Development and Validation of the Closure and Resolution Scale (CRS)

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Abstract

This research comprises three studies centered on the development and validation of a self-report measure of psychological closure and resolution, the Closure and Resolution Scale (CRS). Study 1 used exploratory factor analysis (EFA) in two samples to probe the factor structure for closure using original (Study 1a *N*=284) and revised (Study 1b *N*=158) item pools. Study 2 (*N*=159) examined model fit using confirmatory factor analysis (CFA) and revealed a good-fitting simple structural solution. The CRS consists of 34 items assessing six facets of event resolution: (1) finality, (2) understanding, (3) felt distance, (4) emotional relief, (5) mental release, and (6) behavioural deactivation. Study 3 (*N*=182) examined convergent and discriminant validity for the CRS and provided evidence of construct validity. Participants resided in North America and primarily identified as White (68.7%-77.5%), male (44.3%-59.3%) or female (40.1%-55.7%), with post-secondary education (69.3%-71.7%). We offer a novel measure of psychological closure and resolution with preliminary evidence of good psychometric properties.

Keywords: closure, resolution, autobiographical memory, scale construction, scale validation

General Summary

Psychological closure is commonly understood as a desirable end-state, a feeling of resolution, following a difficult event, such as a serious argument, break-up, accident, or illness. Memories of unresolved events (open memories) can produce strong negative emotions in the present, even if they happened long ago. Recalling the loss of a loved one, for instance, might conjure a sinking feeling in the pit of one's stomach, regret, anger, hurt, or recurring thoughts about why it happened and what to do about it. If left unresolved, these experiences can critically affect mental health and well-being, leading to increased anxiety, stress, physical strain, depression, and trauma-related symptoms. It is perhaps no surprise that unresolved issues are a primary motivator for purchasing self-help materials and seeking professional services, which can be costly and time-consuming. Still, despite its broad appeal and adaptive value, closure remains poorly understood, in large part because it has been inconsistently defined across studies and existing measures have not been empirically validated.

This research offers the first validated measure of psychological closure and resolution - the *Closure and Resolution Scale (CRS).* The CRS is a questionnaire consisting of 34 statements, rated from 'strongly disagree' to 'strongly agree', that assess cognitive, emotional, and behavioural indicators of state closure for personal events (e.g., "*I have complete closure on this event*", "*This event feels resolved*"). We present a comprehensive definition of psychological closure that aligns with and integrates existing descriptions in the literature. Crucially, we provide a needed practical tool for assessing closure and resolution in academic and applied health settings (e.g., post-therapy session), where valid and reliable measurement is essential. With a sound measure of closure in place, it becomes possible to better understand this vital state and identify ways of helping people attain it.

Development and Validation of the Closure and Resolution Scale (CRS)

When a difficult event happens, like the loss of a relationship or serious illness, people often struggle to find *psychological closure*. Psychological closure is commonly understood as a desirable end-state, a feeling of resolution, following a troublesome event. Appraisals of closure for personal events heavily depend on how they are mentally represented, experienced during recollection, and meaningfully integrated within one's self-concept and life narrative (Habermas & Bluck, 2000), all of which involve basic cognitive systems that modulate memory recall (Berntsen, 2009). In relation to self-memory system theory (Conway & Pleydell-Pearce, 2000), closure may reflect alignment amongst the working self (active goals and self-images influencing the retrieval and construction of autobiographical memories) and autobiographical knowledge base (organization of personal experiences, from specific events to lifetime periods). Importantly, closure, or the lack thereof, for remembered events holds important implications for imagined future experiences (Schacter & Addis, 2007). Simply put, appraisals of closure are intricately tied to motivated retrieval processes, mental representations of events, and more expansive notions of self over time.

Indeed, closure has been conceptualized as a memory phenomenon due to findings showing that unfinished (vs. finished) tasks tend to be better recalled (Lewin, 1927), and open[1] (vs. closed) memories tend to be involuntary or intrusive (Ergen & Gulgoz, 2023) and incite strong emotions in the present, even if they happened long ago (Beike & Wirth-Beaumont, 2005; Crawley, 2010). Open memories, then, are not simply memories of *events* that were emotionally arousing in the past*;* they are emotionally arousing *memories* of events in the present (Beike & Wirth-Beaumont, 2005). In other words, open event-memories vie for attention and cognitive resources, and the way people *feel during recall* is key to appraisals of closure. Recalling the loss of a loved one, for instance, might

[1] The terms 'open' and 'closed' are not intended to communicate an absolute dichotomy. Rather, appraisals of closure are thought to exist on multifaceted continua ranging from low to high.

conjure a sinking feeling in the pit of one's stomach, regret, anger, hurt, or recurring thoughts about why it happened and what to do about it.

Closure has long interested scholars, practitioners, and laypersons alike due to its purported relation to beneficial outcomes, particularly in the wake of traumatic or life-altering experiences (e.g., Albert, 1983). Without closure, people often experience self-blame or regret (Smart et al., 2016), low self-esteem (Beike et al., 2004), added stress (Park, 2010), involuntary remembering (Ergen & Gulgoz, 2023), and maladaptive coping (Moulds et al., 2007), all of which can detrimentally impact mental health (leading to or exacerbating anxiety, trauma-related, and depressive symptoms; e.g., Joormann & Gotlib, 2010). To make matters worse, instinctive efforts to "think through" events frequently backfire to perpetuate distress (Nolen-Hoeksema et al., 2008). Unsurprisingly, open event-memories remain a primary motivator for seeking professional services, which can be costly, time-consuming, and further increase demands on overburdened healthcare supports (Manthei, 2005).

Crucially, despite its broad intuitive appeal and adaptive value, the construct of closure remains poorly understood, in part, because it has been inconsistently defined and assessed. For instance, closure has been said to involve appraisals of events as complete, better understood, further away, less cognitively demanding, less emotionally bothersome, and less likely to prompt closure-seeking behaviours (Beike & Wirth-Beaumont, 2005; Beike et al., 2007; Savitsky et al., 1997), yet there are no validated measures capturing these facets of closure. Elucidating this vital state requires careful consideration of conceptual scope and a psychometrically sound measure.

To this end, we offer three studies on the development of a self-report measure of autobiographical event resolution, *The Closure and Resolution Scale (CRS)*, for use in academic and applied contexts (e.g., post-therapy session). Study 1 used Exploratory Factor Analysis (EFA) to probe the structure of closure; Study 2 used Confirmatory Factor Analysis (CFA) to test model fit;

and Study 3 assessed construct validity by examining correlations with theoretically related and unrelated constructs.

Study 1: Exploring the Factor Structure for Closure

Scale construction began with a comprehensive review of definitions and theoretical contexts for closure (Clark & Watson, 1995).

Conceptualizing Closure

Closure has been operationalized differently depending on the target event and subject. For instance, closure has been discussed in terms of perception (contour closure; White, 1954), societal resolution (symbolic closure; Hamber & Wilson, 2002), political equilibrium (Skitka et al., 2004), end-of-life adaptation (life closure; Dobratz, 2004), goal-fulfillment (regulatory closure; Baas et al., 2011), task completion (Savitsky et al., 1997), consumer decision-making (choice closure; Gu et al., 2013), TV finales (Nussbaum, 2013), relationships (Eads, 2008), and dispositional needs for closure (Webster & Kruglanski, 1994). Related constructs include reconstrual (deriving meaning from negative events; Kross et al., 2012) and resolution of stressful events (Turner & Avison, 1992), including interpersonal conflict (Makinen & Johnson, 2006) and sexual abuse (Wright et al., 2007).

The term originates from the Gestalt principle of closure, which describes the automatic tendency to synthesize incomplete perceptual units into wholes. This motive extends to behaviour and emotion, as in "the act, achievement, or sense of completing or resolving something" (VandenBos, 2015, p.196). In psychotherapy, closure is said to be achieved when clients have reconciled a personal issue, event, or memory. Colloquially, closure signifies a desirable end-state following a difficult event (e.g., break-up) and often entails an active search for missing information. Once achieved, people are then free to redirect their energies to other concerns. As stated by Albert (1983):

> …a sense of psychological closure to temporal events implies more than that they have ended; it implies a sense of harmonious completion. It is this sense of harmonious completion, of balance and equilibrium restored, of tension reduced, that allows the pursuit of new challenges and activities. (p. 159)

Albert (1983) has highlighted additional characteristics of closure, including temporal embeddedness (having a beginning and end in history; a complete story), positive sentiment, temporal continuity (past to future), optimistic forecasting, symbolic retention, rationalization, summation (historicizing), reduced importance, separation from self, temporal remoteness, and acceptance. Notably, Albert acknowledged separation amongst mental representations of events and the present self. Others have likened closure to appraisals of events as sufficiently understood, complete, and part of the past (Beike et al., 2007), with less rumination and regret (Savitsky et al., 1997). According to Beike et al. (2010), "closure is not inherent in the person, or in the experience, but rather is a consequence of the construction of the autobiographical memory at recollection" (p.41). Indeed, memory phenomenology may characterize closure: At recall, closed (vs. open) memories tend to be less agitating (Beike & Wirth, 2000), less emotional (Beike & Wirth-Beaumont, 2005), less action-prompting (Beike et al., 2007), and feel more distal (Rim et al., 2013). The space-context of closure is also evident in everyday expressions like, "moving on" or "getting over" an event. Taken together, the preceding literature suggests a broad multifaceted definition of closure:

> The mental segmentation, sealing off, or containment of part of one's experience in subjective space and time, marked by appraisals of resolution or conclusion; contextualized or more complete understanding; emotional relief or equilibrium, felt distance from the present/ belonging more to the past; reduced preoccupation; and a reduced desire to engage in closure-seeking behaviours.

