty (IU) and worry, with IU acting as impact factors for worry. The IUM comprises three components: Negative Problem Orientation (NPO), Cognitive Avoidance (CA), and Positive Beliefs about Worry (PBW).

IU is one of the key factors triggering a chain reaction involving worry, NPO, and CA [1]. Furthermore, it was found that IU (IUS-12) is significantly correlated with worry (PSWQ) scores [2]. Moreover, prior studies indicate that IU among non-clinical participants can affect worry [3].

2.2. Effect of IU in GAD Treatment

A meta-analysis study, involving a substantial sample of 1199 participants from 26 studies, shed further light on the significance of CBT-IU [4]. The findings revealed that CBT-IU was better than general CBT in the treatment of both IU and worry. However, these positive effects could not last long, indicating the need for advances in therapies to prolong the positive influence of treatment.

A GAD intervention based on the IUM showed a remarkable therapeutic effects on GAD [5]. Five key components were included in the treatment: self-monitoring, uncertainty tolerance training, contextualization, problem-solving, and mindfulness. Scholars propose that worry in GAD is not just about specific worries but a behavioral pattern acquired based on prior experiences. This pattern can be triggered when patients are reminded of past experiences. According to the findings of one case study, the treatment yielded positive outcomes. Nevertheless, more research is needed to delve deeper into the combination of implication of IUM and CBT.

2.3. Relationship Between IU and Attachment in Treatment

Attachment was suggested to play a crucial role in GAD symptom development. Furthermore, maladaptive attachment was found to indirectly correlate with heightened GAD symptoms marked by elevated IU scores [6].

In a longitudinal study, the predictive effect of childhood behavioral inhibition (BI) and attachment styles on GAD in adulthood were examined [7]. The outcomes demonstrated that IU functions as a mediator in the association between BI and GAD. The results also suggested that negative attachment indirectly led to more GAD symptoms. That relationship was also mediated by IU. As a result, this study not only reinforces the significance of IU's role but also begins to investigate how different attachment styles might affect GAD symptoms via IU. Furthermore, it is noteworthy that patients' attachment styles significantly impact the efficacy of GAD treatment [8]. Therefore, attachment emerges as a critical variable that interacts with IU, potentially serving as one of the intermediary factors between attachment and GAD symptoms.

2.4. Revised Relationship between IU and PBW, NPO, Cognitive Avoidance

Several scholars have explored different mediators within the pathways of the IUM, shedding light on the intricacies of IU's relationship with other variables. While PBW and NPO serve as intermediaries in the IU-worry path, only cognitive avoidance plays an intermediary role between IU and somatic anxiety [2]. A study based on British university students indicated that only NPO mediated the relationship between IU and worry, while IU did not act as a moderator via NPO. The reasons may be that the influence of IU on worry may be influenced by lots of variables. In addition, researchers subdivided IU into two types: Anticipatory IU (desire for predictability) and Inhibitory IU (paralysis in the face of IU) [9]. Those two subtypes show different association between other factors. For instance, PBW functions as mediator between Anticipatory IU and worry. NPO act as mediator between Inhibitory IU and worry [10].

3.   CAM in GAD

3.1.   Introduction of Contrast Avoidance Theory

The CAM is another theory that provides a systematic explanation of GAD. According to CAM, people with GAD suffer from anxiety when they utilize maladaptive cognition when faced with adversity. They try to alleviate their distress by anticipating the coming danger in order to seek a sense of control over the reality. Paradoxically, these deeds exacerbate the anxiety rather than alleviate it. CAM underscores that GAD patients tend to avoid emotional contrast. They think that the persistent worry can help to alleviate the discomfort and prepare for the upcoming negative events. However, this maladaptive emotion regulation strategy did not play a positive role. To make matters worse, the physical and psychological condition of the individual may become even worse.

3.2.   Empirical Evidence Supporting CAM

Numerous studies underscored the role of contrast avoidance (CA) in both worry and GAD. Empirical evidence supports that worry can lead to negative emotions, while it serves as a protective factor against abrupt contrast [11]. This is in consistent with the hypothesis of CAM.

Snyder's study investigated the relationship between worry and the avoidance or mitigation of negative emotional contrasts [12]. Moreover, a connection was discovered between GAD and the engagement in worry which aims to mitigate emotion contrast. Importantly, this link was confirmed by multiple studies. Furthermore, an association was established between the utilization of worry and the GAD symptoms. Within that association, worrying is anticipated to avoid negative contrast. These findings not only emphasize the important role of CA but also provides evidence for its functioning. The reliability of the CAM was therefore bolstered.

