Systems Research and Behavioral Science

WILEY

SYSTEMS and BEHAVIORAL RESEARCH SCIENCE

RESEARCH ARTICLE

A Reflection on Jeffrey C. Alexander's Theory of Cultural Trauma: Using Integrative Propositional Analysis

Ali Yousofi | Parinaz Bidel

Department of Social Sciences, Faculty of Literature and Humanities, Ferdowsi University of Mashhad, Mashhad, Iran

Correspondence: Ali Yousofi (yousofi@um.ac.ir)

Received: 7 June 2023 | **Revised:** 16 July 2025 | **Accepted:** 4 August 2025

Funding: The authors received no specific funding for this work.

Keywords: complexity | cultural trauma | integrative propositional analysis | meta-theory | systemicity

ABSTRACT

Evaluating a sociological theory necessitates a meta-theoretical framework that uncovers its inner structure and logical robustness. This study aims to enhance our understanding of Jeffrey C. Alexander's theory of cultural trauma by independently analysing its structure using the integrative propositional analysis (IPA) method, without relying on empirical evidence. The IPA method systematically extracts the main propositions and interconnected concepts to assess the theory's internal robustness based on two key criteria: complexity (the expansion of concepts) and systemicity (the interconnection of concepts). These criteria indicate the theory's breadth and depth, respectively. The systemicity of a theory, measured on a scale from 0 to 1, reflects its degree of structural coherence. The results of the analysis reveal that Alexander's theory of cultural trauma consists of 29 complex concepts and 10 concatenated concepts, yielding an internal robustness score of 0.34 based on the relationship between these sets of concepts. Given that, according to the IPA method, the internal robustness of social science theories typically falls between 0.2 and 0.5 and generally remains below 0.25, the findings indicate that the theory of cultural trauma exhibits a high degree of internal robustness and, consequently, a strong logical structure.

1 | Introduction

Science serves as a framework for understanding the world by formulating and testing theories that explain natural and social phenomena. As Shoemaker et al. (2004) argue, science generates theories and refines them through empirical verification, modification or rejection. The validity and success of a theory in explaining reality depend on several factors, including the theorist's depth of knowledge, familiarity with theoretical frameworks, and adherence to fundamental principles of theory development. This is particularly relevant in sociology, where theories must be assessed against established theoretical principles to ensure their explanatory power and applicability. Hence, a structured approach to theoretical critique is essential.

A critical evaluation of theories, their improvement, and the development of new theoretical perspectives necessitate a systematic approach (Ritzer 1990). Metatheorising provides such an approach by examining the fundamental structure of theories and identifying their underlying assumptions (Ritzer 1990; Ritzer and Schubert 1991). Zhao (1991) describes metatheorising as a meta-study that involves continuous monitoring of primary, first-order studies. Similarly, Turner (1990) posits that metatheory aims to refine existing theories by evaluating their concepts, propositions and models, extracting the most useful elements, and reconfiguring them based on empirical and conceptual considerations. It also enhances theoretical precision, identifies patterns of convergence and divergence with other theories, and facilitates the integration of multiple theoretical perspectives.

Given that metatheory focuses on the study of theories themselves, it plays a crucial role in optimizing their application. A metatheoretical approach enables scholars to draw significant conclusions regarding the principles and foundations of theories. Several methodologies have been proposed for metatheoretical analysis, including the integrated complexity (IC) method, which was developed by Suedfeld et al. (1992) to analyse the cognitive structure of mental models using paragraph completion tests. Another approach is integrated propositional analysis (IPA), which assesses the structural integrity and conceptual coherence of theories to determine their practical utility (Wallis 2016). The conceptual system approach also plays a vital role in theory evaluation, as concepts serve as the fundamental building blocks of any theoretical framework (Chalabi 2016).

Within conceptual systems science, theories are regarded as structured networks of interrelated concepts that serve to explain real-world phenomena. These conceptual systems may include theories, policy models, mental models and schemas. A well-structured theory, according to the IPA method, is one that effectively integrates multiple concepts and minimises inferential gaps between theoretical constructs and real-world applications (Wallis 2016). The structuredness of a theory determines its explanatory power and usefulness in addressing real-world problems. Examining theoretical structures and integrating theories can provide a more comprehensive representation of both social and physical systems, thereby enhancing our understanding of the world (Wallis 2021).

Compared to empirical approaches that emphasise the correspondence between concepts and reality, IPA focuses on conceptual coherence. Rooted in dialectical philosophy, IPA evaluates the internal structure of theories and their logical consistency (Wallis 2018). In classical scientific approaches, correspondence refers to the extent to which a theory aligns with empirical observations, while in systemic science, coherence pertains to the internal consistency of a theory (Wallis 2016). IPA evaluates theories by examining their fundamental concepts, the relationships between these concepts, the degree of structuredness and the practical implications of their structural analysis. Theories with a greater number of interconnected concepts exhibit higher complexity and coherence, making them more structured and practically useful. Highly structured theories minimise inferential leaps and facilitate the transition from theoretical insights to real-world applications (Wallis 2019a).

One of the most significant sociological theories that can benefit from metatheoretical analysis is Jeffrey C. Alexander's theory of cultural trauma. This theory offers a comprehensive framework for understanding social suffering and collective identity disruptions. Alexander, along with other sociologists, initially formulated the theory in Cultural Trauma and Group Identity (2004). He later refined and expanded it in Trauma: A Social Theory (2013), addressing gaps in earlier collective trauma theories and striving to develop a more coherent and structured framework. His work seeks to establish a middle-range theory that can be generalised to various instances of collective trauma. This effort is evident in his systematic attention to the theory's foundational elements, including its assumptions, core concepts and propositional structure.

