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RESEARCH ARTICLE

Psychometric Properties of Conflict Resolution Communication Strategies Scale (CRCS): A Tool for Counselling Psychologist

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ABSTRACT

Communication is a key component of effective conflict resolution, especially when it comes to the areas of “open communication” and “active and clear communication”. In order to evaluate these aspects and direct interventions, counselling psychologists frequently need reliable instruments. Nevertheless, current instruments fall short in distinguishing these two crucial elements properly. This study aims to develop and validate the Conflict Resolution Communication Strategies Scale (CRCS) specifically for counselling psychologists, focusing on the psychometric properties of construct validity and internal consistency. About 118 lecturers from different Nigerian institutions participated in the study. After several iterations of testing and feedback, the CRCS's initial set of 18 items was whittled down to 12 with the help of expert opinion and a review of the literature. Through principal component analysis (PCA) and reliability testing, the CRCS was refined into two distinct subscales: "open communication" and "active and clear communication," which together account for 60.6% of the total variance. The scale’s robust psychometric properties were established, with an overall Cronbach’s alpha of 0.876, indicating high internal consistency across both subscales. The CRCS provides counselling psychologists with a reliable tool to assess communication strategies in conflict resolution, filling a significant gap in available instruments that can separately measure key communication constructs.

Introduction

Human interactions will inevitably involve conflict, which can arise in a variety of settings, including interpersonal relationships and work environments. People's emotional and professional well-being is significantly impacted by how they handle and resolve disagreements (Ospanbayeva et al., 2024; Sexton & Orchard, 2016).

The function of communication—more particularly, the capacity to voice issues honestly and pay close attention to others' points of view—is crucial to the conflict resolution process. Counselling psychologists need trustworthy instruments to evaluate and improve people's conflict resolution communication techniques because they frequently mediate disputes (Sierau & Herzberg, 2012). The creation of such instruments are necessary to further conflict resolution theory and practical interventions.

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Open Communication, and Active and Clear Communication

Open communication" and "active and clear communication" are two essential components of effective communication in conflict resolution that have been repeatedly highlighted by prior studies (Klimecki, 2019; Mohammed, 2023; Sexton & Orchard, 2016). While active and clear communication concentrates on comprehending and addressing the concerns of others, open communication include the honest and transparent presentation of ideas, worries, and feelings (Sayed & Sinha, 2024).

Research has emphasised the significance of these communication practices, indicating that the capacity to express one's needs and show empathy for others is essential for effective conflict resolution (Akgün & Araz, 2013; Mohammed, 2023). However, current instruments frequently approach conflict communication as a single construct rather than measuring these elements independently. When there is little difference, people may perform well in one area but poorly in another, which might impede assessment and intervention attempts (Bonache et al., 2016).

Existing Scales for Conflict Resolution

Existing scales, such as the Thomas-Kilmann Conflict Mode Instrument (TKI) (Thomas, 2008) and the Conflict Resolution Styles Inventory (CRSI) (Fortin et al., 2020), assess general approaches to conflict but often treat communication as a single construct, lacking sensitivity to nuanced aspects like "open communication" and "active and clear communication". While these tools provide valuable insights into conflict resolution behaviors, they do not adequately capture the distinct but interrelated dimensions of transparency and clarity in communication, essential for effective counselling interventions. Furthermore, recent research underscores that failing to differentiate these constructs may obscure particular strengths or deficiencies in an individual's conflict communication style, limiting the precision of assessments and targeted interventions (Bonache et al., 2016; Klimecki, 2019). By focusing on these dimensions, the CRCS addresses these limitations, offering a specialized tool that enables counselling psychologists to conduct more granular assessments and tailor interventions effectively. Integrating this comparative perspective clarifies the unique contributions of the CRCS and justifies its development as an improvement over existing instrument.

The goal of this study is to develop and validate the Conflict Resolution Communication Strategies Scale (CRCS), a psychometric tool that measures open communication as well as active and clear communication as separate but related constructs. This is in response to the need for a more nuanced assessment of conflict resolution communication. The goal of the CRCS is to give counselling psychologists a complete tool for assessing people's conflict resolution techniques and directing interventions meant to strengthen such techniques. Through an evaluation of the CRCS's psychometric qualities, this study aims to guarantee that it is a valid and trustworthy instrument that can be applied in a range of counselling contexts.

Theoretical Framework

The Conflict Resolution Communication Strategies Scale (CRCS) is based on important theories of communication, specifically the Transactional Model of Communication, Gordon's Theory of Effective Communication, and Communication Accommodation Theory (CAT). The Communication Accommodation Theory, put out by Howard Giles, highlights the significance of active listening and open communication by emphasising how people modify their speech to either converge or diverge during interactions in order to manage conflict. These techniques help people modify their communication styles in order to successfully resolve conflicts (Giles et al., 2023; Mohammed, 2023).

According to Gordon's Theory of Effective Communication, effective conflict resolution requires both assertiveness (open communication) and empathy (active listening). The CRCS is based on a theoretical framework that divides communication into these two crucial aspects, enabling a more complex evaluation of how people handle conflict (Ilie & Metea, 2015; Ramadhini & Manafe, 2022). According to the Transactional Model of Communication, meaning is actively created through verbal and nonverbal clues by both parties in a dynamic process of trade. Effective communication in conflict situations requires both parties to engage in open expression and active listening in order to guarantee comprehension and clarity (Alistarh et al., 2018; Cania et al., 2024).

Objective of the Study

This study's potential to fill a vacuum in the existing body of knowledge on conflict resolution communication makes it significant. Few studies have created instruments that quantify the various facets of communication behaviour in conflict scenarios, despite the fact that prior research has demonstrated the significance of communication in conflict resolution. By providing a scale for evaluating the two essential aspects of conflict communication, the CRCS fills this knowledge vacuum and improves both theoretical knowledge and real-world interventions.

The purpose of this study is to assess the validity and reliability of the CRCS in a sample of tertiary institutions lecturers. To be more precise, we want to look at its factor structure and see if the scale accurately represents the two proposed dimensions of communication in conflict resolution. We also examine the scale's internal consistency and appropriateness for usage in counselling settings. The ultimate goal of this project is to give counselling experts a tool that will help them better analyse their clients and help them establish communication methods for conflict resolution.

