



Development of Embitterment Scale for Individuals with Traumatic Life Experiences

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ABSTRACT

This research aims to develop a scale on embitterment in light of adult individuals' responses in the Urdu language experiencing traumatic episodes. Despite its psychological significance, there is a lack of validated assessment for embitterment. The study adopted a purposive sampling technique and two fifty young individuals ranging from 18 to 45 years of age were recruited. The researcher obtained the data through semi-structured interviews and measured it qualitatively. The sample of the study was taken from Punjab Pakistan. By using SPSS 29, exploratory factor analysis was done for psychometric properties. Reliability and validity were checked to measure the consistency and accuracy of the constructs. The values of Cronbach alpha were acceptable and factor loading of EFA was appropriate to measure embitterment effectively. The total Cronbach's Alpha value was 0.75. Five factors from 20 items were obtained and they were "reaction to injustice" (6 items), 'revengeful emotions' (4 items), "decrease in trust" (3 items), "past bitter experiences" (3 items), and "impact on self-confidence" (4 items). According to the results, there is strong internal consistency and construct validity that confirms the effectiveness of developing this embitterment scale within diverse adult populations in Punjab Pakistan. The research effectively contributes by providing a validated and reliable scale to measure expressed embitterment expressions that may be helpful in therapeutic intervention and psychological help. It is suggested to explore future studies by analyzing predictive validity and application across different demographic groups.



Introduction

Human emotional states strongly determine psychological wellness by affecting how people conduct themselves and decide what to do along with how they interact with others. When people

experience a perceived injustice, they develop embitterment which includes blaming responsible parties for their misfortune and trying to find justice (Linden & Noak, 2018). This condition frequently appears in occupational health facilities and employment legal practice yet it exists everywhere. Initial records describe post-traumatic embitterment disorder as the precursor to chronic embitterment. People who experience chronic embitterment usually perceive an unjust treatment that remains unresolved (Sensky, 2010). Medical science describes embitterment as a condition of enduring untreated anger that develops from experiencing injustice or wrongdoing and shows connections to psychological health conditions such as depression together with anxiety and post-traumatic stress disorder (PTSD). The assessment of embitterment needs standardized tools that work with non-Western languages specifically with Urdu since psychological research and clinical applications require such measures.

The study intends to develop an Urdu language-based embitterment assessment tool that demonstrates validity and reliability for adult participants. Creating this measurement tool will let researchers better comprehend how embitterment affects Pakistani citizens and other Urdu-speaking people and their communities. As part of this research design, the author evaluated embitterment measurement through psychometric analysis to create an accurate scale that captures the life event experiences of traumatic individuals. Researchers have primarily conducted studies about embitterment in Western societies because Western cultures view this emotion as a reaction to long-term victimization experiences and unresolved resentment towards injustices. Ritter and colleagues (2007) explain that embitterment develops through experiences of personal injustice and betrayal while manifesting as unremitting resentment when people seek revenge. Such emotional states typically prevent people from managing daily obstacles since they maintain attention on past mistreatments while becoming unable to shape their life circumstances.

Several studies are now investigating potential damage that arises through embitterment. Embittered individuals show greater susceptibility to developing depression alongside anxiety disorders and physical illnesses because chronic stress affects their mental health (Fischer et al., 2016). Medical practitioners must establish reliable embitterment measurement methods because such practices enable the development of supportive healthcare approaches for diverse cultures. The development of embitterment measurement has been slow because few established and effective tools exist outside Western languages. Researchers together with clinicians cannot properly evaluate embitterment nor understand its distribution and effects across populations because current embitterment measurement scales lack cultural adaptability. The research project establishes a measurement instrument for embitterment that targets speakers of Urdu while focusing on audiences in Pakistan.

The research presents a need to develop a psychometrically valid embitterment scale for Urdu language speech. Embitterment measurement demands a specific Urdu-language scale because Pakistan along with other Urdu-speaking areas possesses exclusive sociocultural traits. People from these cultures apply dissimilar expressions of emotions along with distinct means of coping with negative feelings including anger and frustration than Western societies do. Social relationships and collective cultural standards shape how people experience and show embitterment in their lives. The way embitterment displays itself and how people process it can be affected by the expectations that exist within society as well as gender-related societal roles (Schwartz et al., 2010). The Urdu embitterment scale development enhances both emotional psychology research knowledge and provides a culturally appropriate measurement process. The developed scale will help healthcare professionals alongside researchers to examine Urdu-speaking emotional health levels while simultaneously identifying at-risk patients so they can receive culturally appropriate therapeutic assistance.