Cultural trauma occurs when collective suffering becomes central to a group's identity and values (Alexander 2005, 2013). Alexander has examined this process through diverse case studies, ranging from the Holocaust's universalist implications to the particularistic trauma narratives of the Israeli right, the Partition of India and Pakistan, and the suppression of the Nanjing Massacre in Maoist China. Ultimately, he situates cultural trauma within the broader discourse of globalization, envisioning a potential pathway towards world peace in the twenty-first century.

A key strength of Alexander's work is its integration of theoretical frameworks with empirical case studies, providing valuable insights into collective trauma, social suffering, and collective memory. This integrative approach not only enhances our theoretical understanding of cultural trauma but also extends and refines existing sociological frameworks. Given the theory's significance, a rigorous metatheoretical analysis is necessary to assess its core propositions, its degree of structuredness, and its coherence. This study applies the IPA method to systematically examine the theory's propositional structure, with the aim of addressing the following research questions:

1. What are the fundamental propositions of Alexander's theory of cultural trauma?
2. How structured is the theory in terms of its conceptual and propositional coherence?
3. How does the theory compare to other trauma-related frameworks in terms of explanatory power and applicability?

By conducting this analysis, the study aims to provide a deeper understanding of cultural trauma as a sociological construct and assess its theoretical robustness using metatheoretical tools.

2 | The Theory of Cultural Trauma in a Nutshell

This theory is designed to explain the reality of cultural trauma, addressing the following questions: What is cultural trauma? What is the process of cultural trauma? In formulating his theory, Alexander defines cultural trauma with its main and intertwined elements as follows:

> Cultural trauma occurs when members of a collectivity feel they have been subjected to a horrendous event that leaves indelible marks upon their group consciousness, marking their memories forever and changing their future identity in a fundamental and irrevocable way" (Alexander 2012: 6).

3 | The Nature of Cultural Trauma

Cultural trauma originates with a 'shocking event' that the affected group perceives as 'horrendous'. However, events

themselves do not inherently cause trauma. Instead, trauma is socially constructed; sometimes, events identified as the source of trauma may not have occurred as described but can still be perceived as traumatic due to the power of imagination (Alexander 2013, p. 12). This notion of imagination aligns with Durkheim's concept of 'religious imagination' in *The Elementary Forms of Religious Life*. Through the process of representation intertwined with imagination, trauma is constructed in a manner similar to real events, allowing actors to experience it as if it were an actual occurrence (p. 14).

What is crucial in this process is that a perceived horrendous event—whether real or shaped by imagination—is recognised as damaging because it disrupts collective identity, threatening its stability and coherence (p. 14). However, this destabilisation is not merely about action; it pertains to meaning. Identity is intrinsically linked to cultural reference points, and when an event disrupts the patterned meanings within a collectivity, it is designated as traumatic. Such instability in meaning structures arises from sociocultural processes rather than the inherent nature of the event itself. Specifically, trauma emerges from the success of human agency in imposing a new system of cultural classification (p. 15).

4 | Representation and the Social Construction of Trauma

Trauma becomes culturally significant when human agency successfully represents an event as traumatic. The nature of the event and its representation are distinct; it is through representation that collective crises are framed as cultural crises. Trauma, therefore, is not simply a shared experience of pain but rather a social process in which collective actors define suffering as a fundamental threat to group identity (p. 15). This process involves making claims about the event, its causes and the assignment of responsibility. Such claims are embedded within what Alexander (2013) refers to as the 'spiral of signification' (p. 15–16).

5 | The Role of Carrier Groups

The construction of trauma relies on 'carrier groups', which serve as collective agents in the trauma process. These groups, situated within particular social structures, possess both material and ideological interests. They have discursive capabilities that enable them to shape public narratives and construct meaning within the public sphere. Carrier groups may include political elites, marginalised classes, religious leaders, generational groups, nations or institutions (p. 16). Their ability to disseminate trauma narratives depends on various institutional platforms, including government, religious organisations, legal systems, scientific communities and most significantly—mass media. These institutions act as mediators, transmitting trauma narratives while being influenced by stratification hierarchies and power dynamics (p. 19–25).

6 | Trauma as a Performative Process

The process of trauma formation resembles a performative speech act, involving three key elements: the carrier group (speakers), the audience (public) and the situational context (historical, cultural and institutional). The carrier group presents a compelling trauma narrative to persuade the audience. This performance is structured to evoke emotional engagement, drawing upon historical precedents, cultural symbols and institutional frameworks (p. 16–17).

Initially, the trauma message is directed at the carrier group's immediate members. If successful, the narrative is then expanded to a broader audience. The ability to secure widespread recognition depends on the creation of a master narrative—a coherent and persuasive cultural classification framework that defines the trauma and its significance. However, constructing such a narrative is complex and often sparks conflicts, opposition and even social clashes.

7 | The Four Representational Elements of Trauma

To successfully construct a trauma narrative, the carrier group must address four interrelated representations:

1. Nature of the pain: What happened to the affected group or community?
2. Identity of the victim: Who has suffered? Were they individuals, specific groups, or the general public? Does the trauma affect one or multiple groups?
3. Relation to the wider audience: To what extent do audience members identify with the victim group?
4. Attribution of responsibility: Who inflicted the harm and caused the trauma? (p. 17–18)

These representational elements establish causal connections between seemingly unrelated events and structures. By doing so, they heighten public awareness of suffering and its origins, reshaping notions of social responsibility and political action. The process of trauma identification assigns moral responsibility to specific actors, creating solidarity among group members while fostering a shared sense of suffering. However, when groups responsible for the trauma deny their role and shift blame, they evade moral accountability, leaving the affected community isolated in its suffering (p. 6).