Method

This study used a cross-sectional survey research design as part of its instrumentational design (Alordiah, 2020; Spector, 2019).

Participants

The study involved a sample of 118 lecturers from various institutions in Nigeria. To address concerns regarding sample size, the selection of 118 lecturers aligns with recommendations from psychometric literature, which suggest a minimum sample size of 100 for exploratory factor analysis to ensure stable factor loadings (Flora & Flake, 2017; Kyriazos, 2018). Additionally, the literature have suggested that the minimum sample for each item on a scale for factor analysis is 5 participants (McNeish, 2017). Since there are 12 items on the scale, the minimum accepted sample is 60 participants.

Because the sample size of 118 exceeds this threshold (118 > 60), it is considered adequate for factor analysis. This sample size, while limited to Nigerian institutions, was chosen to provide relevant context for the scale's cultural applicability. Among the participants, 52.5% (n = 62) were male, and 47.5% (n = 56) were female, ensuring a balanced gender distribution. The participants were affiliated with a variety of educational institutions, with 49.2% (n = 58) from universities, 28.8% (n = 34) from Colleges of Education, 16.1% (n = 19) from Polytechnics, and 5.9% (n = 7) from other institutions. Geographically, the largest group came from the South-South Zone (38.1%, n = 45), followed by the North-Central (18.6%, n = 22), South-East (15.3%, n = 18), North-West (14.4%, n = 17), and North-East (13.6%, n = 16) zones. Regarding academic qualifications, 49.2% (n = 58) held a Ph.D., 46.6% (n = 55) had a Master's Degree, 3.4% (n = 4) held a First Degree, and 0.8% (n = 1) reported other qualifications. The mean age of the participants was 47.53 years (SD = 7.502), and they had an average of 11.58 years (SD = 7.496) of academic experience in higher education.

Ethical Considerations

Every participant received information regarding the goals of the study and the privacy of their personal information. Every participant gave their informed consent after being informed that their participation in the study was completely voluntary and that they might leave at any moment. In accordance with ethical research norms, the responses of the participants were kept anonymous throughout the entire investigation. Participant anonymity was rigorously maintained through digital data collection protocols, where each survey response was anonymized and stored on a secure server, accessible only to the research team. In adherence to ethical guidelines, participants were informed of their rights to confidentiality, voluntary participation, and the secure handling of all responses. The study protocol was reviewed and approved by the Faculty Research Committee, Faculty of Education, University of Delta, Agbor, Nigeria (Date: 01.09.2025, Reference No: FERC/2025/09/01). Ethical approval was granted at the commencement of the study in September 2024. At the time, ethical oversight for faculty-based research was conducted by the Faculty Research Committee. The study was conducted in accordance with established research ethics principles, including informed consent, voluntary participation, and confidentiality.

Instrument Development

To evaluate the two essential components of conflict resolution communication—"open communication" and "active and clear communication" —the Conflict Resolution Communication Strategies Scale (CRCS) was created in three stages:

Stage 1

A thorough literature review and consultations with specialists in the fields of counselling, business administration, sociology, measurement, and assessment preceded the creation of the CRCS. Following this preliminary procedure, eighteen items were developed with the goal of capturing the fundamental communication techniques applied in conflict resolution.

Stage 2

A group of experts in the domains of business administration, conflict resolution, sociology, counselling, measurement, and evaluation then assessed the 18-item CRCS version. During the expert assessment phase, item selection criteria included relevance, clarity, and alignment with the two key constructs, "open communication" and "active and clear communication," with items requiring a minimum 80% agreement among experts to be retained. To ensure consistency in evaluations, inter-rater reliability was assessed using Cohen's Kappa, achieving a satisfactory agreement level of 0.78, which indicates substantial reliability. Based on this evaluation, the scale was refined, and 6 items were retained for the open communication subscale, and 8 items were retained for the active and clear communication subscale.

Stage 3

Ten respondents were given the updated questionnaire, and they were instructed to select which items should be kept or thrown away. The scale was further narrowed to 5 items for open communication and 7 items for active and clear communication following this feedback procedure (See Table 1). This final set of 12 items was subjected to factor analysis for validation.

Procedure

By e-mail and WhatsApp, participants were asked to participate in the study; this was a voluntary process. The completed CRCS questionnaire was distributed to each participant in its final form. It included five open communication items and seven active and clear communication items (Table 1) that were scored on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The questionnaires were individually filled out by the participants, and the answers were anonymised before analysis.

Data Analysis

Principle Component Analysis (PCA) was used to examine the CRCS data in order to ascertain the scale's underlying structure and validate the two factors that were postulated: "open communication" and "active and clear communication". Principal Component Analysis (PCA) was chosen for this study as an exploratory tool to identify underlying structures in the scale, allowing the researchers to determine the primary components of "open communication" and "active and clear communication" without assuming a pre-defined factor structure. The suitability of the factor analysis was evaluated using the Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. To ensure that the two subscales could be distinguished clearly from one another, a Varimax Rotation was used to elucidate the factor structure. Varimax Rotation was applied to maximize the interpretability of the component loadings, clarifying the distinctiveness of each item's alignment with its corresponding construct and thus supporting the conceptual framework of the CRCS (Alordiah & Chenube, 2023).

Cronbach's Alpha was computed for the total scale as well as for each subscale in order to evaluate the CRCS's reliability. Alpha values greater than 0.7 were interpreted as indicators of strong internal consistency. For every item, descriptive statistics were also computed, such as means and standard deviations.

Table 1. The CRCS scale

Subscale	CODE	ITEM
Open Communication	C1	I openly express my concerns during conflicts.
	C2	I encourage open dialogue when conflicts arise.
	C3	I communicate openly to prevent misunderstandings.
	C4	I am willing to share my viewpoint during conflicts.
	C5	I find it important to be honest about my feelings.
Active and Clear Communication	A1	I make an effort to understand others' viewpoints during conflicts.
	A2	I listen attentively to conflicting parties to grasp their perspectives.
	A3	I avoid interrupting others while they are sharing their thoughts.
	A4	I show respect by giving my full attention during conflicts.
	A5	I communicate my ideas clearly and directly during conflicts.
	A6	I use concise language to express my thoughts during conflicts.
	A7	I ensure that my messages are easily understood during conflicts.

