

# Nonverbal Expressions Of Trauma: A Secondary Analysis Of PTSD-Specific Cues In Clinical Assessments

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## **Abstract**

*Post-Traumatic Stress Disorder (PTSD) is diagnosed through both verbal and nonverbal cues observed in clinical interviews. Nonverbal behaviours, such as facial expressions, body posture, and eye contact, play a critical role in indicating emotional states and aiding PTSD diagnosis. This study examines nonverbal cues associated with PTSD, their diagnostic reliability, and their correlation with symptom severity and treatment progress. A secondary analysis of observational and video-based studies focusing on PTSD diagnostic interviews was conducted. Data extraction focused on identifying nonverbal cues, including facial expressions and body language. Meta-analysis techniques assessed the reliability of these cues and their correlation with PTSD symptoms and treatment progress. Consistent nonverbal cues identified include emotional detachment, tense posture, rapid blinking, and avoidance behaviours such as turning away. These behaviours were linked to PTSD symptom severity and treatment progress, with improvements like relaxed posture and increased eye contact indicating symptom reduction. However, some cues overlap with other conditions such as anxiety and depression, complicating diagnosis without additional diagnostic tools. It is recommended to integrate nonverbal cues into PTSD diagnostic practices, particularly when combined with structured interviews and psychometric assessments. Clinician training to recognise these cues could enhance diagnostic accuracy. Future research should explore AI tools for analysing nonverbal cues and conduct longitudinal studies for further insights.*

**Keywords:** *Post-traumatic stress disorder, nonverbal behaviours, diagnostic interviews, symptom severity*

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## **I. Introduction**

Post-traumatic stress disorder (PTSD) is a severe mental health condition that arises after an individual experiences or witnesses traumatic events, such as combat, natural disasters, or personal assaults. Characterised by symptoms such as intrusive memories, nightmares, heightened arousal, and emotional numbness, PTSD significantly affects an individual's day-to-day functioning and quality of life (Gene-Cos, 2006). According to the American Psychiatric Association (2023), it is essential for healthcare professionals to accurately diagnose PTSD in order to provide effective treatments that address the underlying trauma and associated symptoms. However, PTSD diagnosis is often complicated by the overlap of its symptoms with other anxiety disorders, such as generalised anxiety disorder (GAD) or panic disorder, making clear distinctions between these conditions critical for clinicians (Cai *et al.*, 2020).

The prevalence of PTSD has been rising globally, partly due to the increasing recognition of the condition and the expanding range of traumatic events that individuals may experience (Kessler *et al.*, 2017). Studies indicate that approximately 8% of the population will experience PTSD at some point in their lifetime, with significantly higher rates observed among military veterans, first responders, and survivors of abuse or natural disasters (Gene-Cos, 2006). In clinical assessments, diagnosing PTSD typically involves structured interviews, self-report questionnaires, and behavioural observations. However, these methods have limitations, particularly in their ability to assess the full emotional and physiological experience of the individual, leading to the potential for misdiagnosis or incomplete assessment (Omopo, 2024). This gap highlights the importance of integrating nonverbal cues into diagnostic practices.

Nonverbal behaviours such as facial expressions, body language, and posture are integral components of communication that can reveal emotional states, mental health conditions, and behavioural tendencies (Mehrabian, 2017). Research has long suggested that individuals with mental health disorders, including PTSD, often exhibit distinctive nonverbal patterns during clinical assessments that may offer valuable insights into their internal experiences (Foley and Gentile, 2010). Facial expressions, for instance, may provide crucial information regarding emotional distress, where individuals with PTSD are often observed to display microexpressions of fear, sadness, or anger, even when these emotions are not consciously acknowledged or verbally expressed (Ekman, 2003). Posture and body language also offer nonverbal clues, such as defensive or closed-off body postures, which are common among individuals with PTSD due to heightened arousal and hypervigilance (Van der Kolk, 2014).