8 | Cultural Trauma and Identity Reconstruction

Ultimately, the trauma process leads to a transformation of collective identity. As the traumatic event remains embedded in group memory, it prompts a continuous revision of the group's self-perception. Over time, as the intensity of trauma discourse diminishes, emotions subside, and society undergoes a process of routinisation. While public discourse on cultural trauma may weaken, its legacy persists in collective memory, often materialised in museums, memorials and symbolic sites. These elements serve as 'temples' or 'material myths', mobilising social forces and reinforcing solidarity among group members (p. 26–27).

The theory of cultural trauma underscores the social construction of trauma through representation, performance, and

institutional mediation. Trauma is not merely an event but a process in which collective actors define, narrate, and disseminate suffering as a challenge to group identity. The power of trauma lies in its ability to reshape cultural meanings, forge solidarity and reconstruct collective identity. While the intensity of trauma discourse may fade over time, its imprint endures within collective memory, shaping the cultural and political landscapes of affected communities.

9 | Methodology

This study employed a qualitative meta-theoretical approach, aimed at exploring the theoretical structure of Jeffrey C. Alexander's theory of cultural trauma. Data collection and analysis were conducted using the IPA method—a form of in-depth, structured content analysis. Rather than relying on word counts or simple categorisation, IPA extracts propositions and analyses their logical relationships as the smallest and most fundamental meaningful units that constitute the structure of the text.

The sheer volume of words and sentences within a theory can sometimes obscure its meaning and logical structure, making it challenging for readers to comprehend and, ultimately, to devise ways to test it. Therefore, methodological approaches are required to clarify the constituent elements of a theory, enabling a systematic evaluation of its utility and testability. To achieve this, meta-theoretical techniques facilitate an intellectually rigorous analysis of the theory.

Concepts and propositions serve as the foundational building blocks of any theory. Propositions express logical relationships between social phenomena, combining concepts to construct a theoretical framework (Chalabi 2016). As a result, differences in theoretical perspectives among sociologists often stem from discrepancies in their propositions (Tanhaei 2004). According to Turner (1990), a core function of metatheorising is to evaluate concepts, propositions and theoretical models to enhance their comprehension and development. Turner himself applies this approach in works such as *Theoretical Principles of Sociology* (2010a, 2010b, 2012). Similarly, Chafetz (1987) emphasizes that axioms and postulates form the central content of theories, advocating for the axiomatic method as a means to logically deduce propositions.

A related method, IPA, was pioneered by Steven E. Wallis. The present study employs IPA to conduct a meta-theoretical analysis of the complexity and systemic nature of cultural trauma theory.

10 | Integrative Propositional Analysis

Conceptual systems are networks of ideas, concepts or interrelated propositions. While concepts have long been central in the cognitive systems sciences, the significance of conceptual systems lies in their analogical relationship with the world, offering a lens or framework for understanding and interacting with it. These systems can take the form of theories, models, schemas, mental models, conceptual maps, strategic plans, policies and anywhere concepts are defined in relation to one another. Thus, the science of conceptual systems is concerned with the systematic pursuit of knowledge and understanding of these frameworks through rigorous methods. A core aim of this science is to quantify aspects of conceptual systems—most importantly, to identify relationships between their structural metrics and their real-world utility. One such emergent discipline is IPA (Wallis 2016).

IPA is a mixed-method approach that integrates qualitative and quantitative analysis. It involves a hermeneutically rigorous deconstruction of propositions found in formal texts and their careful reassembly according to a structured methodology. IPA enables meta-analysis of conceptual systems to assess their *complexity* (diversity of concepts) and *systemicity* (interconnectivity among concepts) (Wallis 2014).

IPA is designed to test the logical structure of conceptual systems, including theories, by assessing their robustness, internal coherence, structuredness, common causality and overall conceptual integration, with the aim of improving them (Wallis 2010b, 2010c). Initially, Wallis used the term *robustness* to describe these qualities; however, after 2014, he replaced it with *systemicity* to more precisely measure the structural integrity of theories (Wallis 2019b). It is important to clarify that, in this context, robustness does not refer to resistance to change or longevity but instead represents a specific and objective measure of the relationships between propositions within a theory. For the purposes of this article, the term *systemicity* will be used in line with Wallis's updated terminology (Wallis 2010d).

IPA provides an objective method for assessing the structural integrity of a theory, allowing researchers to measure its internal coherence and track its evolution over time relative to other theories (Wallis 2010a). The method primarily focuses on analysing the logical structure of propositions within a given theory (Wallis 2015a, 2015b).

Propositions are the core components of theories, each embodying a logical structure that signifies causal relationships between concepts. Consequently, the clarity of these logical structures is crucial for evaluating the theory's coherence and practical applicability.

Wallis identifies five fundamental logical structures that define relationships between concepts and propositions: atomistic, circular, linear, branching and concatenated (Wallis 2012a, 2013).