This preliminary definition emphasizes subjective indicators of resolution that are assumed to change as mental representations of events change. Thus, appraisals of closure may draw upon features of events as they are recalled and/or aspects of experience during recollection.

Existing Measures of Closure and Related Constructs

Previous research on closure employed brief (some single-item) measures with unknown psychometric properties, different rating scales, and items reflecting select and varied aspects of closure. For instance, Skitka et al. (2004) used items referring to a readiness to "move on" and "turn my attention to other problems," (p.749); and Beike and colleagues (2007) added an item regarding a desire to "figure out why the experience happened" (p.383). Savitsky et al. (1997) referenced resolution, completeness, reduced action, reduced rumination, "ancient history," and "water under the bridge" (pp.249-250), and Beike and colleagues discussed closure as the "extent to which the resulting autobiographical memory is emotional" (Beike & Wirth-Beaumont, 2005, p.575), however, items used did not clearly reflect these ideas.

Measures of related constructs, like coherent resolution, entail experimenter ratings, or coding schemes, that reflect the degree to which individuals are no longer ''stuck'' in the consequences of their experience, and stories of closure showing "a capacity to experience positive emotion, and a lack of unresolved issues and emotions," and a "definitive, resolved ending" (Adler & Poulin, 2009; p.915). These authors distinguish closure from denial and numbing by the presence of "threat, struggle, or effort" (p.915). Closure is also embedded in definitions of coherent positive resolution (Pals, 2006): "The construction of a coherent and complete story of a difficult event that ends positively, conveying a sense of emotional resolution or closure" (p.1082).

With a broad preliminary conceptualization of closure, as informed by the preceding literature, we then turned to exploring its underlying factor structure.

Study 1 Methods

Study 1 comprised two studies using identical methods (EFA). Favouring content oversaturation, the original item pool pertained to: (1) explicit resolution, (2) positive sentiment, (3) distance, (4) understanding, (5) emotional deactivation, (6) reduced negative reaction, (7) reduced preoccupation, (8) reduced need to act, (9) experiential change, and (10) coherence/connectedness.

Study 1a tested the original closure item pool and Study 1b tested the revised pool, consisting of item revisions and additions. For all studies, we report sample size suitability for factor analysis, and all data exclusions, measures, and procedures. These studies were not preregistered.

Study 1 Participants

Participants were recruited using Amazon Mechanical Turk (MTurk). Following data cleaning, Studies 1a and 1b included 284 and 158 cases, respectively. Turkitron (Foster et al., 2014) was used to verify that respondents were humans in North America who had never completed the study. Study 1a participants were 35.71 years on average (range=18-76, *SD*=10.82), primarily identified as female (50.4%) or male (48.6%), White/Caucasian (77.5%), and indicated completion of post-secondary education (71.5%). Demographics were similar for Study 1b: Participants reported a mean age of 36.23 years (range=18-75, *SD*=11.51), primarily identified as female (55.7%) or male (44.3%), White/Caucasian (77.2%), with post-secondary education (71.6%) (see Table 1).

Study 1 Measures

Psychological closure/resolution. Sixty-three items comprising the closure item pools were informed by existing measures that query closure, resolution, and related constructs (see Supplemental Material). For instance, Beike et al.'s six-item measure assesses resolution of a life regret (Beike et al., 2007; Beike & Wirth-Beaumont, 2005), with two items referencing 'unfinished business' or a 'closed book' (Savitsky et al., 1997). Items pertaining to emotional intensity, coherence, subjective distance (Boucher & Scoboria, 2015; 2020), and reconstrual (Kross et al.,

2012) were also included. Additional items were informed by narrative coding schemes (Adler & Poulin, 2009; Pals, 2006) and other descriptions of closure or resolution (e.g., Albert, 1983; Gu et al., 2013; Skitka et al., 2004; Turner & Avison, 1992). Items were anchored, 1 (*completely disagree*) to 7 (*completely agree*).

Ancillary items. Four validity items (e.g., "Click the third response option") were used to assess attention to the study. Two open-ended questions were included to allow participants to further describe their events and/or to provide feedback. Finally, a demographics questionnaire with open-response fields was used to query age, sex/gender, race/ethnicity, and education.

Study 1 Procedure

The studies took place online. Feedback pertaining to item clarity, phrasing, reading level, and fit for the construct was elicited from peers in the first author's research group (N=6). A pilot study in MTurk (N=25) indicated that the survey functioned properly (e.g., event cues and closure items were randomized, all pages were displayed) and questions were well-understood. Following consent, participants were asked to identify and rate one unresolved memory and one resolved memory, dated within 12 months of each other (Beike & Wirth-Beaumont, 2005; see Supplemental Materials). Event order was counterbalanced across participants: half of the sample selected and rated an unresolved event first, while the other half selected and rated a resolved event first. This cueing method was used to acquire a range of unresolved event-memories that varied in content and degree of closure (i.e., to promote sufficient variability in responding for the factor analyses).

After providing a short title for each event, participants completed the closure and validity items in a randomized fashion (to manage order effects), and the demographics questionnaire. The survey took an average of 17 minutes to complete (Study 1a, M=16.99, SD=12.40; Study 1b, M=16.78, SD=9.47). Procedures were cleared by the institution's Research Ethics Board.

Study 1 Analytic Strategy

Analyses were conducted using SPSS 25 (IBM, 2017). The data were screened for statistical assumptions, missing data, and valid responding (to event cues and validity items). Negatively-worded items were reverse-scored prior to the analyses. Suitability for EFA was determined using the Kaiser-Meyor-Olkin (KMO) measure of sampling adequacy (suitable if > 0.50), and Bartlett's Test of sphericity (suitable if statistically significant, $p < .05$).

EFAs employed Principle Axis Factoring (PAF) and direct oblimin rotation as extracted factors were expected to correlate. Factors were identified based on the convergence of multiple metrics: eigenvalues (>1; Kaiser, 1960), scree plot (Cattell, 1978), parallel analysis (Horn, 1965), and minimum average partial (MAP) test (Velicer, 1976). Items were eliminated or revised based on low extracted communality estimates (h^2 <0.35), low loadings (<0.34 for Study 1a, <0.40 for Study 1b), cross-loadings, redundancies, or further consideration of core features of the construct.

Study 1 Results

Study 1a Results

Data screening. Study 1a originally consisted of 297 cases. As the measure was aimed at assessing closure for unresolved events, only these events were analysed. Four cases were removed for failing the validity items, four were removed for not providing an event, and five were removed based on multivariate outlier estimates using Mahalanobis distance, $x^2(63) > 115.58$, $p < .0001$. All skewness and kurtosis values were acceptable (between $\pm$1.5). For the closure items, less than 2% of the data were missing and missing completely at random, Little's MCAR $x^2(3745) = 3734.12$, $p = .547$. Missing data were replaced using Expectation Maximization (EM). KMO (.932) and Bartlett's test ($p < .0001$) indicated the data were suitable for factor analysis.

Analyses. ANOVA tests indicated that order did not influence responding for resolved events, $F(1, 282) = 0.03$, $p = .872$; $M_{diff} = 0.02$, 95% CI [-0.18, 0.21], $d = 0.01$, but did for

unresolved events, $F(1, 282) = 9.10$, $p = .003$; $M_{diff} = 0.33$ [0.11, 0.54], $d = 0.26$. Those who selected an unresolved event first (vs. second) indicated higher average ratings on the closure items. Thus, the cueing method produced sufficient response variability for unresolved event-memories.