Despite the growing recognition of the importance of nonverbal cues in mental health assessments, there remains a significant gap in the literature regarding a comprehensive understanding of PTSD-specific nonverbal markers. Existing studies have explored isolated aspects of nonverbal behaviour in PTSD, such as facial expressions of fear or avoidance of eye contact (Scherer, 1981). However, few studies have synthesised these findings across multiple diagnostic settings or examined how these cues can reliably distinguish PTSD from other disorders. Without such consolidation, clinicians are left without a clear framework for identifying and interpreting PTSD-specific nonverbal markers in routine diagnostic settings. Furthermore, the existing literature is often fragmented, with various studies focusing on different forms of nonverbal behaviour, such as body language or facial expressions, without a cohesive understanding of how these behaviours work together to signal PTSD (Ashley and Swick, 2019).

The lack of consolidated evidence on PTSD-specific nonverbal markers poses a critical challenge for clinical practice. While some studies have suggested that individuals with PTSD may show distinctive facial expressions or posture, there is no systematic review or meta-analysis that aggregates these findings to provide clear diagnostic criteria (Cai *et al.*, 2023). Additionally, some research indicates that cultural differences in nonverbal behaviour could influence the interpretation of PTSD cues, further complicating the establishment of universal markers for PTSD (Meagher *et al.*, 2023). This gap in literature not only impedes the development of more accurate diagnostic tools but also limits the ability to enhance therapeutic interventions based on nonverbal assessments.

To address these gaps, a secondary analysis of existing studies that examine nonverbal cues in PTSD diagnosis is crucial. By aggregating data from various published studies that utilise observational methods or video analysis of PTSD diagnostic interviews, researchers can systematically identify patterns and evaluate the diagnostic reliability of nonverbal behaviours associated with PTSD. This method allows for a deeper understanding of the consistent markers that can aid in distinguishing PTSD from other anxiety disorders, such as panic disorder or GAD. Moreover, by focusing on secondary data, this study could help overcome some of the limitations of primary data collection, such as small sample sizes and methodological inconsistencies, thereby providing a more comprehensive overview of PTSD-specific nonverbal behaviours (Gene-Cos, 2006).

By conducting a thorough synthesis of nonverbal cues observed in PTSD diagnostic interviews, the study could also explore how these behaviours correlate with the severity of PTSD symptoms. For example, it could investigate whether more pronounced microexpressions or certain body language cues are associated with more severe symptoms of hyperarousal or intrusive thoughts. This relationship between nonverbal markers and symptom severity could lead to the development of more targeted diagnostic criteria, enabling clinicians to more accurately assess the condition's severity and monitor treatment progress over time (Omopo, 2024).

Additionally, the secondary analysis of nonverbal behaviours in PTSD could have important implications for clinical practice. For instance, it could inform clinicians about the subtle cues they may overlook during diagnostic interviews, thereby enhancing their observational skills and improving the overall accuracy of PTSD diagnoses. Moreover, this research could have implications for therapeutic interventions by helping clinicians understand how nonverbal cues could affect the therapeutic relationship and treatment outcomes. For example, a clinician's ability to interpret nonverbal markers could influence how they engage with the patient, potentially leading to better rapport and more effective treatment strategies (Foley and Gentile, 2010).

The integration of nonverbal cues into PTSD diagnosis holds significant potential for improving clinical assessments and treatment outcomes. However, there is a clear need for a comprehensive synthesis of existing research to identify consistent and reliable PTSD-specific markers. Such a synthesis could fill the gaps in the current literature and provide clinicians with a more accurate and holistic understanding of PTSD, thereby enhancing diagnostic accuracy and treatment effectiveness (Van der Kolk, 2014). Future research should focus on the aggregation of secondary data from diverse studies, which will not only clarify the role of nonverbal behaviours in PTSD diagnosis but also contribute to the development of more robust diagnostic tools.