A key insight from Wallis's work is the emphasis on *concatenated logical structures* or *transformative concepts* (concepts that receive two or more causal inputs). The degree of concatenation is a crucial indicator of a theory's structural integrity. Theories composed predominantly of atomistic propositions—those lacking causal relationships—exhibit weaker structural coherence and, consequently, lower empirical validity. In contrast, theories featuring a greater number of concatenated concepts demonstrate higher structural complexity, making them more robust and practically applicable (Wallis 2014). This is because well-structured theories offer a more comprehensive and interconnected explanation of phenomena, thereby enhancing their explanatory power and applicability.

11 | Steps of the Propositional Analysis Method

IPA method follows a systematic approach to evaluate the logical structure and systemicity of conceptual systems. The main steps of this method, as outlined by Wallis (2009a, 2016), are detailed below.

Step 1: Identifying main propositions and excluding sub-propositions

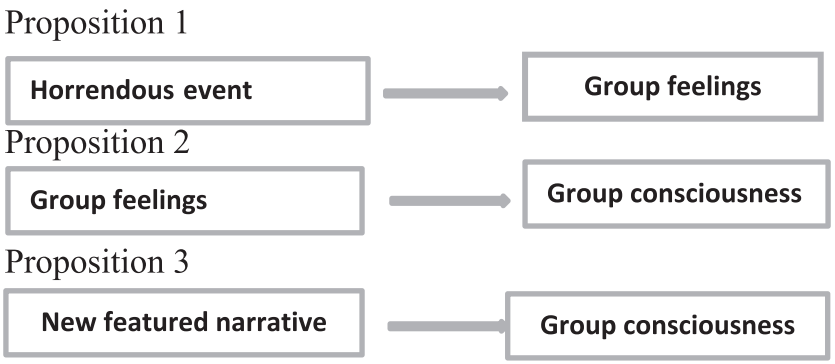
The first step involves isolating the core propositions of a given conceptual system while filtering out subordinate propositions. Consider the following example of a theoretical model (Theory A):

1. The horrendous event is true.
2. The horrendous event causes the inflammation of group feelings.
3. The inflammation of group feelings causes the weakening of group consciousness.
4. A new featured narrative causes the weakening of group consciousness.

Step 2. Examining conceptual connections and constructing a diagram

Next, the logical relationships among concepts are identified and visually represented using arrows to denote causality. This diagrammatic representation facilitates a clearer understanding of the conceptual system (Wallis 2019b). The propositions of Theory A can be illustrated as follows:

Statement 1: horrendous event is true.



Step 3: Identifying overlapping propositions and creating an integrative diagram

At this stage, similar or overlapping propositions are combined to form a more comprehensive and integrated conceptual structure. The final representation of Theory A is presented in Figure 1.

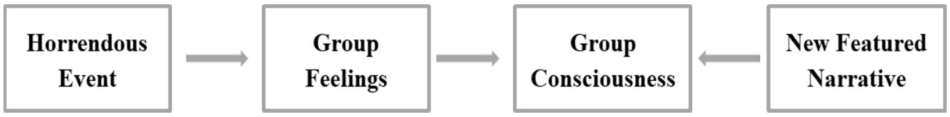


FIGURE 1 | Graphed propositions

Step 4: Determining complexity

Complexity, or the breadth of a conceptual system, is quantified by counting the number of distinct concepts within the theory. Complexity measures the extent to which a theory encompasses conceptual ground (Wallis and Johnson 2018). In the example of Theory A, four distinct concepts are identified, resulting in a complexity score of **4**.

Step 5: Identifying concatenated concepts

Concatenated concepts are those influenced by two or more causal relationships (Wallis 2012a). In Figure 3, 'group consciousness' qualifies as a concatenated concept because it is affected by both 'group feelings' and 'new featured narrative'.

Step 6: Measuring systemicity (robustness)

Systemicity is calculated by dividing the number of interconnected (concatenated) concepts by the total number of concepts in a theory. It measures the degree of interconnectivity within a theoretical framework (Wallis and Johnson 2018). Higher systemicity indicates a more structured and cohesive theory, which enhances its explanatory and predictive power.

The systemicity of a theory is expressed as a value ranging from 0 to 1:

- 0: The theory lacks structure and systemicity.
- 1: The theory exhibits complete interconnectivity and robustness.

In social sciences, systemicity values are typically below 0.25, while in physics and mathematics, they are generally closer to 1 (Wallis 2009c). Applying this calculation to Theory A:

- Total concepts: 4
- Concatenated concepts: 1
- Systemicity (S) = 1/4 = 0.25

Thus, the systemicity score for “”Theory A is 0.25, indicating a moderate level of structural integration (Wallis 2019b). The approximate systemicity and complexity ranges are illustrated in Figure 2.

12 | Interpretation of Systemicity and Complexity in Theoretical Models

Theories in physics, despite having relatively few concepts, often exhibit systemicity values close to **1**, placing them in the upper-left quadrant of Figure 2. Conversely, social science theories, characterised by lower systemicity, typically reside in the lower-left quadrant. When theories are integrated, their complexity increases, leading to the development of more comprehensive theoretical models. These new theories, with enhanced systemicity and conceptual breadth, migrate toward the upper-right quadrant.

The integration of theories serves two key functions:

1. *Strengthening the core of the theory*: By filtering out less relevant concepts, the theoretical focus becomes more refined.
2. *Expanding conceptual scope*: A broader theory facilitates the understanding of a wider range of phenomena and increases its applicability to various contexts (Shoemaker et al. 2004).

A theory with greater complexity allows for the identification of causal relationships that may require further empirical validation. While additional concepts introduce complexity, they also highlight underexplored areas within the theoretical framework, offering opportunities for future research. As Wallis (2019b: 417, 419) suggests, ‘a dictionary with more words is preferable to a dictionary with fewer words’, as a more extensive theoretical framework provides greater explanatory potential and applicability across diverse contexts.