Given this early stage, a larger number of items and potential latent variables were retained. The original EFA yielded ten factors that cumulatively explained 64.24% of the total item variance. Sixteen items were removed according to the aforementioned criteria (e.g., items pertaining to self and identity, were deemed peripheral to the construct of closure). The remaining 47 items loaded onto eight factors that together accounted for 66.73% of the total variance. These factors were tentatively labelled: freeing finality, clear understanding, felt distance, emotional relief, reduced preoccupation, behavioural deactivation, changed perception, and personal meaning. Item means, standard deviations, factor loadings, communality estimates, and proportions of variance for the factors are noted in Table 2. The phrasing of some items was changed and new items reflecting closure were added for Study 1b (see Supplemental Materials for item exclusions and revisions).

Study 1b Results

Data screening. Study 1b originally consisted of 334 cases. Removals included five cases that failed the validity items, four that did not report an event, one with excessive missing responses (>16), and seven multivariate outliers based on Mahalanobis distance, $x^2(63) > 115.58$, $p < .0001$. Skewness and kurtosis values were acceptable (between $\pm$1.5). Missing data (0-1.2%) were missing completely at random, Little's MCAR $x^2(15235) = 15482.01$, $p = .079$, and replaced using EM. Half of the cases were randomly selected for Study 1b (N=158), and half were reserved for Study 2. KMO (.876) and Bartlett's test ($p < .0001$) indicated the data were appropriate for factor analysis.

Analyses. ANOVA tests indicated no significant effect of event selection order on closure for resolved events, $F(1, 156) = 0.142$, $p = .706$; $M_{diff} = 0.05$, [-0.21, 0.32], $d = 0.04$; or unresolved events, $F(1, 156) = 1.47$, $p = .228$; $M_{diff} = 0.18$, [-0.12, 0.49], $d = 0.14$.

The EFA on all 67 closure items revealed nine factors that explained 69.70% of the total variance. In order to create a succinct measure, thresholds for item elimination were raised slightly. Removals included items with communality estimates < 0.42 (14, 66), items that cross-loaded with multiple factors (85), items with factor loadings < .37 (4, 75), and items with correlations > .50 and content redundancy (16, 23, 29, 41, 60, 62, 74, 86). For each factor, items with the lowest loadings (14, 44, 47, 55, 66, 83) were removed until 4 or 5 items remained, with the exception of the Freeing Finality factor, which impressed as most face valid for the construct. Items referring to personal meaning (9, 10, 19, 20, 21, 22, 79, 80) and changed perceptions (34, 35, 36, 37, 38, 67, 68, 69) were also removed as they were later deemed peripheral to closure, the former having to do with event-identity connections, the latter having more to do with the *process* of attaining closure.

The remaining 34 items each loaded strongly onto one of six factors, and the factors together accounted for 72.55% of the total variance. Refer to Table 3 for factor labels, item loadings, communality estimates, eigenvalues, and proportions of variance for each factor. Item ratings within each factor were averaged to create subscale totals, with higher scores indicating greater closure. Skewness and kurtosis for items and subscales were acceptable (between $\pm$ 1.5).

The CRS subscales statistically significantly correlated with one another (r range = .22 to .71) and had high internal reliabilities (Cronbach's α range = .82 to .94; see Table 4).

Study 1 Discussion

Beginning with a broad multifaceted conceptualization of closure, we explored its underlying factor structure in two independent studies. The resulting model included six factors: freeing finality, clear understanding, felt distance, emotional release, mental liberation, and behavioural deactivation. These factors reflect aspects of closure described in prior research (e.g., completion, rationalization, temporal embeddedness, historical remoteness, positive sentiments, tension reduction, attention shifting; e.g., Albert, 1983; Beike & Wirth-Beaumont, 2005). Factor correlations supported separate

but related facets of closure, each with high internal consistency. Conclusions about the robustness of the model, however, required testing model fit.

Study 2: Testing Model Fit for the Closure and Resolution Scale (CRS)

To examine fit for the six-factor model, Study 2 used CFA on a separate sample. In line with common reporting practices (Boomsma, 2000; Kline, 2015), we used multiple indices to assess fit: (1) model chi-square (x^2), (2) normed chi-square (x^2/df), (3) root mean square error of approximation (RMSEA), (4) comparative fit index (CFI), and (5) standardized root mean square residual (SRMR).

Study 2 Methods

Methods were identical to those used for Study 1b, hence, we refer readers to Study 1b Methods for these details. Here, we describe the participants and analytic strategy for Study 2.

Study 2 Participants

The sample included 159 MTurk workers with a mean age of 36.25 years (range = 20-81, *SD* = 11.73), and characteristics similar to Studies 1a and 1b. They primarily identified as female (50.9%) or male (48.4%; 0.6% other/no response), White/Caucasian (75.5%; 10.1% Asian, 8.2% Black/African, 3.8% Hispanic/Latino, 1.9% multiracial, 0.6% other/no response), and indicated completion of post-secondary education (71.7%; 16.4% graduate, 10.7% high-school, 1.3% trades).

Study 2 Analytic Strategy

A CFA with maximum likelihood (ML) estimation (Kline, 2015) and Satorra-Bentler corrections (Satorra & Bentler, 2001) was conducted using R version 4.1.0 (R Core Team, 2021) and the *lavaan* package (Rosseel, 2012). KMO (.920) and Bartlett's Test ($p < .0001$) indicated the data were suitable for factor analysis. To gauge how well (or poorly) the proposed model fits the data, we used the following benchmarks: x^2 p-value > .05, x^2/df $\leq$ 5, RMSEA $\leq$ 0.06, CFI $\geq$ 0.95, and SRMR $\leq$ 0.11 (e.g., Bollen, 1989; Hu & Bentler, 1999). Cronbach's alpha was used to assess acceptable (.70 to .79), good (.80 to .89), or excellent (90 to .99) internal consistency reliability.

Study 2 Results

Table 5 details descriptive statistics and internal consistency reliabilities for the CRS subscale and composite ratings. For unresolved events, the composite mean was below the midrange of the 7-point scale (3.40), and subscale means ranged from 2.71 (Freeing Finality) to 4.55 (Mental Liberation). The CRS subscales demonstrated good-to-excellent internal reliability (α range = .82-.94), with the composite showing excellent reliability (α = .94).

Fit indices for the 34-item six-factor model all met the a priori cut-off criteria with the exception of the statistically significant chi-square estimate, which is highly sensitive to sample size (Bollen, 1989; see Table 6). Tables 7 and 8 detail latent factor and item statistics, respectively. The final model is illustrated in Figure 1.

Study 2 Discussion

Study 2 used CFA to examine fit for the 34-item six-factor model of the CRS that emerged in Study 1. Factors pertained to finality, understanding, felt distance, emotional relief, reduced preoccupation, and reduced need to act in search of resolution. Study 2 provided evidence of good model fit[2] and good psychometric properties for the CRS: all subscales and composite scores showed good-to-excellent internal reliability and strong item-factor loadings. Further validation for this measure of closure, however, called for an examination of how it related to existing constructs.

Study 3: Assessing Construct Validity for the Closure and Resolution Scale (CRS)

Study 3 investigated construct validity for the CRS by examining correlations with conceptually similar (convergent validity) and distinct (discriminant validity) constructs. In the context of creative problem-solving, one relevant concept is the "mental itch" (Jarman, 2016), which, "like its epidermal counterpart, is uncomfortable and insistent" (p.22). It consists of aversive

[2] Excepting the significant chi-square estimate. The limitations of relying solely on chi-square to assess model fit are well-established, including sensitivity to non-normality, sensitivity to sample size, and implausibility of perfect model fit (e.g., Kline, 2015).

cognitive arousal and a desire to reduce said arousal by trying to solve the problem. Given closure is characterized, in part, by less cognitive intrusion, less emotional activation, less closure-seeking behaviour, improved understanding, and sense of completion, closure and mental itch experiences (Mental Itch Scale; Jarman, 2016) should be inversely related.

Moreover, psychological closure pertains to present event attributions, and thus, can be distinguished from a need for cognitive closure: a desire to achieve definitive answers and avoid ambiguity (Need for Closure Scale; Webster & Kruglanski, 1994). Whereas the need for closure refers to a generalized, trait-level desire to obtain closure, psychological closure is a state attribution for an identifiable event. Although a need for cognitive closure may lead to psychological closure, the latter may be experienced or pursued irrespective of a generalized characterological need for clear solutions. Closure ratings are also assumed to be consciously accepted appraisals of subjective reality rather than unconscious defenses, and thus, were not expected to correlate with responses to emotions such as suppression, avoidance, or rumination (Responses to Emotions Questionnaire; Jeffries et al., 2016).

Regarding event types, although closure has been discussed in relation to self-defining, personally significant, or traumatic events, attributions of closure can refer to a range of events and may be inversely related to these constructs (Berntsen & Rubin, 2006). In particular, closure may be distinguished from, and negatively correlate with, appraisals of event centrality to identity (Centrality of Event Scale; Berntsen & Rubin, 2006), impact (Transitional Impact Scale; Svob et al., 2013), and significance (Subjective Impact and Personal Significance Scale; Wood & Conway, 2006).