Results

Factor Analysis and Dimensionality

This subsection presents the evidence for the CRCS's two-factor structure through exploratory factor analysis.

Table 2. Correlation matrix of CRCS

		C1	C2	C3	C4	C5	A1	A2	A3	A4	A5	A6	A7
Correlation	C1	1.000	.415	.519	.372	.413	.309	.283	.175	.172	.439	.272	.249
	C2	.415	1.000	.503	.395	.384	.398	.454	.382	.353	.366	.256	.373
	C3	.519	.503	1.000	.535	.393	.347	.399	.267	.359	.379	.286	.344
	C4	.372	.395	.535	1.000	.339	.418	.339	.234	.348	.309	.213	.337
	C5	.413	.384	.393	.339	1.000	.347	.337	.186	.354	.447	.252	.233
	A1	.309	.398	.347	.418	.347	1.000	.695	.453	.427	.391	.446	.556
	A2	.283	.454	.399	.339	.337	.695	1.000	.503	.476	.409	.379	.507
	A3	.175	.382	.267	.234	.186	.453	.503	1.000	.511	.297	.311	.471
	A4	.172	.353	.359	.348	.354	.427	.476	.511	1.000	.548	.449	.501
	A5	.439	.366	.379	.309	.447	.391	.409	.297	.548	1.000	.563	.425
	A6	.272	.256	.286	.213	.252	.446	.379	.311	.449	.563	1.000	.650
	A7	.249	.373	.344	.337	.233	.556	.507	.471	.501	.425	.650	1.000
Sig. (1-tailed)	C1		.000	.000	.000	.000	.002	.004	.052	.054	.000	.005	.010
	C2	.000		.000	.000	.000	.000	.000	.000	.000	.000	.008	.000
	C3	.000	.000		.000	.000	.000	.000	.006	.000	.000	.003	.001
	C4	.000	.000	.000		.001	.000	.001	.014	.000	.002	.023	.001
	C5	.000	.000	.000	.001		.000	.001	.042	.000	.000	.009	.014
	A1	.002	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	A2	.004	.000	.000	.001	.001	.000		.000	.000	.000	.000	.000
	A3	.052	.000	.006	.014	.042	.000	.000		.000	.003	.002	.000
	A4	.054	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	A5	.000	.000	.000	.002	.000	.000	.000	.003	.000		.000	.000
	A6	.005	.008	.003	.023	.009	.000	.000	.002	.000	.000		.000
	A7	.010	.000	.001	.001	.014	.000	.000	.000	.000	.000	.000	

a. Determinant = .005

Table 2 displays the correlation matrix for the 12 items of the CRCS, showing how each item correlates with the others. This matrix is essential for understanding the internal relationships among the items within the scale (Escribano et al., 2021). Items related to "open communication" (C1-C5) generally exhibit moderate to strong correlations with each other. For example, item C1 ("I openly express my concerns during conflicts") is moderately correlated with C2 ("I encourage open dialogue when conflicts arise") with a correlation coefficient of 0.415. Similarly, C3 ("I communicate openly to prevent misunderstandings") has a strong correlation with C1 (r = 0.519), indicating that these items measure closely related constructs. Items related to "active and clear communication" (A1-A7) also show strong internal correlations. For instance, A1 ("I make an effort to understand others' viewpoints during conflicts") is highly correlated with A2 ("I listen attentively to conflicting

parties to grasp their perspectives"), with a correlation coefficient of 0.695. This strong correlation suggests that both items tap into the same dimension of conflict resolution communication strategies, focused on listening.

The correlation between the "open communication" items and the "active and clear communication" items is generally moderate. For example, C5 ("I find it important to be honest about my feelings") has a moderate correlation with A1 (r = 0.347), showing that while the two dimensions are related, they are distinct aspects of communication in conflict resolution. The open communication and active and clear communication subscales show moderate to strong correlations within each construct, suggesting that the items measure similar underlying features. The two subscales have moderate correlations, indicating that although they are connected, they capture distinct aspects of communication in conflict resolution. This validates the CRCS's construct validity by showing that it successfully captures open communication as well as active, clear communication as separate but related components.

Table 3. Inverse of correlation matrix of CRCS

	C1	C2	C3	C4	C5	A1	A2	A3	A4	A5	A6	A7
C1	1.703	-.222	-.539	-.129	-.265	-.120	.075	-.044	.438	-.495	-.053	.024
C2	-.222	1.662	-.367	-.118	-.192	-.003	-.249	-.253	.007	-.082	.139	-.166
C3	-.539	-.367	1.923	-.571	-.118	.210	-.258	.036	-.174	.047	-.077	-.056
C4	-.129	-.118	-.571	1.619	-.086	-.417	.150	.098	-.217	-.001	.215	-.173
C5	-.265	-.192	-.118	-.086	1.493	-.183	-.059	.132	-.224	-.316	.042	.148
A1	-.120	-.003	.210	-.417	-.183	2.380	-1.169	-.180	.072	.064	-.267	-.394
A2	.075	-.249	-.258	.150	-.059	-1.169	2.341	-.334	-.193	-.158	.126	-.171
A3	-.044	-.253	.036	.098	.132	-.180	-.334	1.668	-.555	.108	.092	-.313
A4	.438	.007	-.174	-.217	-.224	.072	-.193	-.555	2.048	-.695	-.107	-.269
A5	-.495	-.082	.047	-.001	-.316	.064	-.158	.108	-.695	2.125	-.757	.144
A6	-.053	.139	-.077	.215	.042	-.267	.126	.092	-.107	-.757	2.169	-1.088
A7	.024	-.166	-.056	-.173	.148	-.394	-.171	-.313	-.269	.144	-1.088	2.334

All values are significant at .05

Table 3's inverse correlation matrix aids in the identification of multicollinearity among the elements. If elements in a factor analysis are too closely connected to one another, multicollinearity may become troublesome (Kyriazos & Poga, 2023). The partial correlations between the items in this matrix are represented by the off-diagonal values, which account for the impacts of every other item. The values are generally small, indicating low multicollinearity among the items. For instance, the partial correlation between C1 ("I openly express my concerns during conflicts") and C3 ("I communicate openly to prevent misunderstandings") is -0.539, which suggests that although these items are correlated, they are not redundant. The small off-diagonal values indicate that the items of the CRCS are not overly similar, meaning each item contributes unique information. This is crucial for the scale's ability to measure distinct aspects of conflict resolution communication, ensuring that the items are not redundant and that the scale maintains its conceptual breadth.