13 | Findings and Discussion

The propositional analysis of cultural trauma theory using the IPA method follows these key steps:

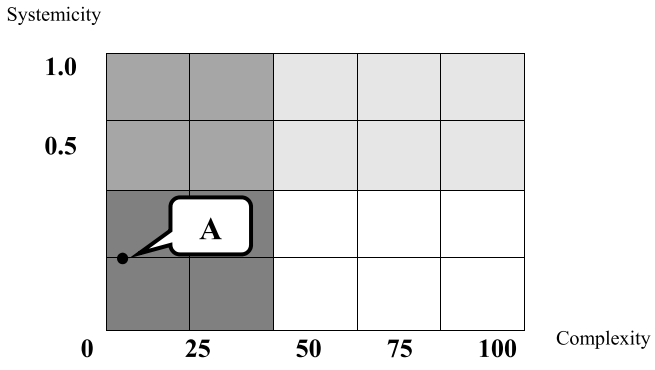


FIGURE 2 | Complexity and systemicity of theory A (Wallis 2019b). [Colour figure can be viewed at wileyonlinelibrary.com]

Step 1: Identifying the main concepts of cultural trauma theory

The first step in IPA is identifying the fundamental concepts of a theory rather than its propositions, as emphasized in the methodology (Wallis 2016). Concepts are the foundational elements upon which theories are built, and their relationships form the structure of theoretical frameworks. Theoretical formulations rely on an axiomatic approach, which aims to minimize the number of foundational theorems. As Chafetz (1987) explains, axioms serve as the core explanatory elements of a theory, reducing complexity while ensuring logical coherence. Similarly, Bacharach (1989: 498) defines a theory as ‘a system of constructs and variables in which the constructs are related to each other by propositions and hypotheses’. Therefore, the theoretical core of cultural trauma is structured around a set of fundamental concepts that define its explanatory scope.

Based on a detailed examination of Alexander's theory of cultural trauma, the primary concepts identified include attribution of responsibility, relation of victim to audience, carrier group position, claim making, cultural classification, cultural situation, cultural trauma, group consciousness, group feelings, group identity, group memories, historical situation, horrendous event, institutional arenas, institutional situation, moral stance, new master narrative, political action, power structures, social solidarity, social incorporation, social performance, social responsibility, social understanding, stratification hierarchies, the circle of the ‘we’, the nature of the pain, the nature of the victim and the spiral of signification.

Step 2: Examining linkages between concepts

Once the key concepts have been identified, the next step involves analysing the relationships between them to determine causal linkages. These relationships form the basis for the theoretical structure of cultural trauma. The core propositions of the theory are derived by mapping these relationships and reducing redundant statements while ensuring theoretical integrity (Wallis 2019b). Table 1 presents the key concepts extracted from cultural trauma theory and their interconnections.

Understanding causal relationships is fundamental to theory development, as causality provides the explanatory structure necessary for theory validation. As Wallis (2019b) notes, causal explanation strengthens the empirical applicability of a theory, ensuring its utility beyond abstract conceptualisation.

Step 3: Mapping the conceptual system of cultural trauma theory

A conceptual map of cultural trauma theory was developed using Kumu, a Web-based visualisation tool that enables the organisation of complex theoretical structures. This mapping process represents the interconnectedness of concepts using nodes and causal arrows, thereby providing a structured visualisation of cultural trauma theory.

Mapping helps to visually represent conceptual systems, identifying their hierarchical structures, dependencies and systemicity. This step ensures that the theory is understood in an

TABLE 1 | Core concepts and their interconnections in cultural trauma theory (adapted from Alexander 2013).[1]

From	To	Direction of relationship	Proposition
Horrendous event	Group feelings	Causes more	Horrendous event causes the group's feelings to intensify.
Horrendous event	Group consciousness	Causes less	Horrendous event causes the group consciousness to falter
Horrendous event	Group memories	Causes less	Horrendous event causes group memories to grieve.
Horrendous event	Group identity	Causes less	Horrendous event causes a challenge in the core of the group identity.
Group consciousness	Group memories	Causes less	The weakening of group consciousness causes the marking group memories
Group consciousness	Group feelings	Causes more	The shaken consciousness causes group feelings to intensify
Group feelings	Group consciousness	Causes less	The intensification of group feelings causes the group consciousness to weaken
Group feelings	Cultural trauma	Causes more	The inflamed group feelings affect the formation of cultural trauma.
Group memories	Group identity	Causal less	The marking of group memories causes challenges to group identity
Group consciousness	Cultural trauma	Causes more	The shaken group consciousness affects the formation of cultural trauma
Group memories	Cultural trauma	Causes more	Marking group memories causes the strengthening of the formation of cultural trauma
Group identity	Cultural trauma	Causes more	A challenge in the core group identity causes the strengthening the formation of cultural trauma
Power structures	Stratification hierarchies	Causes more	Power structures affect the stratification hierarchies.
Stratification hierarchies	Institutional arenas	Causes more	The stratification hierarchies affect the institutional arenas.
Institutional arenas	Claim making	Causes more	Various institutional arenas lead to the expansion of claims
Carrier group position	Social performance	Causes more	The position of carrier groups affects the social performance.
Historical situation	Social performance	Causes more	The historical situation creates and expands the social performance of carriers
Cultural situation	Social performance	Causes more	The cultural situation creates and expands the social performance of carriers.
Institutional situation	Social performance	Causes more	Institutional position creates and expands the social performance of carriers.
Claim making	Social performance	Causes more	Expanding the carrier group's claim causes the social performance