Further, in contrast to sudden flashes of insight about specific problems (Sudden Restructuring of Experience Scale; Jarman, 2014), closure is likely to involve a more gradual purposeful meaning-making process wherein the “problem” could be the unresolved nature of an event rather than the content of the event per se. To this end, closure is often discussed in the context

of relationships (e.g., Greenberg, 2015), a subset of events subject to appraisals of closure. Thus, closure was expected to positively correlate with interpersonal resolution (Unfinished Business Resolution Scale; Singh, 1994).

Study 3 Methods

Study 3 Participants

A total of 182 MTurk participants were included in Study 3 (original $N = 204$). Twenty cases were removed for not describing an unresolved event, using plagiarized information from the internet, completing the survey more than once, or failing the validity check items. Two additional cases were removed for extreme responding (standardized residuals > $\pm$ 3.0 *SD*; Mahalanobis Distance > 55, $\alpha = 0.001$; Leverage > 0.28). Participants were aged 33.95 years, on average (range = 18–74, *SD* = 11.14), and primarily identified as male (59.3%) or female (40.1%; 0.5% other/no response), White/Caucasian (68.7%; 12.1% Black/African, 8.2% Hispanic/Latino, 4.9% Asian, 3.3% Multiracial, 1% Indigenous; 1.6% other/no response), and indicated completion of post-secondary education (69.3%; 12.6% graduate, 14.3% high school, 3.8% trades).

Study 3 Measures

Psychological closure/resolution. The newly developed 34-item Closure and Resolution Scale (CRS) was used to assess event resolution. It includes six subscales: Freeing Finality (FF), Clear Understanding (CU), Felt Distance (FD), Emotional Release (ER), Mental Liberation (ML), and Behavioural Deactivation (BD). Responses range from 1 (*completely disagree*) to 7 (*completely agree*), with higher scores indicating greater closure. In the current sample, the CRS composite and subscales demonstrated acceptable-to-excellent internal consistency reliability (CRS $\alpha = .91$; FF $\alpha = .95$; CU $\alpha = .68$; FD $\alpha = .92$; ER $\alpha = .85$; ML $\alpha = .90$; BD $\alpha = .88$), and good fit overall: $x^2(561) = 4413.81$, $p < .0001$; CFI = 0.927; RMSEA = 0.057 [0.048, 0.066], $p < .0001$; SRMR = 0.095.

Mental itch. The Mental Itch Scale (MIS; Jarman, 2016) is a 15-item measure of an unsettling state in the problem-solving and insight process. Items pertain to arousal (e.g., “There’s a feeling of unease in the back of my mind”) and motivational urgency (e.g., “It’s all I can think about”). In the instructions, we replaced “problem" with “unresolved event” for relevance. Items are rated from 1 (*not at all*) to 7 (*very much*). The MIS has demonstrated excellent internal consistency (α = .96), strong correlations with mental itch descriptions, and prediction of insight above ideation and intrinsic motivation (Jarman, 2016). In the current sample, α = .96.

Need for cognitive closure. The Need for Closure Scale - Short (NFCS; Roets & Van Hiel, 2011; based on Webster & Kruglanski, 1994) is a 15-item measure of generalized or trait motivation to arrive at definitive answers and avoid ambiguity. The NFCS contains five facet scales: Order, Predictability, Decisiveness, Ambiguity, and Closed-Mindedness. Individuals rate statements like, “When I am confronted with a problem, I’m dying to reach a solution very quickly,” on a scale from 1 (*strongly disagree*) to 6 (*strongly agree*). Roets and Van Heil (2011) reported good internal consistency (α = .87), test-retest reliability (r = .79), and correlations with related factors (e.g., big-five traits, need for structure, need for cognition, need for affect). Current α = .87.

Responses to emotions. The Responses to Emotions Questionnaire (REQ; Jeffries et al., 2016) is a 12-item measure of common emotion regulation strategies: Suppression (e.g., "I try to hold back or suppress my emotions"), Avoidance (e.g., "I try to avoid things that will make me feel bad"), Rumination (e.g., "I dwell upon my thoughts and feelings"), and Reappraisal (e.g., "I try to think about my feelings in a way that makes me feel less distressed"). Participants rate their general use of each strategy from 0 (*not at all*) to 4 (*a lot*). The subscales have shown acceptable reliability (α range = .61-.71) and all, save for the Avoidance subscale, have been found to correlate with emotion regulation difficulties (Jeffries et al., 2016). For the full REQ, current α = .82.

Subjective impact/personal significance. The Subjective Impact and Personal Significance Scale (SIPS; Wood & Conway, 2006) assesses appraisals of impact and significance for self-defining memories. Individuals rate an event using six items (e.g., "I feel that I have grown as a person since experiencing this past event") from 1 (*not at all*) to 7 (*very much*). The SIPS has shown good internal consistency ($\alpha = .86$). Current $\alpha = .87$.

Sudden restructuring of experience. The Sudden Restructuring of Experience (SRE) Scale (Jarman, 2014) is a 7-item measure of new insight, or the extent to which people experience changes in how they view problems. Items (e.g., "It was as if I were seeing the same problem through new eyes") are rated from 1 (*not at all*) to 7 (*very much*). The scale has demonstrated good internal consistency ($\alpha = .88$). Current $\alpha = .92$.

Transitional impact. The Transitional Impact Scale (TIS-12; Svob et al., 2013) is a 12-item measure of changed and stable aspects of life following events. The TIS-12 consists of two subscales: Material Impact (changes in the concrete context of daily life) and Psychological Impact (changes in thoughts, attitudes, emotions, etc.). Items (e.g., "This event has changed the people I hang out with", "This event has changed the way I think about things") are rated from 1 (*completely disagree*) to 5 (*completely agree*). The measure has demonstrated good internal consistency (full scale $\alpha = .83$; Material $\alpha = .79$, Psychological $\alpha = .76$). For the TIS-12, current $\alpha = .90$.

Event centrality. The 7-item Centrality of Event Scale (CES; Berntsen & Rubin, 2006) measures how central an event is perceived to be in relation to one's identity and life story. Items (e.g., "I feel that this event has become part of my identity") are anchored 1 (*totally disagree*) to 5 (*totally agree*). The scale has demonstrated good reliability ($\alpha = .88$). Current $\alpha = .89$.

Unfinished business. The Unfinished Business Resolution Scale (UBRS; Singh, 1994) consists of 11 items that assess the degree to which individuals feel troubled by negative feelings and unmet needs, or feel worth and acceptance toward a specific person. Items (e.g., "I have come to

terms about not getting what I need or want from this person", "I feel comfortable about my feelings in relation to this person") are rated from 0 (*not at all*) to 5 (*very much*). Singh (1994) reported acceptable 1-month test–retest reliability in student (r = .73) and clinical samples (r = .81). Due to the fact current participants were not cued to retrieve an interpersonal event, two questions querying the presence of others in the event were included prior to the UBRS. Current α = .71.

Ancillary items. As with the previous studies, four validity items were included to assess attention, two open-response questions were included to allow participants the opportunity to further describe their event and/or provide feedback, and the same demographics questionnaire was used.

Study 3 Procedure

Procedures were similar to the prior studies, however for Study 3, participants selected an unresolved event and completed the CRS, MIS, NFCS, REQ, CES, TIS, SIPS, SRE, and UBRS in a randomized order. Average completion time was 15.54 minutes (range = 3.35–61.13, SD = 10.21).

Study 3 Results

With respect to statistical assumptions, the study design and Durbin-Watson statistic (1.96) indicated independence of residuals; visual inspection of residuals by predicted values indicated the scales were linearly related to CRS values with slight heteroscedasticity; partial regression plots indicated independent linear relationships with the CRS, save for the SIPS, TIS, and CES (central density); tolerance (range = 0.26-0.77; > 0.10) and correlations indicated absence of multicollinearity (all rs < 0.17; < 0.70); there were no influential observations (Cook's Distance < 1); and the data were normally distributed, based on the histogram (M = 0, SD = 1) and plot of residuals (diagonal). There were no missing values. Table 9 details descriptive statistics for all measures.

Correlational analyses. Bivariate correlations with Holm-Bonferroni corrections (Holm, 1979) were conducted using the main variables: CRS, NFCS, REQ, MIS, SRES, SIPS, TIS, CES, and UBRS (see Table 10). Statistically significant small-to-moderate negative correlations were

found for the CRS and each the MIS (r = -0.30), SIPS (r = -0.22), TIS-12 (r = -0.22), and CES (r = -0.29), and a significant moderate-to-large positive correlation was found for the CRS and UBRS (r = 0.58). The CRS was not found to correlate with the NFCS, REQ, or SRES.