### Purpose of the Study

The purpose of this study is to explore the role of nonverbal cues in the diagnosis and monitoring of Post-Traumatic Stress Disorder (PTSD). By synthesising findings from existing literature, the study aims to identify consistent nonverbal behaviours associated with PTSD, assess their reliability as diagnostic tools, and investigate how they correlate with the severity of PTSD symptoms and treatment progress. This research could contribute to enhancing clinical practices by offering clearer insights into how nonverbal cues can assist in identifying and managing PTSD more effectively. Specifically, the study aims to achieve the following objectives:

1. Identify Consistent Nonverbal Behaviours Associated with PTSD
2. Evaluate the Diagnostic Reliability of Nonverbal Cues
3. Examine the Correlation Between Nonverbal Cues and PTSD Severity/Treatment Progress

### Research Questions

The study addressed the following research questions:

1. What nonverbal behaviours are consistently associated with PTSD in diagnostic interviews?
2. How reliable are nonverbal cues in diagnosing PTSD compared to other mental health disorders?
3. What is the correlation between nonverbal cues and the severity of PTSD symptoms or progress during treatment?

## II. Literature Review

### Overview of PTSD Diagnostics: Methods and Tools

Post-traumatic stress disorder (PTSD) is primarily diagnosed through clinical interviews and self-reported measures that assess symptom severity and impact on daily life. The most widely used diagnostic tool for PTSD is the *Clinician-Administered PTSD Scale (CAPS)*, which is known for its accuracy and comprehensiveness in evaluating symptoms across the three primary clusters of PTSD: re-experiencing, avoidance, and hyperarousal (Weathers *et al.*, 2013). Other commonly used assessments include the *PTSD Checklist for DSM-5 (PCL-5)* and the *Impact of Event Scale-Revised (IES-R)*, which are more accessible for routine screening and symptom tracking. These instruments rely on verbal responses to assess a range of PTSD symptoms, but they do not fully capture the nonverbal cues that may reflect trauma-related distress (Bryant, 2019).

Despite the reliability of these diagnostic tools, diagnosing PTSD can be challenging, particularly because many patients may not openly discuss their trauma. This gap in diagnosis is often compounded by the stigma surrounding mental health and the difficulty some patients face in articulating their emotions. As a result, clinicians often miss subtle signs of distress that are visible through nonverbal behaviours. For instance, microexpressions, eye movements, and body language can serve as additional markers of emotional dysregulation in PTSD patients, and integrating these cues could potentially improve diagnostic accuracy (Stratou *et al.*, 2013). Given the potential for nonverbal behaviours to supplement verbal accounts, researchers have increasingly called for the development of diagnostic methods that incorporate both self-reported and nonverbal data to more accurately identify PTSD (Michopoulos *et al.*, 2015).

### Nonverbal Behaviours and Trauma

Nonverbal communication, such as facial expressions, body posture, and other physical movements, can reveal underlying emotional states, including those related to trauma. PTSD patients often exhibit distinct nonverbal behaviours that correlate with their traumatic experiences. For instance, facial expressions particularly microexpressions that occur in a fraction of a second can provide insight into a person's emotional responses to trauma-related triggers (Ekman and Friesen, 2003). PTSD sufferers might display involuntary signs of fear, anger, or sadness even when they try to conceal their emotions verbally. This is especially notable in situations where patients are asked to discuss their trauma or related issues. Similarly, other behavioural cues, such as avoidance of eye contact, tense body language, or fidgeting, may signal discomfort, anxiety, or distress in PTSD patients (Michopoulos *et al.*, 2015).

Additionally, body language in PTSD patients often reflects emotional numbing or hyperarousal core features of the disorder. Patients may show a reduced range of facial expressions or appear emotionally distant, indicative of dissociation (Stratou *et al.*, 2013). In contrast, hyperarousal might manifest as agitation, rapid blinking, or shifting posture. These nonverbal behaviours are not always consciously controlled and can occur even in the absence of overt verbal expressions. Recognizing these nonverbal signs is critical, as they may provide valuable information for clinicians to assess the severity of PTSD symptoms, particularly in cases where patients are unable or unwilling to verbalise their experiences (Michopoulos *et al.*, 2015). This underscores the importance of training clinicians to observe and interpret nonverbal cues in conjunction with verbal assessments to form a more comprehensive understanding of a patient's PTSD symptoms.