Table 4. KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.865
Bartlett's Test of Sphericity	Approx. Chi-Square	428.170
	df	66
	Sig.	.000

Based on established thresholds, Table 4's Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy is deemed "meritorious" at 0.865 (Avilés-Noles et al., 2025). This statistic assesses if factor analysis can be performed with the sample size. When the sample size is more than 0.8, factor analysis can move forward with confidence.

Bartlett's Test of Sphericity is also significant ($\chi^2 = 428.170$, df = 66, $p < 0.001$), confirming that the correlation matrix is significantly different from an identity matrix. This indicates that the item correlations are strong enough to support the component analysis approach. The data is suitable for factor analysis, as indicated by the KMO value and the significant Bartlett's Test. Given that the items have enough correlation to permit significant component extraction, this justifies the decision to investigate the CRCS's underlying factor structure in more detail.

Table 5. Communalities of CRCS

	Initial	**Extraction**
I openly express my concerns during conflicts.	1.000	.614
I encourage open dialogue when conflicts arise.	1.000	.503
I communicate openly to prevent misunderstandings.	1.000	.644
I am willing to share my viewpoint during conflicts.	1.000	.486
I find it important to be honest about my feelings.	1.000	.473
I make an effort to understand others' viewpoints during conflicts.	1.000	.591
I listen attentively to conflicting parties to grasp their perspectives.	1.000	.591
I avoid interrupting others while they are sharing their thoughts.	1.000	.508
I show respect by giving my full attention during conflicts.	1.000	.566
I communicate my ideas clearly and directly during conflicts.	1.000	.495
I use concise language to express my thoughts during conflicts.	1.000	.534
I ensure that my messages are easily understood during conflicts.	1.000	.669

Extraction Method: Principal Component Analysis.

Table 5 displays the communalities of each item, which stand for the percentage of each item's variance that can be attributed to the factors that were extracted with higher values indicating stronger associations with the underlying factors. The majority of items have communalities greater than 0.5, which is the standard threshold in factor analysis for acceptable item performance (Suleymanova & Zangieva, 2022). For example, the item "I communicate openly to prevent misunderstandings" (C3) has a communality of 0.644, meaning that the extracted components account for 64.4% of the variation in this item. Some items, nevertheless, such C5 ("I find it important to be honest about my feelings"), have somewhat lower communalities (0.473), indicating that their overall variation explained by the factors may be smaller than that of other items. Extracted components with higher values indicating stronger associations with the underlying factors.

Although some items showed communalities below the 0.5 threshold, they were retained based on their theoretical relevance to the constructs, contributing unique aspects to the scale that would be diminished if removed. The majority of items considerably contribute to the underlying factor structure, as indicated by the generally high communalities. This demonstrates that a significant amount of the variance in the CRCS questions can be explained by the extracted components, hence confirming the validity of the scale as a means of assessing conflict resolution communication techniques.

Table 6 gives details on how much of the variance is explained by each of the components that were identified. Eigenvalues represent the total variance explained by each component, and loadings indicate the strength of

each item's association with a factor, helping to confirm the alignment of items with "open communication" and "active and clear communication." After extraction, two components account for a total of 60.6% of the variation. 43.99% of the variance is explained by the first component, and 16.61% more by the second. These two elements together account for a significant amount of the variation in the data, suggesting that these are the main aspects of conflict resolution communication that the CRCS measures. According to the two-component solution, the CRCS covers two important aspects of communication in conflict resolution. This is consistent with the theoretical framework of the scale, which makes a distinction between "active and clear communication" and "open communication." The scale appears to be efficient and successful in capturing the essential elements of conflict resolution communication, as evidenced by the fact that these two components account for a significant amount of the variance.

Table 6. Total variance explained of CRCS

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**	**Total**	**% of Variance**	**Cumulative %**
1	5.279	43.994	43.994	5.279	43.994	43.994	3.669	30.574	30.574
2	1.393	16.609	56.603	1.393	16.609	60.603	3.004	30.029	60.603
3	.982	8.187	68.791						
4	.749	6.244	75.034						
5	.691	5.762	80.796						
6	.660	5.497	86.293						
7	.513	3.277	89.570						
8	.463	2.855	91.425						
9	.427	2.556	93.981						
10	.318	2.650	95.631						
11	.274	2.280	97.911						
12	.251	2.089	100.000						

Extraction Method: Principal Component Analysis.