Identical analyses using the CRS subscales and the other measures revealed statistically significant correlations for all subscales. Table 11 illustrates these results. In particular, the Freeing Finality and Felt Distance subscales positively correlated with the SRES, while the Emotional Release, Mental Liberation, and Behavioural Deactivation subscales negatively correlated with the MIS, REQ, SIPS, TIS, and CES. Notably, all CRS subscales positively correlated with the UBRS.

Study 3 Discussion

Study 3 investigated construct validity for the CRS by examining correlations with conceptually similar and distinct constructs. As expected, greater closure (CRS) corresponded with greater interpersonal resolution (UBRS), lower cognitive aversion/mental itch (MIS), and lower event importance to the self (CES, TIS, SIPS). UBRS items refer to identified distress, needs, and perceptions of self and other in the context of a relationship (e.g., "*I feel worthwhile in relation to this person*"), whereas MIS items refer to mental and emotional urgency and preoccupation in the problem-solving process (e.g., "*My mind feels rushed to solve the problem*"). This contrasts CRS items referring to cognitive, emotional, and behavioral indicators of closure and resolution for unresolved autobiographical events (e.g., "*This event feels settled or put to rest*"). Although items may be semantically aligned (i.e., they concern appraisals of unpleasant personal experiences), they remain distinct in conceptual focus and scope. Thus, it is unlikely that item phrasing accounts for observed small-to-moderate correlations with the CRS. That the CRS did not correlate with need for closure (NFCS) or responses to emotions (REQ) supports the event-specific state, rather than generalized trait, focus of the CRS. Similarly, the lack of correlation amongst the CRS and the

sudden restructuring of experience (SRES) aligns with notions of closure as the culmination of purposeful meaning-making rather than spontaneous flashes of insight.

Attesting to the validity of CRS subscales, findings indicated moderate-to-strong inverse correlations between the MIS and each the Emotional Release, Mental Liberation, and Behavioural Deactivation subscales; and small-to-moderate positive correlations between the SRES and each the Freeing Finality and Felt Distance subscales. It makes sense for persistent cognitive aversion to correspond with emotional unrest, preoccupation, and the search for resolution. Stated differently, the emotional, mental, and behavioural relief that characterizes closure can be likened to the satisfaction of having a mental itch scratched. It is equally conceivable that changes in how one views a problem aligns with welcome shifts toward finality (e.g., "*I have reached a meaningful conclusion about this event*") and greater subjective distance (e.g., "*This event feels like a distant memory*"). Furthermore, negative correlations amongst three CRS subscales (Emotional Release, Mental Liberation, Behavioural Deactivation) and measures of event impact accords with research on trauma (Berntsen & Rubin, 2006; Flannery, 1999) and unresolved events (Beike & Wirth-Beaumont, 2005), suggesting that open event-memories call for increased attention and reconciliation efforts, hence personal importance, that dissipate once closure is achieved. Plainly stated, the more closure one has for an event, the less personally important and poignant it becomes. These relationships are also indicative of appropriate factor labels.

Finally, that a single measure (SRES) correlated with distinct CRS subscales in directionally different ways suggests closure is a multifaceted construct that can be defined at a higher level of abstraction, incorporating some aspects of the measure (new insight), while qualifying and extending beyond it to fully capture the construct. Notably, as predicted, all CRS subscales significantly and positively correlated with the Unfinished Business Resolution Scale (UBRS).

Taken together, Study 3 provides further evidence that the CRS measures pertinent yet distinct cognitive, emotional, and behavioural aspects of resolution. Replication of the current methodology with the inclusion of other validated measures of constructs expected to be related to or distinct from closure would further clarify issues pertaining to construct validity for the CRS.

General Discussion

Through a series of studies, we constructed a measure of autobiographical event resolution, the *Closure and Resolution Scale* (CRS; see Appendix), with evidence of good psychometric properties. Study 1 began with a broad conceptualization of closure based on a thorough review of definitions and theoretical contexts. Using EFA, Studies 1a and 1b revealed six discernable factors with all items loading strongly onto their respective factors. Study 2 employed CFA, demonstrating good model fit, which was replicated using the Study 3 sample. Study 3 offered evidence of construct validity for the CRS by revealing small negative correlations with partially relevant constructs (e.g., mental itch), moderate positive correlations with more relevant constructs (interpersonal resolution), and no correlations with distinct constructs (e.g., responses to emotions). The pattern of correlations amongst CRS subscales and other measures supports a conceptualization of closure as a multidimensional construct. Finally, across all studies, the CRS demonstrated good-to-excellent internal consistency reliability. Taken together, this research establishes support for the structural integrity, validity, and reliability of the CRS.

The CRS is a 34-item self-report measure assessing six facets of closure: freeing finality, clear understanding, felt distance, emotional release, mental liberation, and behavioural deactivation. The CRS offers a comprehensive yet parsimonious measure of psychological closure/resolution, defined as: The mental segmentation of part of one's experience in subjective space and time, accompanied by appraisals of finality, refined understanding, felt distance, emotional relief, reduced

preoccupation, and an abated desire to search for resolution. Such appraisals may refer to events as they are recalled or aspects of experience during recollection.

Given the attainment of closure for personal events depends, in part, on how they are (re)constructed and (re)experienced during recollection (emotionally and phenomenologically), more so than the content or veracity with which they are recalled, we view the valid assessment of closure as highly relevant to theory and research on autobiographical memory and to applied contexts where the resolution of personal events is a primary focus (e.g., psychotherapy). Indeed, there are several prominent theories linking closure and resolution to the retrieval, reconstruction, reprocessing, reinterpretation, and meaningful integration of events within the self-concept and life-narrative (e.g., Berntsen, 2009; Conway & Pleydell-Pearce, 2000; Habermas & Bluck, 2000) - processes central to psychotherapeutic interventions. Contextualizing closure as a memory phenomenon is highly relevant to clinical theory and research pertaining to the treatment and resolution of mental health difficulties (e.g., Aleixo et al., 2021; Gonçalves et al., 2017; Greenberg, 2015). Now, with a measure of psychological closure and resolution in place, it is possible to elucidate this vital state within these theoretical and applied contexts. However, we note cautions to interpreting the results and encourage ongoing research.

Limitations and Future Directions

Criterion and construct validity. We were unable to assess convergence with other validated measures of psychological closure as none currently exit. The UBRS was included as the closest measure of resolution, and although it has been widely used, it has never been subjected to validity testing or peer review. The MIS was also included to capture, in part, a lack of closure. The UBRS and the MIS refer to relationships and problem-solving processes, respectively, which stand in contrast to the CRS' broader focus on autobiographical events. Nevertheless, given definitions of closure accord with interpersonal resolution, the CRS and UBRS are taken to represent a common

core construct (resolution). To further validate the CRS, future research should consider additional (e.g., symptom, state) measures expected to relate to closure/resolution and/or employ mixed-methods approaches. One avenue might be to explore how narratives of closure, using word analysis (e.g., Pennebaker et al., 2007) or coding schemes (e.g., Adler & Poulin, 2009; Pals, 2006), compare to CRS ratings and items. It would also be worthwhile to explore relations amongst closure and theoretically aligned constructs, like post-traumatic growth (Tedeschi & Calhoun, 1996). This could further contextualize the current findings and inform criterion and construct validity for the CRS.

Sample size. Sample size is a key consideration for the current factor analyses, as inadequate sample sizes can produce unreliable and unstable factor solutions. Some indices of model fit, namely, chi-square goodness-of-fit, are also highly sensitive to sample size, with even large enough samples resulting in statistically significant chi-square estimates and potential rejection of an otherwise acceptable model. For this and other reasons (e.g., implausibility of perfect model fit), we used multiple indices to assess model fit (per, Kline, 2015). Although current sample sizes may be justified in light of several conditions, including moderate-to-high communalities, simple factor structure with well-defined factors, and strong factor loadings (MacCallum et al., 1999; Tabachnick & Fidell, 2013), we stress that this research represents a preliminary attempt to construct a valid measure of state psychological closure and resolution. As such, we encourage replications using larger samples to further assess the robustness of the current CRS model.

Generalizability. Samples were drawn from MTurk, a platform that allows for larger samples with greater demographic heterogeneity, hence external validity, relative to commonly used undergraduate samples (Paolacci et al., 2010). We chose this recruitment method to ensure sufficient power and precision in factor analysis. MTurk workers residing in North America with English language comprehension could participate. These criteria were meant to minimize variance attributable to the misinterpretation of items (e.g., literal interpretations of metaphorical statements

like, “This event is like a closed book to me”). Sample demographics were fairly consistent across studies: Participants primarily identified, using open-text responses, as White/Caucasian (69% to 78%), male (44% to 59%) or female (40% to 56%), with post-secondary education (69% to 72%). Although similar samples support comparisons, sample characteristics on the whole limit generalizability to those that differ in terms of, for instance, race, gender, language, education, or clinical status. It is therefore incumbent upon users of the CRS to carefully consider how its use may inadvertently perpetuate bias. Future research could test the measure using diverse clinical and non-clinical populations, administrative and analytical methods, controlled and applied settings, and translate the measure into other languages to support a robust understanding of closure.

