Contrast Avoidance and General Anxiety Disorder: Theory and Assessment

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Abstract. This review delves into the intricate relationship between General Anxiety Disorder (GAD) and emotion regulation (ER), with the Contrast Avoidance Model (CAM) serving as a core theoretical framework. This research investigates emotional inflexibility, distress tolerance, and avoidance of emotional contrast through continuous worrying as features of ER difficulties in GAD. CAM argues that individuals diagnosed with GAD sustain a negative emotional state relying on worry, avoiding rapid shifts to negative feelings. Relevant diagnostic indices are potential instruments for detecting contrast avoidance tendencies in people with GAD. At the same time, this review emphasizes the necessity of addressing emotion regulation in the context of GAD, as well as the promise of complementary and alternative medicine as a theoretical framework and diagnostic tool in furthering our understanding of the illness. Although there are limitations, including the need for further validation of diagnostic indices and the recognition that GAD is a complex, multifaceted disorder, this comprehensive study contributes to the ongoing enhancement of the assessment, diagnosis, and treatment of GAD, and ultimately improves the well-being of those affected by this debilitating disorder.

Keywords: Generalized Anxiety Disorder, emotion regulation, contrast avoidance.

1. Introduction

Generalized Anxiety Disorder (GAD) is a prevalent and harmful mental disorder marked by persistent and excessive worry, difficulty controlling worry, restlessness, sleep disturbances, easy fatigue, irritability, and muscle tension [1]. Excessive and uncontrollable worry is an essential characteristic of GAD and is regarded as a transdiagnostic construct and a central part of the condition. In GAD, worry is described as a persistent and uncontrollable chain of thoughts about prospective future unpleasant events [1]. Notably, people with GAD are inclined to overestimate the likelihood of these unfavorable events and their repercussions. This persistent worry often extends to various aspects of daily life, affecting personal relationships and day-to-day functioning. For instance, worrying about getting into a car accident on the way to work may lead to limiting travel options, resulting in tardiness or absence from work and financial implications. While traditional cognitive-behavioral therapies have shown efficacy in treating GAD, more than half of patients continue to experience symptoms [1]. Given GAD's high comorbidity with other disorders and its 12-month prevalence is 0.4%~3.6%, assessment, prevention, and treatment of GAD are of paramount importance. A comprehensive understanding of GAD not only improves treatment outcomes but also enhances the quality of life for affected individuals.

Emotion regulation (ER) is defined as the process of managing one's emotional experiences or responses [2]. For example, if someone is about to give a public presentation and begins to feel overwhelmed by anxiety, they might practice deep breathing slowly. This controlled breathing technique can help regulate their emotional response, making them feel less anxious and more composed during the presentation. Although debate exists regarding whether emotion should be regarded as a separate factor in ER models, it is widely acknowledged that ER is a vital component of emotional intelligence and overall psychological well-being. Adaptive emotion regulation is influenced by various external factors such as the environment and interpersonal relationships, impacting not only positive and negative emotions but also behavioral, physiological, and cognitive processes [2]. For example, successful emotion regulation for someone managing pre-speech

nervousness would entail reduced shaking, sweating, and anxiety levels. Difficulties with ER are widespread in mood disorders, and recent research has highlighted ER as a transdiagnostic feature in a variety of illnesses, including GAD and Social Anxiety Disorder [3]. Understanding the complexity of ER thus aids in the diagnosis and treatment of GAD while also promoting individual well-being.

People with GAD struggle with a variety of ER difficulties. These problems include dysfunctional, inappropriate, and rigid emotional reactions when dealing with [4]. ER difficulties have been found in empirical investigations to predict GAD status and to be significantly linked with GAD symptoms because GAD alters the usual balance of emotional reactions, and patients frequently struggle with efficient ER [1]. These deficits collectively represent impaired emotion regulation linked to persistent worry, a diagnostic criterion for GAD. A number of researchers have proposed their theoretical models regarding GAD. These models are primarily concerned with the role of worry. For instance, the Cognitive Avoidance Model suggests that people suffering from GAD adopt worry as a technique for preparing for negative experiences, restricting mental imagery, and reducing relevant physical and sympathetic arousal [1]. The Metacognitive Model of GAD, on the other hand, emphasizes type II worry, the worry about worry, and negative belief about worry in explaining the genesis and continuation of GAD [3]. The Intolerance of Uncertainty Model theorizes that worry acts to diminish sympathetic arousal, the same as the Emotional Dysregulation Model, which is consistent with cognitive avoidance models [1]. The Contrast Avoidance Model (CAM) argues that individuals who are diagnosed with GAD rely on worry to create and maintain unpleasant feelings, therefore avoiding the experience of shifting from neutral or positive emotional states to negative ones [1].