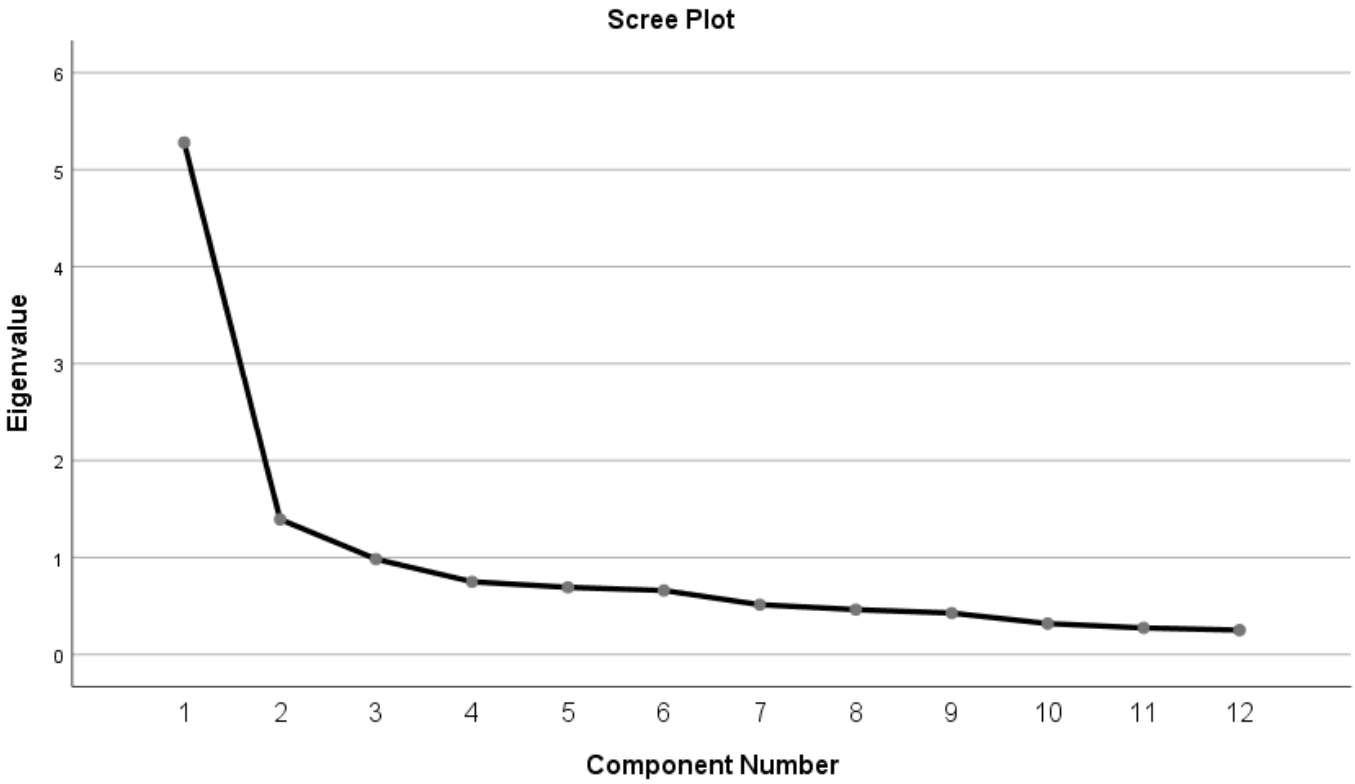

Figure 1. Scree plot of CRCS

The scree plot is a visual representation of the eigenvalues of the components extracted during factor analysis, plotted in descending order. It is used to determine the number of meaningful components (or factors) to retain based on the "elbow criterion." The eigenvalue of each component represents the amount of variance explained by that component (Shrestha, 2021). The scree plot shows a steep decline in the eigenvalues after the first two components, followed by a leveling-off or "elbow." This sharp drop suggests that the first two components explain a significant portion of the variance, while the remaining components add little to the overall explanatory power of the model. The point at which the slope begins to flatten (the "elbow") is typically where the number of factors to retain is determined. In this case, the first component has the largest eigenvalue (approximately 5.279), explaining the majority of the variance (43.99%), while the second component explains a smaller, but still significant, portion of the variance (16.61%).

The eigenvalues of the components that come after the second one are all below 1.0, signifying that they don't really matter for retention and explain less variance. Given that these two components account for most of the variance in the data, the scree plot validates the choice to keep the two components for the CRCS. This bolsters the two fundamental characteristics of the CRCS conceptual framework—"open communication" and "active and clear communication." The validity of the two-factor model is supported by the dramatic fall in eigenvalues following the second component, which indicates that adding more factors would not provide significant insights or explanatory power to the scale. These two aspects can be used by counselling psychologists to evaluate and comprehend different but connected conflict resolution communication techniques.

Component Loadings and Structural Validity

This subsection details how items map onto the two factors and validates the subscale structure.

Table 7. Rotated component matrix[a]

	Component	
	1 **Active and clear communication**	**2** **Open communication**

I openly express my concerns during conflicts.		.780
I encourage open dialogue when conflicts arise.		.622
I communicate openly to prevent misunderstandings.		.772
I am willing to share my viewpoint during conflicts.		.658
I find it important to be honest about my feelings.		.658
I make an effort to understand others' viewpoints during conflicts.	.698	
I listen attentively to conflicting parties to grasp their perspectives.	.697	
I avoid interrupting others while they are sharing their thoughts.	.705	
I show respect by giving my full attention during conflicts.	.712	
I communicate my ideas clearly and directly during conflicts.	.530	
I use concise language to express my thoughts during conflicts.	.714	
I ensure that my messages are easily understood during conflicts.	.799	

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Following the Varimax Rotation, which maximises the variance among components, the loadings of each item on the two components are displayed in Table 7's Rotated Component Matrix. By bringing the items more clearly into alignment with their corresponding factors, this rotation aids in the clarification of the CRCS scale's underlying structure. This component is heavily loaded with items pertaining to clear and active communication. For example, "I avoid interrupting others while they are sharing their thoughts" (A3) has a high loading of 0.705, and "I show respect by giving my full attention during conflicts" (A4) loads at 0.712. These high loadings indicate that these items contribute significantly to the active and clear communication factor and represent behaviours aimed at understanding others during conflict.

Items that pertain to open communication load more strongly onto this second component. For instance, "I openly express my concerns during conflicts" (C1) has a loading of 0.780, while "I communicate openly to prevent misunderstandings" (C3) has a loading of 0.772. These items reflect behaviors focused on transparency and honesty in communication during conflicts. The clear differentiation of items into two distinct components, "active and clear communication" and "open communication," reinforces the validity of the CRCS scale’s structure. The high loadings within each component confirm that these items are reliable indicators of the latent constructs they are intended to measure. Counselling psychologists can use this information to target specific

behaviors in conflict resolution—either improving listening skills or enhancing open communication strategies based on the client's needs.