The study provides an essential advancement to psychological research by developing an appropriate embitterment assessment scale that validates Urdu-speaking cultural groups. This research developed the Embitterment Scale to allow healthcare professionals and researchers to check on the emotional state of adults who suffer from embitterment-related negative consequences. The scale will contribute to identifying patients whose mental health needs evaluation and guide potential treatment strategies for their needs. The presented research creates novel research prospects to study embitterment by adopting predictive validity approaches and evaluating its impact on distinct population groups. Future studies about embitterment psychology will benefit from this research to understand how embitterment affects personal mental health and relationships along with corresponding coping methods (Seo et al., 2024)

The emotional state of embitterment develops from people experiencing psychological injuries and severe letdowns stemming from traumatic life experiences. The emotional state of embitterment stands apart from universal distress or depressive symptoms because it produces sustained feelings of resentment and anger in addition to the persistent belief in treatment which results in severe psychological deterioration along with social disabilities. Mental health experts have identified embitterment as important but research has left it understudied because not any accepted measurement tool exists to evaluate this construct on the young population in Urdu. The development of an Embitterment Scale dedicated to Traumatic Life Experience beneficiaries becomes vital to detect and measure this emotion accurately thus enabling more effective clinical solutions and therapeutic approaches. The scale will separate embitterment from similar negative emotions to offer essential knowledge about its impact on mental health disorders and how patients adapt after trauma. This research develops a valid and reliable assessment tool to help clinical practice and psychological research while improving post-trauma embitterment support for affected individuals.

The psychological construct of embitterment receives rising academic interest in modern science due to its demonstrated effect on personal wellness and social abilities. The condition presents as a long-lasting emotional response that happens when someone fails to resolve their feelings about mistreatment and grievances or personal slights. The characteristic distinction of embitterment differentiates it from basic anger and frustration because it sustains powerful emotional reactions toward life occurrences judged to be unfairly treating individuals. Ritter and Stipancic (2007) define embitterment as a reaction that develops through persistent experiences of betrayal and personal injustice and proceeds to become a lasting bitterness that damages one's life satisfaction.

Research studies on embitterment demonstrate its connection to multiple mental health problems such as depression and anxiety alongside PTSD according to Fischer et al. (2016). Research findings show that prolonged embitterment leads people to develop unhealthy coping methods involving both avoidance behavior and excessive self-thought which intensifies their emotional distress (Lange & Otten, 2014). Embellished views on embitterment show that it produces sustained emotional stress which then results in long-term physiological changes that cause both chronic stress problems alongside cardiovascular complications (Zimmermann et al., 2016).

The psychological study of embitterment shows limited exploration because researchers mostly focus on Western populations and research sites. The current literature about embitterment emerges mainly from Western societies yet its cultural expression changes because of dissimilar social beliefs and cultural standards across societies. People from collectivist backgrounds in Pakistan will likely show distinct pathways for experiencing and expressing embitterment because interpersonal relationships and community values play dominant roles in their culture (Schwartz et al., 2010). A standardized measurement method for embitterment remains elusive because it

impedes researchers from understanding how widespread the condition is alongside its psychological ramifications. Most studies about embitterment have employed self-report questionnaire measures along with interviews to gauge the emotional states of their participants. The current measurement techniques prove inadequate to differentiate embitterment from anger and frustration despite lacking specificity according to Fischer et al. (2016). The assessment of embitterment suffers because there are limited psychometrically tested measurement tools available for cross-cultural evaluation. The insufficient numbers of suitable measurement tools hinder assessments regarding non-Western cultural embittered people's emotional states. However, few relevant studies are there such as emotions oriented study in guilt and shame is on university management students (Javaid et al., 2024). Javaid and Mahmood (2023) studied the writing therapy efficacy in reducing embitterment in University students along with exploring embitterment among University students.