In summary, currently proposed models of GAD underscore the significance of persistent, excessive, and uncontrollable worry, and people with GAD all exhibit varying difficulties of emotion regulation such as unmanageable worry, excessive emotional response, and contrast avoidance. However, further investigation is needed to clarify and explore the link between GAD and ER, address the possibility of bidirectional symptom deterioration, and determine the distinctive characteristics of ER in GAD. As a result, this review will discuss the impact of emotional regulation difficulties in GAD within the context of widespread emotional dysregulation, delving into the theoretical link between CAM and GAD, and emphasizing the uniqueness of contrast avoidance as a potential tool for differential diagnosis and the applicability of its associated questionnaire.

2. The Effect of Emotional Regulation Difficulties in GAD

Theoretical and empirical investigations show that patients with GAD struggle with emotion regulation, which is evidenced by poor distress tolerance. ER difficulties include dysfunctional (i.e., inappropriate, inflexible, maladaptive) emotional reactions as well as deficiencies in ER skills [2]. The ability to tolerate and experience unfavourable negative internal states is known as distress tolerance, which is a type of ER. [5]. A variety of theoretical models have suggested that people with GAD are less able to tolerate distressing internal states [1]. Renna and colleagues' work provides excellent empirical evidence of behavioral tasks indicating the presence of emotion control issues in people with GAD [5]. The study found that, after controlling for sample characteristics, patients with GAD spent a significantly shorter time before termination the mirror tracing persistence task than control participants, suggesting a lower ability to tolerate emotional distress. These findings align with theoretical models and prior research, substantiating the notion that individuals with GAD grapple with the effective management and endurance of distressing emotions, thus highlighting the imperative of addressing ER difficulties in the assessment and therapeutic interventions for GAD.

Additionally, ER difficulty can be the predictor for GAD symptoms. Wirtz and colleagues rigorously evaluated the link between ER and GAD symptoms conducting a 5-year longitudinal research, demonstrating a convincing association between both variables [6]. This investigation, characterized by its robust sample size and extended timeline, offers valuable insights into the prospective dynamics between ER skills and the severity of anxiety symptoms. A self-rated questionnaire was adopted to measure ER skills across nine dimensions, measuring the individual’s

ability to manage negative and positive emotions. Employing a cross-lagged panel analysis while meticulously controlling for baseline emotion regulation and anxiety levels, the study uncovered a noteworthy finding: deficient emotion regulation skills at the initial assessment significantly predicted heightened anxiety levels at the subsequent five-year evaluation. This directional relationship underscores the pivotal role of emotion regulation difficulties in exacerbating anxiety symptoms in individuals with GAD. Particularly striking was the significantly negative relationship observed between the total ER score and anxiety symptom severity, elucidating the broader implications of enhanced emotion regulation in mitigating the severity of anxiety in the context of GAD. Importantly, the anxiety baseline level did not forecast subsequent emotion regulation outcomes, highlighting the one-sided nature of this association. Nevertheless, more nuanced analyses identified clarity and willingness to confront as critical facets significantly related to anxiety severity, substantiating the notion that specific components of emotion regulation exert profound influence over anxiety symptomatology. These findings, while partially supporting the hypothesis that ER can influence GAD symptoms, emphasize the intricate and multifaceted nature of this relationship. Consequently, they underscore the pivotal role of emotion regulation in comprehending and potentially ameliorating GAD-related symptoms and underscore the significance of addressing emotion regulation skills in the assessment and therapeutic interventions tailored for individuals with GAD.