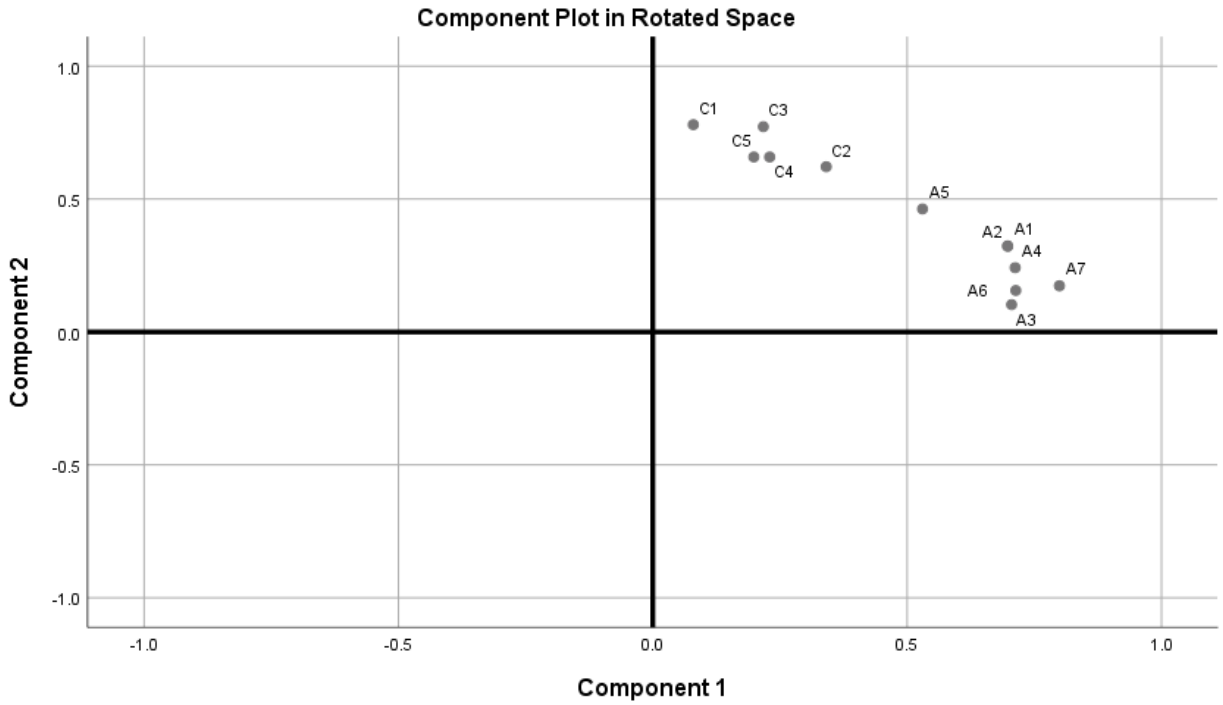

Figure 2. Component Plot in Rotated Space

The component plot in rotated space visually represents the distribution of items on the two extracted components after rotation (Figure 2). This plot helps to clarify how the items cluster around the two components and whether they distinctly load onto one factor or have overlapping associations with multiple factors (Bandalos & Finney, 2018). In this plot, the two axes represent the two components: Component 1 (Active and Clear Communication) and Component 2 (Open Communication). Plotting of each item is done according to its loading onto the two components after Varimax Rotation. Items with more equal loadings between the two components will be positioned between the axes, whilst objects with stronger relationships to one component will be closer to that component's axis. The fact that items linked to clear and active communication (A1 to A7) are grouped close to Component 1 suggests that this factor is where they largely load. These items assess behaviours like understanding, respect, and attentiveness during dispute resolution, which is well-aligned with the active and clear communication dimension.

Open communication-related items (C1 to C5) are positioned closer to Component 2, indicating a higher loading onto this factor. Aspects of discussion and open speech during conflict are measured by these elements, which demonstrate communication clarity and transparency. The fact that the two items clusters are comparatively separate suggests that the items are loading into the right components with little to no overlap. Some elements, on the other hand, can show some cross-loading, which indicates that while they are partly related to both dimensions, their primary association is still evident. The component plot, which clearly distinguishes between the items evaluating open communication and those measuring active and clear communication, visually validates the two-factor structure of the CRCS. The assumption that these two dimensions reflect different but complimentary features of conflict resolution communication is supported by the differential clustering of items around their respective components. This visual proof bolsters the CRCS's psychometric integrity by demonstrating that the scale successfully measures two different constructs.

Reliability Analysis

This segment reports Cronbach's Alpha coefficients for full and subscales, alongside item-total statistics confirming internal consistency across all measurement items.

Table 8. Reliability of CRCS and its subscales

	Reliability Statistics		
	Cronbach's Alpha	**Cronbach's Alpha Based on Standardized Items**	**NO. of Items**
Full scale (CRCS)	.876	.883	12
Subscale (Open communication)	.787	.788	5
Subscale (Active and clear communication)	.858	.864	7

Table 8 presents the reliability statistics for the overall CRCS scale as well as its two subscales—"open communication" and "active and clear communication". Cronbach's Alpha is used to assess internal consistency, with values above 0.7 typically considered acceptable (Karakaya & Alparsian, 2022). With a Cronbach's Alpha of 0.876, the CRCS scale has strong internal consistency across the board. This implies that the CRCS's items measure the same general construct of conflict resolution communication techniques and are closely related to one another. The Open Communication Subscale exhibits great internal consistency, as seen by its Cronbach's Alpha of 0.787. This indicates that the open communication-related items (C1–C5) measure this feature of dispute resolution with reliability.

Clear and active communication subscale's Cronbach's Alpha of 0.858 indicates better reliability for the items on active and clear communication (A1-A7). The CRCS is an instrument that is consistent and reliable for evaluating conflict resolution communication skills, as evidenced by the strong reliability scores obtained on both subscales and the complete scale. Because the scale consistently measures the communication behaviours required for successful conflict resolution, practitioners can use it with confidence. Furthermore, because each subscale has a high degree of internal consistency, psychologists can utilise the subscales separately to concentrate on different aspects of conflict communication without compromising reliability.