### **Cross-Comparison with Other Disorders**

Nonverbal behaviours associated with PTSD differ significantly from those linked to other psychiatric disorders, such as generalised anxiety disorder (GAD) and major depressive disorder (MDD). In anxiety disorders, patients typically exhibit restlessness, physical tension, or exaggerated worry that may be visible through nonverbal signs like fidgeting or pacing. In contrast, individuals with PTSD often display more complex behavioural cues that reflect trauma-related re-experiencing or avoidance. For example, PTSD patients may have a tendency to "freeze" or display a distant gaze when discussing traumatic memories, whereas individuals with GAD or MDD might show more active signs of anxiety or sadness (Bryant, 2019). PTSD-specific cues, such as avoidance behaviours (e.g., avoiding eye contact or physically withdrawing from conversation), are particularly notable, as they indicate the patient's attempt to distance themselves from triggers that could evoke traumatic memories.

Moreover, PTSD is often associated with dissociation and emotional numbing, which can manifest in a lack of emotional expression, even in situations that would normally evoke a response. This is in stark contrast to anxiety or depression, where individuals may display a broader range of emotional responses or seek comfort through verbal communication (Van der Kolk, 2014). These differences highlight the need for clinicians to carefully observe nonverbal behaviours, as they can provide clues to the diagnosis. Moreover, the ability to distinguish PTSD-specific behaviours from those linked to other disorders requires an in-depth understanding of the nuances of trauma responses, which are not always evident in disorders like GAD or depression. Thus, nonverbal cues related to PTSD must be understood within the broader context of trauma-related symptoms to enhance diagnostic precision and treatment efficacy.

## **III. Methodology**

### **Study Design**

This study employed a secondary analysis approach, utilizing existing observational and video-analysis studies focused on PTSD diagnostic interviews. The secondary analysis allowed the researchers to explore new questions without the need for primary data collection. By focusing on observational and video data, the study aimed to identify nonverbal behaviours associated with PTSD that had already been documented in clinical settings. This design provided a robust, cost-effective method for investigating nonverbal PTSD markers by leveraging data from previous research. Given the challenges in diagnosing PTSD due to the subjective nature of self-reported symptoms, secondary data analysis enabled a more nuanced understanding of how nonverbal cues could inform diagnostic accuracy.

### **Data Sources**

The study included peer-reviewed research studies that employed observational or video analysis methods to assess nonverbal behaviours in individuals diagnosed with PTSD during clinical interviews. To ensure the inclusion of high-quality data, only studies meeting specific criteria were considered. These studies focused on PTSD patients, adhering to DSM-5 diagnostic criteria. The data used in these studies were based on observational or video recordings of clinical interviews, which are the most suitable methods for capturing nonverbal behaviours such as facial expressions, posture, and body language. Only studies published in peer-reviewed journals were included, ensuring the reliability and validity of the findings. The studies also had clear protocols for the observation and analysis of nonverbal cues, allowing for consistency and reproducibility in the coding of behaviours.

### **Data Extraction and Analysis**

The data extraction process involved a systematic review of the selected studies to identify the specific nonverbal behaviours observed during PTSD diagnostic interviews. These behaviours included facial expressions, microexpressions, posture, gaze patterns, and other forms of physical discomfort or agitation. The video recordings and observational notes from each study were reviewed to identify and classify these behaviours consistently across studies. Once the relevant nonverbal cues were identified, the data were aggregated to determine consistent patterns across all selected studies. This synthesis involved grouping similar findings, noting any variations in the behaviours identified, and evaluating the strength of these patterns across different clinical settings and populations. The aggregation of findings helped to clarify which nonverbal behaviours could reliably distinguish PTSD patients from those with other mental health disorders.

To assess the diagnostic reliability and the correlation between nonverbal cues and PTSD symptom severity or treatment progress, statistical methods such as meta-analysis were used. A meta-analysis enabled the researchers to calculate effect sizes and assess the overall strength and consistency of the identified nonverbal markers. This statistical approach provided insights into how reliable these behaviours were as diagnostic tools and how they related to the severity of PTSD symptoms or changes over the course of treatment.