The flexibility of ER influences the severity of anxiety symptoms in GAD contexts. The ability to recognize and modify ER strategies to the demands of a certain circumstance is referred to as ER flexibility. Excessive worry and emotional processing deficiencies are symptoms of inflexibility in GAD [7]. Crouch and colleagues' study presents solid empirical evidence that emotion regulation flexibility is significantly associated with the intensity of symptoms in people with GAD [8]. The study classified emotion regulation flexibility into three categories: "low ER flexibility," "moderate ER flexibility," and "high ER flexibility." Notably, the class of "lower ER flexibility" was related to the highest levels of anxiety severity and depression symptoms, as well as the lowest levels of life quality in the psychological, environmental and social domains. Moreover, a contrast connection was discovered in the high ER flexibility class. The relationship between physical domain quality of life and both moderate and poor ER flexibility highlights the multifaceted impact of emotion regulation on well-being in GAD. Furthermore, the study found disparities in ER flexibility in GAD patients. Because inefficiencies and impairments in the use of adaptive abilities to modulate emotion in GAD may contribute to and perpetuate anxiety and worry, most GAD patients fail to achieve more than moderate ER flexibility and hence suffer increased emotional discomfort and anxiety severity. This section shows that people with GAD frequently struggle with emotion regulation, that emotion regulation is related to GAD symptoms to some extent, and that ER flexibility, which is influenced by worry, can significantly affect the severity of anxiety in people with GAD.

3. The Role of Contrast Avoidance in GAD

3.1. Theoretical Relationship between Contrast Avoidance and GAD

The CAM focuses on worry as a mechanism in GAD, introducing another ER characteristic of GAD—contrast avoidance. According to CAM, people who suffer from GAD have a heightened fear of emotional transitions from positive or neutral emotions to relatively negative emotions, a phenomenon known as negative contrast. They engage in constant worry as a maladaptive coping mechanism to maintain a negative emotional state and prevent the expected discomfort associated with such emotional contrast as a result of their heightened worry [4]. For example, as previously mentioned, one fears getting into a car accident and he may fear to experience shifting his emotions to sad and scared once it really happens. Therefore, he would stick to the worry about the car accident itself to avoid the possible shift because worrying can prevent him from shifting his emotions. To empirically examine the tenets of CAM within a naturalistic context, Crouch and colleagues conducted an 8-week longitudinal experience sampling study. Their investigation aimed to elucidate

the intricate interplay between GAD symptoms, reasons for worry, weekly situational negative contrasts, weekly negative emotions, weekly worry, and weekly depression symptoms [8]. The study's results provided compelling support for CAM. They discovered that independent of depression symptoms, GAD symptoms predicted individuals' proclivity to believe shifting to negative emotion is the worst occurrence of the week, highlighting the importance of GAD symptoms in determining sensitivity to emotional transitions. Furthermore, negative contrast was found to be an important predictor of negative feelings, supporting CAM's claim that avoiding emotional transitions through worry is key to GAD. GAD symptoms and worry, in particular, were identified as modifiers of the connection between negative contrast and emotion, emphasizing their critical role in modulating emotional reactions to environmental contrasts. Furthermore, the study demonstrated that GAD symptoms and worry are predictive of negative emotion independently of the presence of depression, highlighting the unique contribution to GAD symptomatology and emotional experiences. These findings offer empirical support for CAM and underscore its relevance in comprehending the mechanisms underlying GAD symptoms. Most importantly, it addresses the uniqueness of contrast avoidance, particularly contrast avoidance through worry and its potential utility in assessing and treating GAD symptoms.

The increase in negative emotions relating to worry prevents sharp shifts in negative emotions, i.e., avoiding sharp contrasts in negative emotions because negative emotions are perceived as less offensive after experiencing another negative emotion and worry exacerbates negative emotions and somatic activation [9]. Thus, CAM theorizes worrying as a means adopted by people diagnosed with GAD to prevent negative emotional contrast. A comprehensive study by Newman and colleagues rigorously examined this relationship using ecological momentary assessment (EMA) techniques. Participants were prompted hourly for eight weeks, focusing on EMA items related to "thought valence," "worry," and "arousal." The results illuminated the intricate interplay between worry, emotional contrasts, and GAD symptomatology. Notably, substantial variance in the data was explained by interpersonal differences, underscoring the role of individual factors in shaping these processes. The study demonstrated that the duration of worry, the negativity of thoughts, and the perceived controllability of thoughts predicted concurrent anxious feelings and sustained anxiety activation after one hour. These empirical findings provide robust support for CAM's propositions, indicating that worry in individuals with GAD effectively diminishes the probability of negative emotional contrasts. Furthermore, heightened levels of worry, nervousness, and uncontrollable thoughts were associated with a reduced likelihood of experiencing negative emotional contrasts after one hour. This suggests that worry about negative emotions is negatively reinforced.