Applications. The CRS holds significant promise as an outcome measure in health and mental health settings, where resolving medical or psychological issues is a prime focus and where efficient, valid, and reliable measurement is essential. Unresolved issues remain a leading reason for seeking professional services, which can be costly and time-consuming (Manthei, 2005). In particular, open event-memories ranging from isolated disappointments to long-standing grievances and severe traumas play a prominent role in psychological and physical conditions, including depression, anxiety, post-traumatic stress, relational strain, physical strain, and other hardships (e.g., Nolen-Hoeksema et al., 2008). Indeed, our findings suggest unresolved events take priority status on people’s mental ‘to-do’ lists, likely due to their potential to interfere with daily functioning. The attainment of closure, therefore, confers clear adaptive value.

Entire clinical trials have been conducted, focusing on the treatment of “unfinished business” and the resolution of traumatic experiences for which people seek closure (e.g., Greenberg, 2015; Paivio & Pascual-Leone, 2023). However, despite the clinical relevance of closure and resolution, this experience is rarely examined directly as a treatment outcome. And when it is, the most commonly used tools have been unpublished unvalidated measures (i.e., Singh, 1994). The CRS is a

strong instrument that could easily be implemented as a means of tracking resolution of treatment goals, presenting concerns, symptoms, and key event-memories. Future research could explicitly examine changes in closure as a function of intervention, diagnosis, and/or individual differences using repeated measures quasi-experimental or experimental designs (randomized clinical trials), with the inclusion of clinical symptom measures to clarify how closure informs attributes of overall health and well-being. To further contextualize clinically relevant manifestations of closure and resolution in relation to autobiographical memory and emotion change, it would be worthwhile to examine whether perceived shifts in closure, as assessed using the CRS, reflect changes in the phenomenology of autobiographical memories over time, particularly within the context of psychotherapy.

Conclusion

Psychological closure holds broad intuitive appeal and adaptive value yet remains poorly understood, in part, because it has been inconsistently operationalized. We offer the first validated measure of this vital state: The *Closure and Resolution Scale (CRS)* assesses cognitive, emotional, and behavioural indicators of event resolution. Crucially, the CRS provides scholars and practitioners with a psychometrically sound, practical means of understanding and supporting people in their search for closure. We encourage ongoing empirical validation and suggest clinical applications.

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Declaration of Interest Statement

There are no known competing interests to disclose.

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Appendix

Closure and Resolution Scale (CRS)

Carefully consider the event you selected and rate the degree to which the following statements are true for you right now in this moment. The scale ranges from 1 (completely disagree) to 7 (completely agree). If your experience falls somewhere between complete disagreement and agreement, indicate this by choosing a value between 1 and 7 that most accurately reflects your current experience.

		1 Completely Disagree	2 Mostly Disagree	3 Somewhat Disagree	4 Neutral	5 Somewhat Agree	6 Mostly Agree	7 Completely Agree
Freeing Finality								
1	I have complete closure on this event							
2	I have made peace with this event							
3	This event feels settled or put to rest							
4	This event is like a 'closed book' to me							
5	I have reached a meaningful conclusion about this event							
6	I feel free from the emotional grip of this event							
7	I am in a good place emotionally when it comes to this event							
8	I am totally over this event							
9	This event feels resolved							
10	As I think about it now, I feel content with the way things worked out							
Clear Understanding								
11	I have a clear understanding of this event							
12	I am confused about this event*							
13	I can make clear sense of what happened							
14	I fully understand what this event is about							
Felt Distance								
15	This event feels like ancient history							
16	It feels like this event happened a really long time ago							
17	This event feels far away from me							
18	This event feels far-off in the distant past							
19	This event feels like a distant memory							
Emotional Release								
20	Part of me is still upset about this event*							
21	As I think about this event now, it brings up unpleasant emotions*							
22	I have lingering negative feelings about this event*							
23	I really wish this event happened differently							
24	Deep down, this event still irritates me*							
Mental Liberation								
25	I am preoccupied by this event*							
26	I am mentally 'stuck' on this event*							
27	This event is taking a lot of my mental energy*							
28	This event is mentally holding me back*							
29	This event is demanding of my attention*							
Behavioural Deactivation								
30	I feel the need to do something to resolve this event within myself*							
31	I feel the need to do something to resolve this event with others (e.g., to make amends or to get revenge)*							
32	I feel pressure to take steps to resolve my feelings about this event*							
33	I feel the need to take action to put this event to rest*							
34	I have an urge to do something that will help me get over this event*							

Notes. * indicates the item is reverse-scored. Remove * and subscale labels prior to administration. In Studies 1 to 3, items were presented randomly in and online survey and rated using Likert scale radio buttons.

Table 1

Participant Demographics for Studies 1a and 1b

		Study 1a	Study 1b
	N	284	158
Age	*M*	35.71	36.23
	SD	10.82	11.51
	Range	18 – 76	18 – 75
Sex/Gender	Female	50.4%	55.7%
	Male	48.6%	44.3%
	Other/Not Specified	1.1%	0%
Race/Ethnicity	White, Caucasian	77.5%	77.2%
	Black, African	6.7%	2.5%
	Hispanic, Latino	3.9%	3.8%
	Asian	8.1%	8.2%
	Multiethnic	1.8%	3.8%
	Indigenous	0.4%	0.6%
	Other, Not Specified	1.8%	3.8%
Education	Undergraduate University, College	71.5%	71.6%
	Graduate University, College	15.1%	13.9%
	High School	12.3%	13.9%
	Vocational, Trades	1.1%	0.6%

Note: Demographic items contained open-response fields.

Table 2

Means, Standard Deviations, Factor Loadings, Communality Estimates, and Proportions of Variance for Study 1a Exploratory Factor Analysis

			Factor Loading								
Item	*M*	*SD*	Freeing Finality	Clarity/ Underst.	Felt Dist.	Emo. Relief	Less Preocc.	Beh. Deact.	Changed Percep.	Personal Meaning	h^2
1	2.44	1.74	0.67								0.65
60	2.31	1.63	0.64								0.61
3	2.50	1.71	0.54								0.69
62	2.87	1.73	0.52								0.52
11	2.94	1.72	0.50								0.55
5	2.54	1.77	0.49								0.69
2	3.03	1.80	0.45								0.63
57	3.10	1.80	0.42								0.64
41	2.66	1.78	0.40								0.61
16	3.67	2.06		0.72							0.61
12	4.17	1.95		0.71							0.56
13	4.12	2.04		0.69							0.58
15	3.99	1.88		0.64							0.49
14	2.90	1.87		0.60							0.58
40	3.40	2.01			0.66						0.59
42	3.21	1.88			0.64						0.66
39	3.01	1.87			0.52						0.71
56	2.97	1.83				0.75					0.72
53	3.42	1.86				0.68					0.69
55	3.26	1.92				0.55					0.74
44	3.32	1.90				0.50					0.70
49	3.56	2.00				0.48					0.50
47	3.45	1.78				0.46					0.56
45	3.66	1.88				0.45					0.68
30	3.52	2.00				0.38					0.55
28	4.06	1.96				0.37					0.58
25	3.78	1.96					0.62				0.61
51	4.30	2.07					0.62				0.61
23	3.93	1.97					0.54				0.63
58	3.69	1.83					0.53				0.62
27	4.16	1.97					0.50				0.65
4	3.26	1.94					0.43				0.71
29	4.46	1.96					0.36				0.57
32	3.50	1.93						0.76			0.72

33	3.81	2.02						0.67			0.55
52	3.86	2.04						0.54			0.64
48	3.63	1.91						0.34			0.51
37	3.78	1.84							0.80		0.62
34	3.43	1.84							0.72		0.63
38	3.50	1.82							0.68		0.49
35	3.26	1.74							0.58		0.56
36	3.43	1.77							0.58		0.44
9	4.52	1.85								0.72	0.59
20	4.39	1.84								0.71	0.49
10	4.38	1.92								0.70	0.50
21	4.69	1.75								0.51	0.46
22	4.61	1.77								0.42	0.43
% Variance			4.27	5.77	2.19	3.35	33.45	2.35	12.31	3.04	

Note. Factor loadings < 0.34 not displayed. See Supplemental Materials for item wording.