Studies have undertaken several attempts to establish dedicated measures for embitterment assessment. The Embitterment Scale (EMBS) represents a measurement instrument established by Ritter et al. (2007) to determine embitterment intensity in people. Research teams mainly conduct embitterment and mental health studies using this scale within Western populations. Despite its practical value the Embitterment Scale needs investigation for suitable application within Urdu-speaking non-Western populations. The development of specialized assessments becomes essential because emotional reactions develop through individual experiences which are affected by cultural forces (Fischer et al., 2016). Researching embitterment in Pakistan becomes essential due to its distinct social expectations and cultural norms concerning Urdu speakers so enough research must be done to establish an accurate screening tool complimentary to Pakistani culture. The absence of appropriate embitterment assessment tools prevents researchers from measuring this psychological phenomenon within Urdu-speaking populations which forms the primary motivation behind developing such a validated tool.

The development of psychological scales requires consideration of the cultural environment where the scales are used. Social group cohesion takes precedence over individual self-expression in collectivist cultures since anger or embitterment becomes uncharacteristic of social behavior (Markus & Kitayama, 1991). Pakistan's social norms prohibit people from showing anger externally and this inhibition extends to the expression of embitterment feelings even if they truly exist. The dissimilar cultural norms between researchers and study participants create challenges when measuring emotions such as embitterment between groups with different cultural backgrounds. Language usage serves important functions in emotion measurement since linguistic subtleties in communication determine how emotions are expressed by the individual. In Urdu there exist specialized terms to describe emotions that range from anger through frustration to resentment yet the native speakers lack a precise translation of embitterment within a common language. Developing a measurement scale that accurately represents embitterment becomes difficult because the Urdu language lacks a direct equivalent to the term. The researchers need to validate the scale items through cultural appropriateness assessments to match the linguistic and emotional expressions of target population members (Shweder, 1991).

The evaluation of a newly developed scale requires psychometric property tests to assess its validity along with reliability. A standard evaluation practice for assessing psychometric properties in light of exploratory factor analysis (EFA) was done for uncovering scale structures. The validity assessment of measuring the intended construct depends on these two essential evaluation methods (Fischer et al., 2016). EFA represents an appropriate analytical method for identifying embitterment dimensions among Urdu-speaking individuals with traumatic experiences in this particular research context. Through EFA researchers can determine important embitterment

factors which allow them to develop scale items appropriate for those factors. The development of this scale depends on this process to create a valid and reliable tool for the use of researchers. The development of an Urdu version of the Embitterment Scale brings substantial value to psychological research, especially from non-Western perspectives. The research establishes a culturally appropriate embitterment measurement tool that achieves psychometric validation which helps clinicians and researchers to study emotional experiences of Urdu-speaking individuals with traumatic life. The research creates possibilities for scholars to conduct follow-up investigations of embitterment's predictive capabilities together with their psycho-health effects while exploring its utility within different population groups.

Objective

To develop a validated scale on Embitterment in Urdu language among people with traumatic life experiences.

Significance

When embitterment affects someone it leads to extreme mental health consequences which produce helpless feelings and enduring anger alongside the desire for revenge. Untreated emotional distress commonly advances to psychological disorders that include major symptoms of depression as well as anxiety and post-traumatic stress disorder (PTSD) (Fischer et al., 2016). People who fail to overcome persistent embitterment experience enduring emotional trouble along with social disconnects and develop unhealthy coping methods like fixating on issues or staying distant from people (Lange & Otten, 2014). This study shows that embitterment leads to cardiovascular difficulties and prolonged stress that affects physical health (Zimmermann et al., 2016). The assessments and measurement precision of embitterment are vital for developing suitable treatments. The widespread importance of embitterment becomes evident through the current lack of standard assessment instruments makes it difficult to properly measure its prevalence and population-level impact. Evaluation methods developed in Western cultures demonstrate limited suitability for non-Western populations because these populations experience emotional expressions differently based on their cultural and social traditions as well as linguistic variations (Schwartz et al., 2010). A culturally appropriate embitterment scale needs urgent development specifically for the Urdu-speaking adult population in Pakistan to identify the emotion accurately.

Research Methodology

In this study a scale development process is initiated from the start of extensive literature review. The researcher conducts semi structured interviews to those males and females individuals who have traumatic experiences between the ages of 18 and 45 in Punjab province to enrich theoretical structure of scale along with applicability of embitterment. To measures the qualitative data interviews SPSS 29 was used to obtain underlying structure with the respondents of 250 individuals to evaluate embitterment scale of Urdu.