Worry may also boost the likelihood of feeling positive contrast, which is characterized by a decrease in negative emotion and/or an increase in positive emotion. The model posits that when the feared outcome of worry fails to materialize, it leads to the alleviation or reduction of negative emotions. This reduction in negative emotion creates an opportunity for individuals to subsequently experience a greater contrast of positive emotions, thereby theoretically reinforcing the propensity to engage in worry, particularly in individuals with GAD. To empirically investigate this intricate relationship within the context of naturalistic social interactions, Newman and colleagues conducted an event-contingent ecological momentary assessment [10]. The study included comprehensive baseline assessments and involved participants reporting their emotional states both before and after social interactions, allowing for a detailed examination of the impact of worry on emotional contrasts. Employing a tree-level model, the research findings provided empirical support for CAM's postulation. They discovered that worry was linked to increased negative emotions and decreased positive emotions and social interaction can significantly increase positive emotions and reduce the negative ones. Furthermore, during the investigation of social interaction, by comparing the level of worry reported by participants before and after social interactions, this study concluded that high levels of worry prior to social interactions are positively and negatively reinforced, whereas lower levels of worry are positively and negatively punished. This result further explains the CAM's proposed mechanism for the maintenance of worry. People with GAD maintain their worry because

it helps them avoid negative contrast and increases their chances of experiencing positive contrast. Therefore, GAD patients tend to rely on worry and use it as a coping with the fear of experiencing negative contrast. These findings highlight the complicated relationship between worry, emotional contrasts, and GAD symptomatology, emphasizing the diverse nature of emotion regulation in GAD. This section illustrates the mechanism by which contrast avoidance utilizes worry and its uniqueness amongst GAD.

3.2. Contrast Avoidance as a Diagnosis Index

Llera and Newman developed two measures, the CAQ-Worry (CAQ-W) and the CAQ-General Emotion (CAQ-GE) based on the CAM for assessing Contrast Avoidance (CA) tendencies for GAD, significantly contributing to the exploration of contrast avoidance as a potential differential diagnostic index [11]. These questionnaires were thoughtfully crafted to capture various facets of contrast avoidance beliefs and behaviors. The CAQ-W delves into the effect of worry on avoiding negative contrasts, including the dimensions of generating and maintaining negative feelings, avoiding shifts of negative feelings, and generating positive contracts of feelings. The CAQ-GE, on the other hand, focuses on a broader range of emotion contrast avoidance beliefs and behaviors, involving the production, and maintenance of negative emotions to avoid negative emotion contrasts and discomfort with emotion shifts. All of the results point to the CA questionnaire having high psychometric properties and being substantially connected to GAD. Both measures were able to differentiate between subjects who showed GAD symptoms at the clinical level and subjects who did not, demonstrating the feasibility of both questionnaires as complementary measurements of CA tendencies and the utility of contrast avoidance in assessment.

Moreover, Rogers and colleagues extended the examination of CAQ questionnaires to a broader population, offering valuable insights into their generalizability and potential diagnostic utility [12]. Their extensive research on CAQ-W and CAQ-GE, which included confirmatory factor analysis, bifactor analysis, and structural regressions, shed light on the diagnostic potential of these measures. They conducted confirmatory, bifactor, and structural regression analyses of the CAQ-W and CAQ-GE to generate four sets of models. In the bifactor model, the CAQ-W results indicated that the negative emotion domain-specific factors and general factor played a significant role in predicting worry and GAD symptoms. However, in the three-factor model, two of the original questionnaire's subordinate domain-specific factors did not outperform the general factor in predicting GAD symptoms or worry. Analyses of the CAQ-GE showed better results for the bifactor model with strong psychometric properties, which validated the validity of the previous questionnaire. Moreover, the domain-specific factor of avoidance was not a significant predictor of worry or GAD symptoms after taking into account the general factor. In conclusion, these findings emphasize the potential of avoidance contrast construct, and in particular the general factor, as a differential diagnostic indicator of GAD and related symptoms. An in-depth understanding of the intricate relationships between contrast avoidance and emotional experiences holds the potential to enhance diagnostic precision and inform tailored interventions for individuals grappling with GAD.

4. Conclusion

In summary, this review comprehensively explores the intricate relationship between GAD and difficulties with emotion regulation, using the contrast avoidance model as a specific theoretical framework. The importance of emotion regulation in GAD is emphasized with a focus on flexibility of emotion regulation, distress tolerance, and avoidance of negative contrasts through persistent worry. Empirical evidence strongly supports the assertions of CAM, revealing a significant association between GAD symptoms and emotional contrast avoidance. Furthermore, individuals with GAD demonstrate a propensity to employ worry as a means to reduce the likelihood of experiencing negative emotional shifts, effectively sustaining a negative emotional state. CAM also suggests that worry may contribute to positive emotional contrast, reinforcing the inclination for

persistent worry in individuals with GAD. Furthermore, the development of diagnostic indexes such as the CAQ-Worry and CAQ-General Emotion provides potential tools for detecting contrast avoidance tendencies in GAD patients. This text contributes to ongoing efforts to improve the assessment, diagnosis, and treatment of GAD by improving our understanding of these intricate relationships and mechanisms, ultimately aiming to improve the well-being and quality of life of individuals affected by this debilitating disorder.