Table 9. Item-Total statistics of CRCS

	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Squared Multiple Correlation**	**Cronbach's Alpha if Item Deleted**
C1	45.84	44.066	.493	.413	.873
C2	45.53	44.321	.591	.398	.865
C3	45.57	43.329	.603	.480	.864
C4	45.63	45.662	.527	.382	.869
C5	45.47	45.240	.502	.330	.871
A1	45.45	45.837	.654	.580	.863
A2	45.47	44.918	.650	.573	.862
A3	45.74	45.644	.504	.400	.870
A4	45.68	44.104	.606	.512	.864
A5	45.45	46.297	.637	.529	.865
A6	45.76	44.322	.541	.539	.869
A7	45.66	44.986	.635	.572	.863

Table 9 provides the item-total statistics, which show how each item contributes to the overall scale's internal consistency. The scale mean, scale variance, and corrected item-total correlation are included in this table in the event that an item is eliminated. In order to determine if eliminating the item would improve or worsen the scale's reliability, the table further displays the Cronbach's Alpha in the event that it is removed. Strong adjusted item-total correlations for the majority of the items indicate that they positively affect the scale as a whole. For instance, "I communicate openly to prevent misunderstandings" (C3) has a corrected item-total correlation of 0.603, meaning it correlates well with the total score on the CRCS.

The Cronbach's Alpha if item deleted remains above 0.860 for all items, indicating that removing any single item would not substantially improve or reduce the reliability of the scale. For example, removing the item "I communicate my ideas clearly and directly during conflicts" (A5) would result in a very slight increase in Cronbach's Alpha (from 0.876 to 0.865), but this increase is negligible. The item-total statistics verify that every item makes a significant contribution to the scale as a whole, and eliminating any one item would not increase the reliability of the scale. This supports the notion that the CRCS is a powerful instrument for evaluating conflict resolution communication, with each item having a significant bearing. The full scale can

be used by counselling psychologists, as each question adds to a thorough evaluation of conflict resolution techniques.

Criterion Validity and Item Discrimination

Comparative analyses with the TKI and extreme-group t-tests are presented to establish concurrent validity and discriminative power of individual scale items.

Table 10. Criterion validity of CRCS subscales

CRCS Subscale	TKI-Collaborating	TKI-Compromising
Open Communication	0.52**	0.41**
Active and Clear Communication	0.48**	0.37**

We assessed criterion validity by correlating the CRCS subscales (Open Communication and Active and Clear Communication) with the Thomas-Kilmann Conflict Mode Instrument (TKI) subscales (Collaborating and Compromising), which are theoretically aligned with constructive conflict resolution.

From Table 10 Both CRCS subscales showed moderate to strong positive correlations with TKI's Collaborating and Compromising styles (*p* < 0.01), supporting criterion validity. This indicates that higher scores on the CRCS align with constructive conflict resolution behaviours measured by the TKI.

Table 11. Item discrimination via 27% lower-upper group comparisons

Item Code	Lower Group Mean (*SD*)	Upper Group Mean (*SD*)	**t*-value	**p*-value	Cohen's **d**
C1	2.45 (0.89)	4.62 (0.51)	15.73	<0.001	2.87
C2	2.67 (0.92)	4.55 (0.58)	12.91	<0.001	2.41
C3	2.71 (0.85)	4.70 (0.47)	14.82	<0.001	2.76
C4	2.63 (0.91)	4.52 (0.63)	13.25	<0.001	2.38
C5	2.58 (0.88)	4.48 (0.65)	12.97	<0.001	2.42
A1	2.53 (0.94)	4.58 (0.61)	13.64	<0.001	2.53
A2	2.49 (0.88)	4.63 (0.49)	15.29	<0.001	2.84
A3	2.61 (0.90)	4.60 (0.54)	14.12	<0.001	2.62
A4	2.55 (0.87)	4.65 (0.52)	14.95	<0.001	2.78
A5	2.50 (0.93)	4.57 (0.60)	13.81	<0.001	2.56
A6	2.47 (0.89)	4.53 (0.62)	13.52	<0.001	2.51
A7	2.42 (0.91)	4.67 (0.48)	15.48	<0.001	2.89

To evaluate item discrimination, responses between the lower (27%) and upper (27%) groups based on total CRCS scores were compared. Independent t-tests revealed statistically significant differences ($p < 0.001$) for all items, with large effect sizes (Cohen's $d > 2.38$), confirming that each item effectively discriminates between individuals with varying proficiency in conflict resolution communication (Table 11).

Discussion

This study's main goal was to assess the Conflict Resolution Communication Strategies Scale's (CRCS) psychometric qualities as a counselling psychologist's instrument. The study's specific goal was to ascertain if the CRCS accurately assesses two essential aspects of communication in conflict resolution: "open communication" and "active and clear communication".

According to the study, the CRCS has a unique two-factor structure, with items clearly loading onto the two dimensions of active and clear communication as well as open communication. This two-component model explains 60.6% of the total variance, confirming the scale's ability to capture meaningful aspects of conflict resolution communication. The overall reliability of the scale, with a Cronbach's Alpha of 0.876, was high, indicating strong internal consistency. The two subscales, open communication ($\alpha = 0.787$) and active and clear communication ($\alpha = 0.858$), also demonstrated strong reliability.

Factor analysis validated the scale's construct, with the KMO measure (0.865) and Bartlett's Test of Sphericity ($p < 0.001$) confirming its suitability for measuring the intended dimensions. The CRCS demonstrated strong criterion validity, with both subscales showing moderate to significant correlations ($r = 0.37–0.52$) with the TKI's collaborative and compromising styles, aligning with theoretical expectations for constructive conflict resolution. Item discrimination analyses revealed excellent differentiation between low and high performers, with all items exhibiting large effect sizes (Cohen's $d > 2.38$) and statistically significant mean differences ($p < 0.001$).