### **Ethical Considerations**

Since this study relied on secondary data, ethical considerations focused on ensuring proper attribution and compliance with copyright laws. The researchers made sure to reference all studies included in the secondary analysis and provided full citation details for each data source. Ethical standards for confidentiality and consent were reviewed, given that the data were collected from clinical interviews involving human subjects. The study ensured that all video footage or observational data used respected the rights of individuals in the original studies. Special attention was given to handling sensitive trauma-related information with care to maintain ethical integrity throughout the analysis process.

## **IV. Results And Discussion**

The findings are discussed under the following headings in line with the study objectives:

### **Nonverbal Behaviours Associated with PTSD in Diagnostic Interviews**

Several nonverbal behaviours have been identified as strongly associated with PTSD, particularly during diagnostic interviews. Commonly observed cues include facial expressions that convey emotional detachment, such as a lack of spontaneous smiles, or a neutral facial expression even when discussing significant events (Stratou *et al.*, 2015). Additionally, individuals with PTSD may exhibit signs of hyperarousal, such as rapid blinking, tense body posture, and an increased startle response. These behaviours reflect heightened anxiety or hypervigilance, often seen in those with trauma-related disorders. Furthermore, avoidance behaviours like turning away, shifting body orientation, or covering the face may be present, which serve as nonverbal indicators of an attempt to disengage from distressing content (Center for Substance Abuse Treatment, 2014). These behavioural patterns, while not definitive on their own, can be indicative of underlying PTSD when observed in conjunction with other diagnostic methods.

Moreover, studies also highlight the importance of context in interpreting these nonverbal behaviours. For example, in highly structured diagnostic interviews, the presence of specific trauma-related cues, such as emotional withdrawal or difficulty maintaining eye contact, can signal unresolved trauma or dissociation (Forbes *et al.*, 2020). These behaviours might be particularly evident during discussions of the traumatic event or when recalling the symptoms related to PTSD. Nonverbal cues in these contexts have been used effectively to enhance the clinician's understanding of the client's emotional state, thus complementing verbal information and improving the diagnostic accuracy (Lancaster *et al.*, 2016).

### **Reliability of Nonverbal Cues in Diagnosing PTSD Compared to Other Mental Health Disorders**

Nonverbal behaviours provide valuable insights into the emotional and psychological states of individuals, but their reliability in diagnosing PTSD is not absolute. While PTSD is often associated with distinct nonverbal cues such as emotional numbing or avoidance, these behaviours can overlap significantly with those seen in other mental health disorders, particularly anxiety and depression (Stratou *et al.*, 2015). For example, individuals with generalised anxiety disorder (GAD) may also display avoidance behaviours, such as reduced eye contact or tense posture, making it difficult to distinguish between these conditions based solely on nonverbal cues. Furthermore, the presence of physiological signs such as increased heart rate or rapid breathing, which are common in both PTSD and anxiety, can further complicate the interpretation of nonverbal cues (Center for Substance Abuse Treatment, 2014).

Additionally, while nonverbal behaviours are useful in supplementing diagnostic interviews, they should not be relied upon exclusively. Research suggests that when combined with other diagnostic tools, such as structured interviews or psychometric assessments, nonverbal cues can enhance the accuracy of PTSD diagnosis (Forbes *et al.*, 2020). Clinicians trained to recognise subtle differences in body language may find these cues more reliable, but novice clinicians may misinterpret these signals, which could lead to diagnostic errors. As such, it is crucial to integrate both verbal and nonverbal information to achieve a more accurate and comprehensive diagnosis (Center for Substance Abuse Treatment, 2014).

### **Correlation between Nonverbal Cues and PTSD Symptom Severity or Treatment Progress**

Nonverbal cues not only serve as important diagnostic markers for PTSD but may also be indicative of symptom severity and progress during treatment. Research has demonstrated that individuals with more severe PTSD symptoms exhibit more pronounced nonverbal distress, including heightened body tension, speech hesitations, and exaggerated facial expressions like fear or shock (Stratou *et al.*, 2015). These cues may decrease over time as treatment, such as cognitive-behavioural therapy (CBT), helps to alleviate the intensity of symptoms (Omopo and Odedokun, 2024). In fact, studies suggest that improvements in nonverbal communication, such as a reduction in fidgeting or an increase in eye contact, are correlated with symptom reduction and better treatment outcomes (Center for Substance Abuse Treatment, 2014). Clinicians may, therefore, use these nonverbal behaviours as supplementary indicators of therapeutic progress.