Table 3

Means, Standard Deviations, Factor Loadings, Communality Estimates, Eigenvalues, and Proportions of Variance for Study 1b Exploratory Factor Analysis

			Factor Loading								
Item	*M*	*SD*	FF	CU	FD	ER	ML	BD	h^2	Skew	Kurt
72	2.37	1.84	0.81						0.66	1.28	0.43
1	2.37	1.81	0.76						0.70	1.17	0.09
3	2.50	1.82	0.76						0.62	1.10	0.12
11	2.94	1.88	0.69						0.56	0.72	-0.54
2	3.22	1.89	0.64						0.69	0.38	-1.07
73	2.50	1.79	0.54						0.43	1.06	0.02
5	2.65	1.92	0.53						0.64	0.94	-0.28
71	2.87	1.92	0.51						0.52	0.71	-0.78
57	3.18	1.96	0.48						0.53	0.44	-1.01
58	3.30	1.97	0.37						0.49	0.36	-1.18
12	3.89	2.04		0.82					0.78	-0.03	-1.34
15	3.89	2.05		0.78					0.71	0.09	-1.27
70	4.09	2.14		0.67					0.44	-0.04	-1.42
13	3.86	2.14		0.60					0.55	0.16	-1.35
64	3.20	2.03			0.93				0.80	0.59	-0.93
40	3.65	2.10			0.88				0.77	0.23	-1.34
42	3.29	2.06			0.84				0.75	0.45	-1.16
65	3.28	1.93			0.81				0.82	0.41	-1.03
39	2.97	1.97			0.74				0.76	0.64	-0.90
76	2.81	1.86				0.84			0.77	0.78	-0.57
78	2.63	1.75				0.82			0.70	0.92	-0.06
53	2.57	1.83				0.75			0.74	1.02	-0.06
56	2.85	1.86				0.69			0.57	0.85	-0.37
77	2.13	1.60				0.59			0.34	1.41	1.15
27	4.57	2.07					0.93		0.79	-0.34	-1.21
25	4.74	1.99					0.77		0.74	-0.46	-1.02
50	4.37	2.16					0.69		0.82	-0.17	-1.38
84	4.32	2.13					0.66		0.70	-0.16	-1.31
26	4.13	2.06					0.53		0.77	-0.11	-1.30
81	4.04	2.22						0.88	0.80	0.00	-1.41
33	4.13	2.14						0.81	0.60	-0.03	-1.38
52	4.20	2.13						0.76	0.78	-0.06	-1.35
32	3.81	2.12						0.75	0.71	0.24	-1.27
82	3.99	2.14						0.71	0.73	0.06	-1.37

Eigenvalue	12.68	2.00	1.72	2.51	4.62	1.13
% Variance	37.30	5.90	5.07	7.38	13.58	3.32
Subscale *M (SD)*	2.79 (1.43)	3.93 (1.69)	3.28 (1.82)	2.60 (1.46)	4.42 (1.85)	4.03 (1.88)
Skewness/Kurtosis	0.63/ -0.37	0.11/ -0.87	0.42/ -0.97	0.76/ -0.44	-0.23/ -1.09	0.03/ -1.10

Notes. Factor loadings < 0.40 not displayed. See Supplemental Materials for item wording. FF = Freeing Finality; CU = Clear Understanding; FD = Felt Distance; ER = Emotional Release; ML = Mental Liberation; BD = Behavioural Deactivation.

Table 4

Correlations Amongst CRS Subscales and Subscale Internal Reliabilities for Study 1b

	Freeing Finality	Clear Understanding	Felt Distance	Emotional Release	Mental Liberation	Behavioral Deactivation	Cronbach's α
Freeing Finality	1.00						.92
Clear Understanding	.47**	1.00					.82
Felt Distance	.65**	.40**	1.00				.94
Emotional Release	.46**	.27**	.30**	1.00			.88
Mental Liberation	.35**	.32**	.38**	.44**	1.00		.93
Behavioral Deactivation	.36**	.22*	.32**	.38**	.71**	1.00	.92

Notes. CRS = Closure and Resolution Scale. * indicates $p = .002$. ** indicates $p < .0001$

Table 5

Study 2 Descriptive Statistics and Internal Reliabilities for the CRS Subscales and Composite

	Freeing Finality	Clear Understanding	Felt Distance	Emotional Release	Mental Liberation	Behavioral Deactivation	CRS Composite
M 95% CI[]	2.71 [2.50, 2.91]	4.19 [3.94, 4.44]	3.11 [2.84,3.38]	2.63 [2.41, 2.86]	4.55 [4.29, 4.81]	4.05 [3.78, 4.33]	3.40 [3.22, 3.57]
SD	1.32	1.61	1.74	1.43	1.67	1.76	1.11
Skewness	0.69	-0.06	0.59	0.87	-0.31	-0.04	0.21
Kurtosis	-0.28	-0.90	-0.66	0.15	-0.94	-0.99	-0.53
Cronbach's α	.91	.82	.94	.87	.92	.92	.94

Note. CRS = Closure and Resolution Scale.

Table 6

Model-Fit Index Statistics for the Final 34-Item 6-Factor Solution for the CRS

	x^2	df	x^2/df	CFI	RMSEA 90% CI[]	SRMR
Model 1 34 Items, 6 Factors	621.829**	512	**1.21**	**0.964**	**0.040** **[0.028, 0.051]**	**0.070**

Notes. CRS = Closure and Resolution Scale. **indicates statistical significance, $p = .001$. *** indicates $p < .0001$.
Bolded fit index values indicate that these values met cut-off criteria indicating good model fit.

Table 7

Parameter Estimates, Standardized Loadings, and Effect Sizes for Latent Factors of the CRS

Latent Variables	b	*SE*	z	ß	R^2	*p*
Freeing Finality						
Clear Understanding	0.74	0.20	3.75	0.38	0.14	0.000
Felt Distance	1.38	0.23	5.98	0.69	0.48	0.000
Emotional Release	0.99	0.23	4.35	0.59	0.35	0.000
Mental Liberation	1.07	0.20	5.43	0.56	0.31	0.000
Behavioural Deactivation	0.85	0.19	4.44	0.43	0.18	0.000
Clear Understanding						
Felt Distance	0.69	0.27	2.57	0.26	0.07	0.010
Emotional Release	0.29	0.23	1.27	0.13	0.02	0.203
Mental Liberation	0.55	0.25	2.16	0.21	0.04	0.031
Behavioural Deactivation	0.07	0.27	0.27	0.03	0.00	0.787
Felt Distance						
Emotional Release	0.81	0.23	3.58	0.35	0.12	0.000
Mental Liberation	1.50	0.24	6.15	0.57	0.32	0.000
Behavioural Deactivation	1.15	0.27	4.25	0.41	0.17	0.000
Emotional Release						
Mental Liberation	1.23	0.23	5.38	0.56	0.31	0.000
Behavioural Deactivation	1.26	0.22	5.67	0.54	0.29	0.000
Mental Liberation						
Behavioural Deactivation	2.04	0.27	7.49	0.77	0.59	0.000

Note. CRS = Closure and Resolution Scale.

Table 8

Item Loadings for the CRS 34-Item 6-Factor Solution

Latent Variables	Items	ß	R^2
Freeing Finality			
	1. I have complete closure on this event	0.73**	0.54
	2. I have made peace with this event	0.77**	0.59
	3. This event feels settled or put to rest	0.78**	0.61
	5. This event is like a 'closed book' to me	0.77**	0.59
	11. I have reached a meaningful conclusion about this event	0.61**	0.37
	57. I feel free from the emotional grip of this event	0.71**	0.51
	58. I am in a good place emotionally when it comes to this event	0.73**	0.53
	71. I am totally over this event	0.79**	0.63
	72. This event feels resolved	0.67**	0.44
	73. As I think about this event now, I feel content with the way things worked out	0.65**	0.43
Clear Understanding			
	12. I have a clear understanding of this event	0.82**	0.67
	13. I am confused about this event (R)	0.53**	0.28
	15. I can make clear sense of what happened	0.80**	0.64
	70. I fully understand what this event is about	0.79**	0.62
Felt Distance			
	39. This event feels like ancient history	0.90**	0.81
	40. It feels like this event happened a really long time ago	0.82**	0.68
	42. This event feels far away from me	0.85**	0.72
	64. This event feels far-off in the distant past	0.89**	0.79
	65. This event feels like a distant memory	0.86**	0.75
Emotional Release			
	53. Part of me is still upset about this event (R)	0.84**	0.71
	56. As I think about this event now, it brings up unpleasant emotions (R)	0.81**	0.65
	76. I have lingering negative feelings about this event (R)	0.79**	0.63
	77. I really wish this event happened differently (R)	0.58**	0.34
	78. Deep down, this event still irritates me (R)	0.77**	0.59
Mental Liberation			
	25. I am preoccupied by this event (R)	0.82**	0.67
	26. I am mentally 'stuck' on this event (R)	0.90**	0.81
	27. This event is taking a lot of my mental energy (R)	0.82**	0.67
	50. This event is mentally holding me back (R)	0.83**	0.68
	84. This event is demanding of my attention (R)	0.79**	0.62
Behavioural Deactivation			
	32. I feel the need to do something to resolve this event within myself (R)	0.86**	0.74
	33. I feel the need to do something to resolve this event with others (e.g., to make amends or to get revenge) (R)	0.78**	0.61

52. I feel pressure to take steps to resolve my feelings about this event (R)	0.80**	0.63
81. I feel the need to take action to put this event to rest (R)	0.89**	0.78
82. I have an urge to do something that will help me get over this event (R)	0.83**	0.69

Notes. CRS = Closure and Resolution Scale. 'R' indicates reverse scoring. ** indicates $p < .0001$.