(Continues)

TABLE 1 | (Continued)

From	To	Direction of relationship	Proposition
Social performance	Spiral of signification	Causes more	Successful social performance causes the spiral of compelling signification
Nature of the victim	Nature of the pain	Causes more	Representation and introduction of the nature of the victim causes recognition of the nature of pain
Nature of the pain	Nature of the victim	Causes more	Representation of the nature of pain causes identification and introduction of the nature of the victim
Nature of the pain	Relation of victim to audience	Causes more	A successful representation of the nature of pain makes the victim and the audience relation
Nature of the victim	Relation of victim to audience	Causes more	The representation of the nature of the victim causes, which allows the victim to relate to the audience
Nature of the pain	Cultural classification	Causes more	Identifying the nature of the pain causes the creation of the cultural classification
Nature of the victim	Cultural classification	Causes more	Identifying the nature of the victim is one of the factors influencing the formation of cultural classification.
Attribution of responsibility	Cultural classification	Causes more	The attribution of responsibility leads to compelling the cultural classification
Relation of victim to audience	Cultural classification	Causes more	The relation of victim to audience affects the formation of cultural classification.
Nature of the pain	Attribution of responsibility	Causes more	By determining the nature of the pain and suffering, one can determine who is responsible for the pain and suffering
Nature of the victim	Attribution of responsibility	Causes more	Identifying the victim identifies who is responsible for causing the pain.
Attribution of responsibility	Moral stance	Causes more	Attribution of responsibility leads to the adoption of a moral stance on the part of the person responsible for the pain.
Relation of victim to audience	Social understanding	Causes more	Relation of victim to audience causes increased social understanding
Social understanding	Social incorporation	Causes more	Social understanding of the victim by the audience causes social incorporation.
Social incorporation	Social solidarity	Causes more	Social incorporation causes social solidarity.
Social responsibility	Social solidarity	Causes more	Social responsibility affects the increase of social solidarity
Social solidarity	Circle of the 'we'	Causes more	Social solidarity increases the scope of the circle of the we.
Moral stance	Political action	Causes more	Taking a moral stance causes a political reaction.
Moral stance	Social responsibility	Causes more	Taking a moral stance makes the person causing the pain take social responsibility.

(Continues)

TABLE 1 | (Continued)

From	To	Direction of relationship	Proposition
Spiral of signification	Cultural classification	Causes more	The spiral of appropriate signification affects convincing framework of cultural classification
Cultural classification	New master narrative	Causes more	A compelling framework of cultural classification causes the formation of a new master narrative
New master narrative	Group feelings	Causes more	New Master Narrative inflames group feelings
New master narrative	Group consciousness	Causes less	The new master narrative causes a wavering of group consciousness

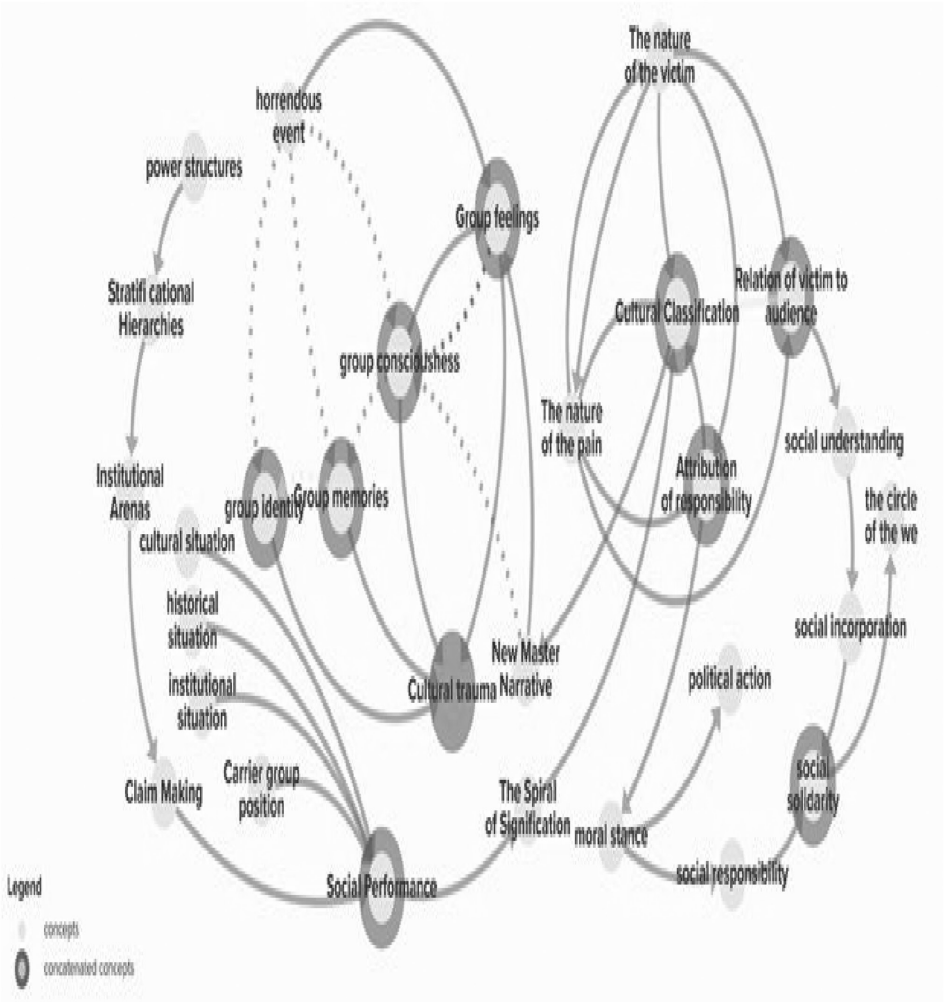


FIGURE 3 | Map of cultural trauma theory. https://embed.kumu.io/e6399be12da0c4db9754db43419fce70. [Colour figure can be viewed at wileyonlinelibrary.com]

integrative manner, emphasising both direct and indirect causal linkages (Wallis 2019b).