In Llera and Newman's study, data were gathered from a sample of 185 participants. Questionnaires were employed to assess different variables, including IU, NPO, CA, trait worry, and GAD symptoms [13]. The findings support the CAM framework by indicating that the incorporation of assessments related to CA significantly enhances the predictive capacity for GAD-related symptoms. Notably, even after controlling for the influence of IU and NPO, CA is a robust predictor of GAD symptoms. This study provides empirical evidence for CAM.

3.3.   CAM beyond Worry

Kim and Newman expanded the applicability of the CAM by positing that rumination plays a similar role to worrying [14]. They employed a three-by-three factorial design to examine the impact of various groups (GAD, Major Depressive Disorder, Control group) and emotion induction techniques (worry, rumination, relaxation) on emotional and psychophysiological responses during the exposure to videos activating negative emotions. Multiple psychological measures were employed to quantify alterations in these variables. The findings revealed that worry elicited more significant contrast avoidance in response to fear when compared to rumination. Conversely, rumination resulted in greater contrast avoidance in response to sadness compared to worry. In the context of fear response, discernible differences in reports of worry were observed only between GAD patients and control group individuals, suggesting that GAD patients might experience greater discomfort in response to fear contrasts. Consequently, rumination may play a role in GAD, albeit with effects less pronounced than those of worry. This study not only substantiates the pivotal role of CA but also charts new directions for the application of the CAM model. Presently, while many CAM studies concentrate on the influence of CA on worry, exploring the interplay between CA and other psychological factors, such as attachment, self-esteem, and decision-making, represents a promising avenue for further inquiry within this field.

4. Discussion

While the exploration of different subtypes of IU and their impact on worry has not been extensively researched, it presents a promising avenue for future studies. The differentiation of IU into subtypes offers a more nuanced understanding of how different forms of uncertainty can uniquely lead to the worry in GAD. For example, when people are faced with uncertainty, anticipatory IU might motivate them to conduct information seeking or reassurance so as to lessen uncertainty about future, whereas Inhibitory IU might result in paralysis or inaction. These distinctions suggest that the pathways from IU to worry can vary based on the different subtypes of uncertainty. Future studies should provide a more comprehensive view of the disorder and the mechanisms.

Additionally, the integration of the CAM with other psychological constructs might contribute to the more in-depth o realization of GAD. It was found that worry and rumination might serve similarly when individuals try avoiding emotional contrasts, albeit in different emotional contexts. Even though the effect of rumination is relatively smaller than CA in GAD, it may exert a significant effect on the development on other psychological disorders. This expansion of CAM could lead to a more holistic overview of the mechanism of GAD and generalize the application of CAM.

Furthermore, the potential interaction between attachment styles and IU in GAD symptoms stress the important role of family factors. To a certain degree, attachment style of an individuals influences one's behaviour and emotional response in different situations. Considering the influence of family factors and related theories can help gain a more complete understanding of GAD.

Significantly, both the IUM and CAM offer cognitive explanations for GAD, with no empirical evidence suggesting a conflict between them. Integrating these models could lead to a more comprehensive understanding of GAD. However, to effectively amalgamate IUM and CAM, further research is required to explore the relationship between contrast avoidance and IU. A potential hypothesis is that uncertain situations trigger worry which is a mean to avoid emotional contrast. In this case, treatments addressing both IU and contrast avoidance simultaneously might prove more effective than traditional CBT, even CBT-IU.

5. Conclusion

In conclusion, recent empirical research has consistently supported the reliability of IUM and CAM. The direct impact of IU on worry has been further substantiated. Moreover, CBT-IU, based on the principles of IUM, has demonstrated significant advantages in treating GAD and reducing IU. Although this effect appears to be short-term, CBT-IU remains a promising research direction. Additionally, IU has been found to be related to attachment style and IB. IU mediates the influence of IB on GAD, with negative attachment styles generally associated with higher IU. Within the IUM framework, pathways have been delineated more precisely. PBW and NPO have been identified as mediating factors between IU and worry, while CA serves as a mediator between IU and somatic anxiety.

Apart from IUM, CA has been shown to predict GAD even after controlling for factors such as IU. The sustaining role of CA in worry has also been validated. Furthermore, research has revealed that CA can be categorized into CA of fear and CA of sadness. These distinct categories can influence both worry and rumination, thus impacting GAD symptoms. Therefore, CA's predictive and influential effects on GAD have been further substantiated.

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