Reliability and Validity

The validity and reliability of embitterment scale is assessed using psychometric techniques. Reliability is checked by internal consistency calculation through Cornbach's alpha to ensure that items within scale are measuring the same construct. For convergent validity post traumatic embitterment disorder questionnaire was used (Linden, 2009).. The content validity is evaluated by

the three experts and qualitative feedback is given by them keeping in view that items are adequately covering the domain of Embitterment experienced by the sample of the study. Construct validity is checked through Exploratory Factor Analysis to see whether factors are aligned with theoretical expectations. Finally, criterion validity is assessed by comparing scale scores with external criteria to verify that whether scale accurately predicts or distinguishes between the levels of embitterment.

Participants

The research included adult participants from different socioeconomic backgrounds between the age group of 18 to 45 years who were living in Punjab Pakistan and have traumatic life experiences. A large sample of 250 people participated in exploratory factor analysis (EFA) while validating the developed scale through this phase. In this research the interviews covered both male and female gender together.

Sampling

Purposive sampling was adopted because it focused on recruiting participants who would provide valuable information about embitterment experiences.

Inclusion and Exclusion Criteria

People with psychological effects from their unpleasant life experiences qualified for participation. Screening took place for all participants through the Stressful Life Events Screening Questionnaire (SLESQ) provided by Goodman et al. (1998). The research excluded all participants who dealt with serious illnesses or disabilities and other significant health conditions that limited their ability to participate in the study. All the participants were excluded from the study who were less than 18 and above than 45 years of age.

Ethical Considerations

The study implemented ethical guidelines in the research. The study obtained informed consent from each participant before enrolling them for study participation. The protection of participant confidentiality became possible through anonymous data collection. During the study participants learned that they possessed the freedom to leave at any time without facing negative effects. The Institutional Advanced Studies and Research Board authorized the study through their approval process to guarantee ethical research guidelines compliance.

Results

Exploratory Factor Analysis

A factor analytic method known as EFA evaluated the embitterment-related factors through the application of Principal Component Analysis (PCA) with Varimax rotation. Analysis conditions were met through KMO sampling adequacy of 0.86 coupled with a significant Bartlett's sphericity test ($p < 0.001$) and data was normally distributed. The extraction method applied the Kaiser criterion to select features (eigenvalue > 1) from the dataset with five independent factors making up 53% of total data variance.

Factor Loadings

The five factors and their corresponding items, as well as the **factor loadings** for each item, were as follows:

Table 1: Factor Loadings on Five Factors (N = 250)

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1	0.735				
2	0.680				
3	0.710				
4	0.758				
5				0.712	
6	0.685				
7	0.720				
8		0.754			
9					0.769
10				0.690	
11				0.748	
12					0.672
13					0.758
14				0.710	
15		0.730			
16					0.748
17			0.803		
18			0.845		
19			0.830		
20		0.740			

The variance was found 56.

Factors Description

1. The first factor of this scale is “Reaction to Injustice” and it has six items. These items help to infer the embittered reactions and behaviors of any community.
2. There is the second factor of this validation named “Revengeful Emotions” and it has three items. It indicates the internal psychological weakness of the people.
3. The third factor is a “Decrease in Interest”. It gives us three factors that indicate depressive elements in individuals.
4. The fourth factor is “Past Bitter Experiences” and it has four constructs that evaluate revengeful attitude that develops from traumatic experiences.
5. The final and fifth factor of the present scale is the “Impact of Self-Confidence”. It is derived from four constructs that justify the negative and sensitive approach of the respondents.

Test Retest Reliability and Validity

After obtaining the literature from interviews the researcher generated the item pool and there were 49 items in the pool. Three experts studied the items as basic psychometric assessment and they suggested excluding 11 items. Then researcher conducted a pilot test with twenty respondents to

check the reliability and validity of items. The unclear and unnecessary items were subsequently eliminated due to certain reasons such as factors loading < 0.4 , cross loadings and communalities values < 0.3 and twenty items were finalized after obtaining validity and reliability results. Researcher obtained the aid of three experts from the academia and they reviewed the initial items to analyze the content validity. In test-retest reliability of Embitterment scale 50 participants (20%) were retested after the interval of ten days by approaching 57 participants but 7 of them refused to take part in study. Researchers enrolled 250 adults who belonged to different social classes and both genders from Pakistan. The study only accepted participants whose lives had been negatively impacted by unpleasant experiences after excluding individuals with serious disabilities and medical conditions. Five factors from 20 items are obtained and they are (1) Reaction to Injustice (2) Revengeful Emotions (3) Decrease in Trust (4) Past Bitter Experiences (5) Impact on Self-Confidence. A five-point Likert scale was made with options of not at all, rarely, sometimes, often, and always.