The results of this study are consistent with other studies emphasising the value of open communication as well as active, clear communication as essential elements of successful conflict resolution (Bista, 2016; Eisenkopf, 2018). Studies also highlighted the dual necessity of expressive and receptive communication behaviours in mitigating conflicts (Chung, 2015; Zheng et al., 2017). However, the CRCS scale's strong reliability and clear separation of these two dimensions—features that were common in earlier measuring scales—expand prior work by providing a psychometrically validated instrument that can evaluate these constructs independently (Adamu and Mohamad, 2019). However, other research instruments have frequently integrated these features into a single dimension, potentially omitting the distinctive roles that each element plays in the process of resolving conflicts (Bonache et al., 2016).

According to the results, the CRCS is a trustworthy tool for evaluating conflict resolution communication techniques in therapeutic settings. The distinction between open communication and active and clear communication is crucial because it offers counselling psychologists a more nuanced understanding of their clients' communication behaviours. Clients may excel in one area (e.g., listening) but struggle in another (e.g., expressing concerns openly), and the CRCS can help identify such imbalances. This makes it possible to implement focused treatments that deal with certain shortcomings in conflict resolution strategies. Additionally, the CRCS's high degree of reliability lends credence to its application in a variety of counselling contexts, including workplace mediation and relationship counselling. The two-factor structure is consistent with communication theory, which holds that both empathic listening to others' viewpoints and clearly articulating one's own stance are necessary for effective conflict resolution (Bates & Samp, 2011).

Although the study offers insightful information, there are a few important limitations to be aware of. First, with almost half of the participants holding a Ph.D., the sample was strongly biassed towards those with superior academic qualifications. Therefore, it is possible that the results cannot be applied to groups that are not in academic environments or have less formal schooling. Secondly, the research was carried out inside a distinct cultural milieu, predominantly including individuals from disparate geopolitical zones within Nigeria. To verify the scale's applicability in various situations—particularly those where communication norms may differ—further testing across a wider range of cultural contexts may be necessary. Furthermore, even if a significant portion of the variance may be explained by the two-factor model, the CRCS may be missing certain important aspects of conflict resolution communication.

By using samples from other nations and cultural backgrounds, future studies should investigate the CRCS's cross-cultural validity. This would assist in determining whether other culturally specific features of conflict resolution communication should be included or if the characteristics of "open communication" and "active and clear communication" are universally applicable. Additionally, research might investigate whether the CRCS's scores are linked to successful conflict resolution outcomes in real-world situations like marriage disagreements or work-related conflicts in order to assess the scale's predictive validity. Future research can employ Confirmatory Factor Analysis (CFA) to further validate the model's fit and strengthen its generalizability. Lastly, more research might examine the ways in which communication methods interact with other factors, such conflict severity or emotional regulation, to affect the overall efficacy of conflict resolution.

Implications and Recommendations

The findings of this study carry important implications for counselling psychologists, educators, researchers, and organizational leaders. At the same time, they open up avenues for future research that could deepen our understanding of conflict resolution strategies.

Practical Applications for Counselling and Mental Health

The CRCS provides counselling psychologists with a valuable tool to assess how individuals communicate during conflicts. By distinguishing between open communication (expressing concerns honestly) and active and clear communication (listening attentively and responding clearly), the scale helps practitioners pinpoint specific areas where clients may struggle. For example, someone might be good at speaking their mind but struggle with truly listening to others—or vice versa. Recognizing these differences allows for more tailored interventions, whether in couples therapy, workplace mediation, or school counselling programs.

Practical Applications for Counselling and Mental Health

Beyond therapy, the CRCS could be integrated into training programs for teachers, managers, and Human resources (HR) professionals. Workshops on conflict resolution often focus on general strategies, but this scale offers a structured way to evaluate and improve two key communication skills separately. Imagine a corporate training session where employees take the CRCS, identify their weaker area, and then practice targeted exercises—such as role-playing for active listening or assertiveness drills for open expression.

Future Research Directions

While this study established the CRCS as a reliable quantitative measure, there's room to explore the topic further using different methodologies. For instance:

- Online Photovoice (OPV) could involve participants (e.g., counsellors or employees) sharing photos or videos that represent their experiences with conflict. This visual approach might uncover nuances that surveys miss—like body language or environmental factors influencing communication (Doyumğaç et al., 2021; Oliffe et al., 2023; Tanhan, 2020; Tanhan & Strack 2020; Waalkes et al., 2025).
- Online Interpretative Phenomenological Analysis (OIPA) could delve into personal stories, interviewing people about their most challenging conflicts and how they navigated them. This would add depth to our understanding of why some strategies work for certain individuals but not others (Nizza et al., 2021).
- Community-Based Participatory Research (CBPR) could bring together groups affected by frequent conflicts—such as healthcare teams or multicultural communities—to co-design communication interventions based on their real needs (Corrigen & Oppenheim, 2023; Dari et al., 2023).

Organizational and Policy Recommendations

Leaders in workplaces and institutions should consider conflict resolution communication as a skill that can—and should—be developed. HR departments might use the CRCS in employee assessments, while universities could incorporate it into leadership training. On a broader scale, educational policymakers might advocate for communication skills programs in schools, helping young people develop these abilities early.

Conclusion

The Conflict Resolution Communication Strategies Scale (CRCS), which measures two essential aspects of conflict resolution communication—open communication and active and clear communication—has been confirmed by this study as a valid and sound psychometric tool. The CRCS has demonstrated its ability to discriminate between these two components through extensive testing and factor analysis, providing counselling psychologists with an invaluable tool for assessing and enhancing their clients' conflict resolution techniques. Because of the scale's strong factor structure and excellent reliability, focused interventions meant to improve conflict resolution skills can be implemented with confidence in a variety of counselling scenarios.

The CRCS offers a useful, research-based tool for use in the field in addition to adding to the theoretical understanding of conflict resolution communication. The scale can be used by counselling psychologists to evaluate the communication styles of their clients, pinpoint areas in need of development, and create targeted therapies that target certain communication deficiencies. The scale's versatility is further demonstrated by its usefulness in a variety of institutional and demographic situations, which makes it a useful tool for practitioners dealing with a broad spectrum of clients.

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Consent to Participate: All participants have been provided with an informed consent form.

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