The visualization clarifies how cultural trauma theory integrates multiple logical relationships rather than relying solely on linear causality. By encompassing a network of interconnected constructs, the theory achieves a level of systemic coherence that enhances its explanatory strength. The holistic nature of this conceptual system reinforces its applicability to real-world social phenomena, aligning with Wallis' (2019a) assertion that robust theories exhibit greater stability and analytical depth.

The conceptual system of trauma theory exhibits a high level of integration, incorporating multiple logical relationships beyond simple linear causality. This holistic approach contributes to the stability of the theoretical structure, making it more resilient and applicable across different contexts.

Step 4: Determining the total number of concepts

From the conceptual map (Figure 3), a total of 29 distinct concepts have been identified, indicating the broad scope of cultural trauma theory. The presence of numerous concepts suggests that the theory has a significant degree of complexity, providing a comprehensive framework for analysing cultural trauma phenomena. A detailed breakdown of these concepts is presented in Table 2.

TABLE 2 | Concepts, number of relationships (degree), and number of effects (in-degree).

Concept	Degree	In-degree
Group feelings	5	3
Attribution of responsibility	4	2
Group identity	3	2
Group memories	4	2
Cultural trauma	4	4
Cultural classification	6	5
Relation of victim to audience	4	2
Social solidarity	3	2
Social performance	6	5
Group consciousness	6	3
The nature of the victim	5	1
Social understanding	2	1
Moral stance	3	1
Political action	1	1
The circle of the 'we'	1	1
Social incorporation	2	1
Horrendous event	4	0
The spiral of signification	2	1
Historical situation	1	0
Cultural situation	1	0
Stratification hierarchies	2	1
Institutional arenas	2	1
New master narrative	3	1
Carrier group position	1	0
Power structures	1	0
Claim making	2	1
The nature of the pain	5	1
Social responsibility	2	1
Institutional situation	1	0

The presence of a large number of interrelated concepts indicates a high level of theoretical complexity. As theorists such as Shoemaker et al. (2004) argue, theories with broader conceptual scopes are generally more powerful and applicable across diverse empirical settings.

Step 5: Identifying concatenated concepts

Concatenated concepts are those that arise from the interaction of two or more other concepts (Wallis 2012a). By analysing the causal structure of cultural trauma theory, the following 10 concatenated concepts were identified:

- Group feelings
- Group consciousness
- Group memories
- Cultural trauma
- Group identity
- Social performance
- Cultural classification
- Relation of victim to audience
- Attribution of responsibility
- New master narrative

These concatenated concepts play a crucial role in increasing the systemicity of the theory. A summary of concatenated concepts is presented in Table 3.

Concatenation strengthens theoretical depth by highlighting the degree of interdependency among constructs. As Wallis (2015a) emphasises, theories with a greater number of concatenated concepts tend to exhibit higher systemic integration, enhancing their empirical reliability and application potential.

Step 6: Determining the systemicity of cultural trauma theory

Systemicity measures the depth of a theory by evaluating the extent to which concepts are interconnected (Wallis and Johnson 2018). The systemicity score (S) is calculated as:

$$S = \frac{Number\ of\ Concatenated\ Concepts}{Total\ Number\ of\ Concepts} = \frac{10}{29} = 0.34$$

The systemicity value of *0.34* indicates a moderately interconnected theoretical structure. While not as robust as theories in the natural sciences, which often have systemicity values close to 1, cultural trauma theory demonstrates a significant level of theoretical depth, positioning it as a well-structured framework within the social sciences. The relationship between complexity and systemicity is illustrated in Figure 4 and Table 4.

The moderate systemicity of cultural trauma theory suggests that while it is well-structured, there is potential for further theoretical refinement. Higher systemicity levels are associated

TABLE 3 | The concatenated relationships in cultural trauma theory.

	Concatenated concepts and relationships
1	The relationship between the spiral of signification and the nature of the pain and the nature of the victim and the relation of victim to audience and attribution of responsibility with *cultural classification*
2	The relationship between the nature of the pain and the nature of the victim with the *attribution of responsibility*.
3	The relationship between the nature of the pain and the nature of the victim with the *relation of victim to audience*.
4	The relationship between social responsibility and social incorporation with *social solidarity*.
5	The relationship between institutional arenas and institutional situation and historical situation and carrier groups with *social performance*.
6	The relationship between horrendous event and group consciousness with *group feelings*.
7	The relationship between the known horrendous event and group feelings with *group consciousness*.
8	The relationship between the known horrendous event and group consciousness with *group memories*.
9	The relationship between the known horrendous event group memories with *group identity*.
10	The relationship between group consciousness and group memories and group identity and group feelings with *cultural trauma*.