However, it's essential to acknowledge some limitations in this discussion. First, while the CAM provides valuable insights into GAD, it is not the only theoretical framework available, and there may be alternative explanations and models that could further enrich our understanding of the disorder. Second, much of the evidence discussed in the text is based on empirical studies, which inherently come with limitations such as sample bias, self-report measures, and potential confounding variables. Future research should aim to address these limitations through more diverse and rigorous methodologies. Additionally, the text primarily focuses on the theoretical aspects of GAD and emotion regulation, and while it highlights the potential diagnostic utility of the CAQ questionnaires, further validation and clinical application of these measures are necessary. Finally, it's crucial to recognize the complexity of GAD as a multifaceted disorder with individual variations, and not all individuals with GAD may fit neatly into the CAM framework. Nevertheless, this text serves as a valuable contribution to the ongoing discourse on GAD and emotion regulation, paving the way for future research and clinical advancements in the field.

References

[1] Rashtbari A., Saed O. Contrast avoidance model of worry and generalized anxiety disorder: A theoretical perspective. Cogent Psychology, 2020, 7(1): 1800262.

[2] Chambers R., Gullone E., Allen, N. B. Mindful emotion regulation: An integrative review. Clinical Psychology Review, 2009, 29(6): 560–572.

[3] Wells A. Metacognitive Theory and Therapy for Worry and Generalized Anxiety Disorder: Review and Status. Journal of Experimental Psychopathology, 2010, 1(1): 133-145.

[4] Newman M. G., Llera S. J. A novel theory of experiential avoidance in generalized anxiety disorder: A review and synthesis of research supporting a contrast avoidance model of worry. Clinical Psychology Review, 2011, 31(3): 371–382.

[5] Renna M. E., Chin S., Seeley S. H. Fresco D. M., Heimberg R. G., Mennin D. S. The Use of the Mirror Tracing Persistence Task as a Measure of Distress Tolerance in Generalized Anxiety Disorder. Journal of Rational-Emotive & Cognitive-Behavior Therapy, 2018, 36(1): 80–88.

[6] Wirtz C. M., Hofmann S. G., Riper H., Berking M. Emotion Regulation Predicts Anxiety Over a Five-Year Interval: A Cross-Lagged Panel Analysis. Depression and Anxiety, 2014, 31(1): 87–95.

[7] Mennin D. S., Holaway R. M., Fresco D. M., Moore M. T., Heimberg R. G. Delineating Components of Emotion and its Dysregulation in Anxiety and Mood Psychopathology. Behavior Therapy, 2007, 38(3): 284–302.

[8] Crouch T. A., Lewis J. A., Erickson T. M., Newman M. G. Prospective Investigation of the Contrast Avoidance Model of Generalized Anxiety and Worry. Behavior Therapy, 2017, 48(4): 544–556.

[9] Newman M. G., Jacobson N. C., Zainal N. H., Shin K. E., Szkodny L. E., Sliwinski M. J. The Effects of Worry in Daily Life: An Ecological Momentary Assessment Study Supporting the Tenets of the Contrast Avoidance Model. Clinical Psychological Science, 2019, 7(4): 794–810.

[10] Newman M. G., Schwob J. T., Rackoff G. N., Doren N. V., Shin K. E., Kim H. The naturalistic reinforcement of worry from positive and negative emotional contrasts: Results from a momentary assessment study within social interactions. Journal of Anxiety Disorders, 2022, 92: 102634.

[11] Llera S. J., Newman M. G. Development and validation of two measures of emotional contrast avoidance: The contrast avoidance questionnaires. Journal of Anxiety Disorders, 2017, 49: 114–127.

[12] Rogers T. A., Gorday J. Y., Bardeen J. R., Benfer N. Examining the Factor Structure and Incremental Utility of the Contrast Avoidance Questionnaires via Bifactor Analysis. Journal of Personality Assessment, 2023, 105(2): 238–248.