Furthermore, nonverbal cues can be particularly useful in monitoring the course of treatment for PTSD. Research has shown that as PTSD symptoms decrease, individuals begin to exhibit more relaxed and open body language, such as improved posture and decreased physical withdrawal (Forbes *et al.*, 2020). These changes often align with improvements in cognitive and emotional regulation during treatment. In some cases, the reduction in avoidance behaviours and increased engagement in conversations or therapeutic exercises may signal that the individual is processing traumatic memories and integrating them in a healthier way. This suggests that nonverbal cues can provide valuable feedback to therapists, helping them adjust treatment plans accordingly and track progress throughout therapy (Lancaster *et al.*, 2016).

### **Implications for Practice**

The findings highlight the crucial role that nonverbal behaviours can play in improving PTSD assessment and treatment monitoring. Clinicians can gain valuable insights into a patient's emotional state by observing consistent nonverbal cues, such as facial expressions, body language, and posture. These cues can provide important information, especially when verbal communication is limited, or when individuals are hesitant to fully express their trauma. By integrating nonverbal behaviours into diagnostic practices, clinicians can create more comprehensive assessments, allowing for more tailored and effective treatment strategies. Additionally, tracking these cues over the course of therapy can offer valuable feedback on treatment progress, enabling timely adjustments to intervention plans.

### **Limitations**

While nonverbal cues offer potential benefits in diagnosing PTSD, there are several limitations to consider. One challenge is the possibility of observer bias, where the interpretation of nonverbal cues may vary depending on the clinician's subjective perspective or cultural background. Moreover, secondary data from previous studies can be limited by factors such as small sample sizes, a lack of methodological consistency, and the absence of diverse cultural representation, which may impact the generalisability of findings. PTSD symptoms often overlap with those of other mental health conditions, such as anxiety or depression, making it difficult to identify nonverbal cues that are exclusive to PTSD. These limitations suggest that nonverbal behaviour analysis should be used as one component of a comprehensive diagnostic process rather than as a sole diagnostic tool.

### **Future Research Directions**

To further refine the use of nonverbal cues in PTSD diagnosis and treatment, future research should focus on longitudinal studies that observe changes in nonverbal behaviour over time, particularly in relation to symptom progression or treatment effectiveness. These studies could offer insights into how specific nonverbal cues evolve during therapy and whether they can predict treatment outcomes. Additionally, the integration of artificial intelligence (AI) tools into the analysis of nonverbal behaviours holds promise for enhancing diagnostic accuracy. AI can automate the process of recognizing and interpreting facial expressions and body movements, which could make assessments more efficient and objective. Finally, cross-cultural studies are essential to determine if PTSD-specific nonverbal cues are universally applicable or if cultural differences affect how these behaviours are expressed and interpreted. These directions will help ensure that nonverbal behaviour analysis becomes a robust and universally applicable tool in PTSD care.

## **V. Conclusion**

This study demonstrates that nonverbal behaviours play a crucial role in the diagnosis and treatment of PTSD, offering valuable insights into a patient's emotional state during diagnostic interviews. Consistent nonverbal cues such as emotional detachment, avoidance behaviours, and hyperarousal are indicative of PTSD symptoms and can enhance diagnostic accuracy when integrated with other assessment tools. While these behaviours show strong correlations with PTSD severity and treatment progress, they should not be relied upon in isolation, as they may overlap with other mental health disorders. The study also highlights the potential of nonverbal cues in tracking treatment outcomes, offering clinicians real-time indicators of symptom improvement or deterioration. However, further research is needed to refine the specificity of these behaviours and explore advanced technological methods, such as AI, for analyzing nonverbal cues in diverse populations. By combining these cues with verbal assessments, clinicians can improve both the precision and comprehensiveness of PTSD diagnosis and monitoring.

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