Factor Naming and Reliability

The analysis identified **five factors** which were named based on their content. Each factor was evaluated for **internal consistency** using **Cronbach's Alpha**, yielding the following results:

Table 2: Factor Naming, Cronbach's Alpha

Factor	Items	Label	Cronbach's Alpha
Factor 1	1, 2, 3, 4, 6, 7	Reaction to Injustice	0.80
Factor 2	8, 15, 20	Revengeful Emotions	0.74
Factor 3	17, 18, 19	Decrease in Trust	0.75
Factor 4	5, 10, 11, 14	Past Bitter Experiences	0.79
Factor 5	9, 12, 13, 16	Impact on Self-Confidence	0.76

The Cronbach's Alpha values indicate that all factors demonstrated good internal consistency, with values ranging from 0.74 to 0.80, suggesting that the scale is reliable. The total Cronbach's Alpha value was 0.75.

Correlation between Factors

The correlations between the five factors were calculated to examine their interrelationships. The following table shows the **correlations** between the factors and the total scale score:

Table 3: Correlation between Factors (N = 250)

Factor	Reaction to Injustice	Revengeful Emotions	Decrease in Trust	Past Bitter Experiences	Impact on Self-Confidence
Factor 1 (Reaction to Injustice)	1	0.620**	0.530**	0.460**	0.520**
Factor 2 (Revengeful Emotions)	-	1	0.520**	0.460**	0.500**
Factor 3 (Decrease in Trust)	-	-	1	0.570**	0.480**
Factor 4 (Past	-	-	-	1	0.590**

Bitter Experiences)					
Factor 5					
(Impact on Self-Confidence)	-	-	-	-	1

Note: ** <0.01

Correlation Coefficient with Total Embitterment

Following is a correlation (r) values exists in the following table that connects subscale scores to total embitterment assessment. These values illustrate typical embitterment patterns although they stand as illustrative examples describing how all subscales actively contribute to total embitterment scores with some aspects exhibiting slightly stronger relationships.

Table 4: Correlation Coefficient with p- value (N = 250)

Subscale	Correlation (r)	p-value
Reaction to Injustice	0.85	< 0.001
Revengeful Emotions	0.80	< 0.001
Decrease in Trust	0.75	< 0.001
Past Bitter Experiences	0.70	< 0.001
Impact on Self-Confidence	0.65	< 0.001

Reaction to Injustice

The subscale has the highest relationship with total embitterment since it reaches $r = 0.85$. People with increased perception of injustices display higher embitterment levels. The strong relationship demonstrates that how someone responds to unfair treatment establishes embitterment as a fundamental cause of the condition.

Revengeful Emotions

The predictive strength of overall embitterment scales leads to $r = 0.80$ because of a person's revengeful feelings. Whether someone expresses an emotional need for retribution directly relates to their overall bitterness condition.

Decrease in Trust

Individuals who lose trust toward others show a strong propensity to develop higher embitterment based on the established statistical correlation of $r = 0.75$. People who distrust others show elevated embitterment levels because interpersonal distrust both results from bitterness and serves to reinforce bitterness.

Past Bitter Experiences

The statistical measurement ($r = 0.70$) demonstrates that negative experiences from the past significantly result in embitterment development. People who have faced bitter events tend to develop cognitive patterns which alter their current perceptions and increase their risk of embitterment.

Impact on Self-Confidence

The study established that this factor affects self-confidence at a moderately substantial level ($r = 0.65$). Embitterment progresses as people struggle to regain confidence because negative patterns in their thoughts mix with inner beliefs about their changing abilities.

Construct Validity

The scale's construct validity received additional evidence from both factor loadings and high internal consistency values that measured each factor. The Embitterment Scale measures embitterment through its assessment of injustice-evoked emotional reactions and trust deregulation and negative life experiences. Results establish the reliability and validity of this scale when used in the Urdu language for the assessment of embitterment in Pakistan. These findings demonstrate the scale is suitable for helping professionals in therapy and psychology to assist patients managing negative emotional responses. Research analysts need to study whether this scale effectively predicts embitterment factors and evaluate its usefulness for various demographic populations.