Table 9

Descriptive Statistics for All Measures in Study 3

	Scale Range	*M* [95% CI]	*SD*
Closure and Resolution Scale (CRS)	1 – 7	3.71 [3.58, 3.85]	0.91
Freeing Finality (FF)	1 – 7	3.45 [3.21, 3.69]	1.64
Clear Understanding (CU)	1 – 7	4.63 [4.44, 4.81]	1.24
Felt Distance (FD)	1 – 7	4.03 [3.78, 4.27]	1.70
Emotional Release (ER)	1 – 7	2.80 [2.61, 2.98]	1.26
Mental Liberation (ML)	1 – 7	4.03 [3.80, 4.26]	1.60
Behavioural Deactivation (BD)	1 – 7	3.80 [3.58, 4.02]	1.50
Need for Closure Scale (NFCS)	1 – 6	4.05 [3.92, 4.18]	0.88
Responses to Emotions Questionnaire (REQ)	0 – 4	29.41 [28.27, 30.55]	7.79
Mental Itch Scale (MIS)	1 – 7	4.17 [3.95, 4.39]	1.53
Sudden Restructuring of Experience Scale (SRES)	1 – 7	4.00 [3.77, 4.23]	1.57
Subjective Impact and Personal Significance Scale (SIPS)	1 – 7	5.07 [4.88, 5.26]	1.30
Transitional Impact Scale (TIS)	1 – 5	3.16 [3.02, 3.29]	0.94
Centrality of Event Scale (CES)	1 – 5	3.32 [3.17, 3.46]	0.99
Unfinished Business Resolution Scale (UBRS)	0 – 5	2.44 [2.31, 2.56]	0.83

Note. For the UBRS, $n = 171$; For all other scales, $N = 182$.

Table 10

Correlations Amongst the Closure and Resolution Scale (CRS) and Other Measures

	CRS *r*(180) [95% CI] *p*	NFCS *r*(180) [95% CI] *p*	REQ *r*(180) [95% CI] *p*	MIS *r*(180) [95% CI] *p*	SRES *r*(180) [95% CI] *p*	SIPS *r*(180) [95% CI] *p*	TIS *r*(180) [95% CI] *p*	CES *r*(180) [95% CI] *p*	UBRS *r*(169) [95% CI] *p*
CRS	1	-0.15* [-0.29,0.00] .050	-0.06 [-0.21,0.09] .416	-0.30** [-0.44,-0.16] .000	0.08 [-0.07,0.23] .276	-0.22** [-0.36,-0.08] .003	-0.22** [-0.36,-0.08] .003	-0.29** [-0.43,-0.15] .000	0.58** [0.45,0.70] .000
NFCS		1	0.43** [0.31,0.53] .000	0.30** [0.13,0.45] .000	0.18* [0.03,0.32] .013	0.24** [0.11,0.38] .001	0.19* [0.04,0.33] .010	0.19* [0.05,0.31] .011	-0.15* [-0.30,0.00] .047
REQ			1	0.43** [0.29,0.55] .000	0.38** [0.22,0.52] .000	0.33** [0.18,0.47] .000	0.41** [0.25,0.53] .000	0.31** [0.16,0.43] .000	-0.25** [-0.41,-0.08] .001
MIS				1	0.54** [0.40,0.67] .000	0.38** [0.23,0.50] .000	0.60** [0.49,0.70] .000	0.56** [0.43,0.67] .000	-0.37** [-0.49,-0.23] .000
SRES					1	0.41** [0.26,0.54] .000	0.59** [0.46,0.69] .000	0.49** [0.35,0.62] .000	-0.02 [-0.20,0.15] .755
SIPS						1	0.60** [0.47,0.71] .000	0.69** [0.58,0.78] .000	-0.18* [-0.33,-0.01] 0.019
TIS-12							1	0.83** [0.78,0.88] .000	-0.34** [-0.48,-0.19] .000
CES								1	-0.30** [-0.44,-0.15] .000
UBRS									1

Notes. * Indicates statistical significance with no Type I Error correction. ** Indicates statistical significance with Holm-Bonferroni correction. For the UBRS, $n = 171$; For all other scales, $N = 182$. CRS = Closure and Resolution Scale; NFCS = Need for Closure Scale; REQ = Responses to Emotions Questionnaire; MIS = Mental Itch Scale; SRES = Sudden Restructuring of Experience Scale; SIPS = Subjective Impact and Personal Significance Scale; TIS = Transitional Impact Scale; CES = Centrality of Event Scale; UBRS = Unfinished Business Resolution Scale.

Table 11

Correlations Amongst the Closure and Resolution Scale (CRS) Subscales and Other Measures

	NFCS *r*(180) [95% CI] *p*	REQ *r*(180) [95% CI] *p*	MIS *r*(180) [95% CI] *p*	SRES *r*(180) [95% CI] *p*	SIPS *r*(180) [95% CI] *p*	TIS *r*(180) [95% CI] *p*	CES *r*(180) [95% CI] *p*	UBRS *r*(169) [95% CI] *p*
CRS – FF	-0.03 [-0.18,0.12] .676	0.22* [0.08,0.37] .003	0.20* [0.06,0.34] .007	0.47** [0.34,0.60] .000	-0.02 [-0.17,0.12] .759	0.19* [0.04,0.33] .012	0.11 [-0.04,0.26] .143	0.35** [0.21,0.49] .000
CRS – CU	0.07 [-0.08,0.22] .339	0.05 [-0.10,0.20] .504	-0.01 [-0.25,0.05] .186	-0.06 [-0.21,0.09] .405	0.12 [-0.03,0.26] .114	-0.07 [-0.22,0.08] .360	0.00 [-0.15,0.14] .969	0.30** [0.16,0.44] .000
CRS – FD	0.029 [-0.12,0.18] .697	0.21* [0.07,0.35] .004	0.06 [-0.09,0.21] .407	0.32** [0.18,0.46] .000	0.08 [-0.06,0.23] .258	0.10 [-0.04,0.25] .161	0.04 [-0.11,0.18] .629	0.29** [0.14,0.44] .000
CRS – ER	-0.29** [-0.43,-0.15] .000	-0.33** [-0.47,-0.19] .000	-0.37** [-0.51,-0.24] .000	-0.08 [-0.22,0.07] .297	-0.49** [-0.62,-0.36] .000	-0.41** [-0.55.-0.28] .000	-0.46** [-0.59,-0.33] .000	0.52** [0.39,0.65] .000
CRS – ML	-0.19* [-0.34,-0.05] .009	-0.36** [-0.50,-0.23] .000	-0.75** [-0.85,-0.65] .000	-0.49** [-0.62,-0.36] .000	-0.32** [-0.46,-0.18] .000	-0.59** [-0.71,-0.48] .000	-0.60** [-0.72,-0.48] .000	0.36** [0.22,0.51] .000
CRS – BD	-0.16* [-0.30,-0.01] .033	-0.34** [-0.48,-0.20] .000	-0.57** [-0.69,-0.45] .000	-0.42** [-0.56,-0.29] .000	-0.28** [-0.42,-0.13] .000	-0.40** [-0.54,-0.27] .000	-0.44** [-0.57,-0.31] .000	0.25** [0.10,0.40] .001

Notes. * Indicates statistical significance with no Type I Error correction. ** Indicates statistical significance with Holm-Bonferroni correction. For the UBRS, n = 171; For all other scales, N = 182. CRS = Closure and Resolution Scale; FF = Freeing Finality; FD = Felt Distance; CU = Clear Understanding; EC = Experiential Change; ER = Emotional Release; ML = Mental Liberation; BD = Behavioural Deactivation; NFCS = Need for Closure Scale; REQ = Responses to Emotions Questionnaire; MIS = Mental Itch Scale; SRES = Sudden Restructuring of Experience Scale; SIPS = Subjective Impact and Personal Significance Scale; TIS = Transitional Impact Scale; CES = Centrality of Event Scale; UBRS = Unfinished Business Resolution Scale.

Figure 1

Structural Model for the Closure and Resolution Scale (CRS)