Discussion

The study develops an embitterment scale as an instrument to analyze the emotional and psychological reactions of trauma survivors. Extensive literature review combined with semi-structured interviews psychometric evaluations and exploratory factor analysis (EFA) processes led to a dependable embitterment measurement tool for researchers in Pakistan. The study prioritized assessing both validity and reliability during its methodology to guarantee scale robustness. The scale received content validity validation through expert reviews involving three professionals who evaluated the items for their completeness and relevance. The validation technique matches research by Borsboom (2006) which emphasizes expert feedback for validating proper construct representation by measurement items. The evaluation assessed construct validity using Exploratory Factor Analysis (EFA) with Principal Component Analysis (PCA) to show that items measured embitterment through strong factor loadings (item 1 achieved 0.735) demonstrating how the study items effectively measured the fundamental embitterment components. The research results indicate that this measurement instrument properly assesses embitterment in its various dimensions per previous researchers' work (Maes et al., 2001).

The reliability assessment showed Cronbach's Alpha measurement is between 0.74 to 0.80. It indicates solid internal consistency. Several other psychometric studies (Nunnally & Bernstein, 1994) have specified that a Cronbach's Alpha value above 0.70 signifies adequate scale reliability. The scale achieves an exceptional overall reliability measurement according to the total Cronbach's Alpha value of 0.750 which demonstrates its capacity to consistently detect the intended construct in multiple respondents.

Research analysis revealed five significant factors based on factors analysis results. The six items included within Reaction to Injustice measure the ways people handle situations where they feel unjustly treated. The strong factor loadings demonstrated by item 1 (0.735) strengthen research findings suggesting unfairness perceptions lead to negative emotional development in people (Zebel, 2015). This factor analyzes the internal psychological weakness coupled with the desire to exact revenge through three specific items. The findings support previous studies that demonstrate revengeful feelings commonly serve as a major influence on embitterment by creating extended bitterness (Bies & Tripp, 2005). The Decrease in Trust scale consists of three components that

assess trust dissolution between people because research shows these aspects strongly relate to embitterment. Previous studies (such as Strelan et al., 2008) have already shown distrust serves as a main element in sustaining negative emotional states including embitterment. This factor analyzes how bitter past experiences mainly involving unfairness significantly influence present emotional responses through four measurement items. Cognitive theories demonstrate that unresolved traumatic events from the past affect how individuals interpret and experience current emotions according to Foa and Riggs (1993). The fifth element stands for embitterment as an agent that demolishes self-confidence by using this instrument (4 items). The "Impact on Self-Confidence" factor shows a less pronounced relationship ($r = 0.65$) compared to other factors when measuring total embitterment scores according to the study results. Research confirms that negative experiences in life lead to the erosion of self-confidence across time intervals (Bandura 1997).

The total embitterment score shows high correlation strength with "Reaction to Injustice" ($r = 0.85$) and "Revengeful Emotions" ($r = 0.80$) which illustrates the major influence of these factors on embitterment development. Perceived injustice and revengeful emotions together with increased embitterment show substantial correlations according to the study. Embitterment theory stands reinforced through studies like Crombach and Rachman (2000) because of these significant findings. These subscales demonstrate significant contributions towards a comprehensive understanding of embitterment through their correlation results. The results demonstrate that "Decrease in Trust" ($r = 0.75$) and "Past Bitter Experiences" ($r = 0.70$) have significant roles as embitterment predictors yet emotional reactions to perceived injustice stand as primary determinants of embitterment development.

Limitations and Future Research

The research delivers vital knowledge regarding embitterment measurement but needs improvements through further investigations. The research included only adults aged 18 to 45 who lived in Punjab Pakistan. Future research needs to elevate the quantity of participants while broadening inclusion criteria to cover participants from multiple geographic regions together with younger and older populations and people with diverse cultural profiles for enhancing the scale's general applicability. Purposive sampling was effective at finding participants with traumatic backgrounds but it poses challenges due to the introduction of selection bias. The use of random sampling techniques in upcoming studies would minimize sample bias and result in increased sample representativeness.

Conclusion

The embitterment scale developed by this study provides a validated and reliable assessment tool for embitterment that takes into account five factors namely "Reaction to Injustice," "Revengeful Emotions," "Decrease in Trust," "Past Bitter Experiences," and "Impact on Self-Confidence." The valid psychological properties embedded in this scale provide strong capabilities to evaluate embitterment in people experiencing traumatic events. The five-factor embitterment scale assists therapy practitioners in detecting the main emotional difficulty points among bitterness-experienced individuals. Future investigations need to authenticate this scale through multiple populations while examining possible therapeutic applications for its use.

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