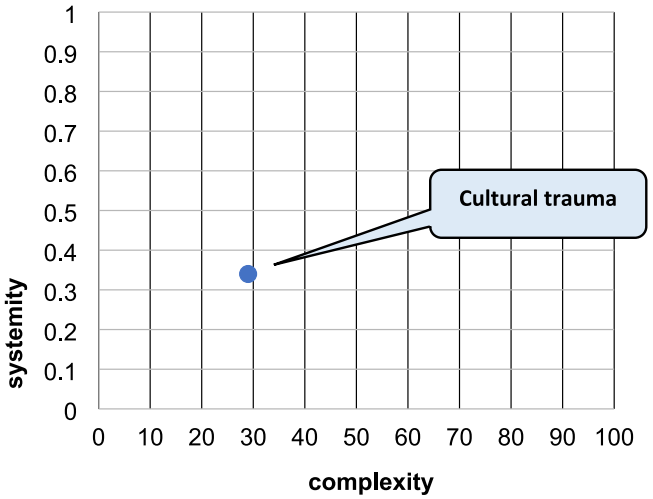


FIGURE 4 | The degree of complexity and systemicity of the theory of cultural trauma. [Colour figure can be viewed at wileyonlinelibrary.com]

with theories that demonstrate stronger empirical validation and greater applicability (Wallis 2019b).

14 | Implications and Theoretical Contributions

The findings indicate that Alexander's theory of cultural trauma, while displaying a moderate degree of systemicity, demonstrates relatively high conceptual complexity. This complexity enables the theory to address a wide range of social phenomena and enhances its analytical adaptability. In contexts where theories are selected based on structural metrics, the primary criterion is typically the highest level of systemicity, followed by a preference for theories with greater complexity (Wallis 2016).

Structured theories are considered more robust; those with weaker structural coherence are more prone to ethical misinterpretation, conceptual fragmentation and theoretical instability. In contrast, integrated frameworks offer more stable and reliable explanations (Wallis 2019b).

Understanding the evolution of a theory's structural coherence and complexity over time can provide valuable insight into its stability and usefulness. In the natural sciences, this evolution typically trends toward increasing systemicity and usefulness, reaching its peak (a systemicity score of 1.0) when formal laws emerge. In the social sciences, however, the picture is more complicated due to the proliferation of low-utility theories. Comparative structural analysis of competing theories can help clarify trajectories toward greater integration. For example, measuring the structure of multiple conflict theories in sociology—originally evaluated by Turner (1986)—can reveal whether they have evolved toward greater or lesser usefulness (Wallis 2016).

Another pathway to improving theories involves integrating them through IPA. This method was developed to bridge gaps between theories, enhance theoretical robustness, and address internal fragmentation (Wallis 2008). By analysing and comparing the structural overlaps of related theories, it becomes possible to construct a more integrated theory—one that encompasses a broader conceptual space and articulates more causal relationships (Johnson & Wallis 2018).

Given IPA's capabilities, comparing the evolution of theories of collective and cultural trauma—particularly Alexander's theory alongside others such as Eyerman, Smelser and Sztompka—can yield deeper insights into theoretical structure. Furthermore, integrating these theories may result in a more comprehensive and analytically powerful framework.

Future research should consider strategies for enhancing the systemicity of cultural trauma theory, including the integration of additional causal relationships to strengthen its explanatory framework. Theoretical refinement should aim to increase systemicity while maintaining conceptual breadth.

TABLE 4 | Complexity and systemicity of cultural trauma theory.

Theory	Complexity	Concatenated	Systemicity
Cultural trauma	29	10	0.34

15 | Conclusion

Unlike theories that focus primarily on the social world as their subject matter, meta-theory examines the structural composition of a theory to provide a deeper understanding of social phenomena. IPA serves as a meta-theoretical method that assesses the conceptual foundation of a theory, facilitating further research and theoretical refinement. In addition, IPA allows for the comparison and integration of theories. Rather than using IPA to trace the historical evolution of trauma theories or compare different typologies of trauma, this research focused on examining the core propositions and logical structure of Alexander's model.

Despite these delimitations, this study highlights a fundamental distinction between cultural trauma and collective trauma. While both concepts address the social dimensions of suffering, they diverge ontologically: collective trauma typically attributes causality to the traumatic event itself, whereas cultural trauma foregrounds the interpretive, discursive, and institutional processes through which meaning is constructed. As Smelser (2004) emphasised, cultural trauma is not simply the aftermath of an objectively horrific event; rather, it emerges from a process of social representation and meaning-making.

The theoretical underpinnings of cultural trauma are enriched by Smelser's (1962) earlier work on collective behaviour, which highlighted the psychological and structural conditions under which group identities are formed, challenged and transformed. Integrating these perspectives strengthens the theoretical foundation of this study and enhances its relevance to ongoing scholarly discussions on cultural trauma. More specifically, cultural trauma signifies the collapse of meaning construction within a social system, which poses an existential threat to collective identity. This idea is central to the work of Alexander, Smelser and Eyerman, all of whomemphasise the role of social agents as meaning constructors (Abrutyn 2023).

This study also engages with other theoretical perspectives, including Erikson's (1976) analysis of social support systems and Alexander et al.'s (2004) concept of structural trauma, as well as Eyerman's (Alexander et al. 2004) and Hirschberger's (Hirschberger 2018) contributions to the relationship between trauma and memory. However, Alexander's theory stands out by placing unique emphasis on the mediating role of social agents, discourse and institutions in constructing trauma narratives—regardless of the objective reality of the event itself. This epistemological shift underscores the centrality of representation and narrative framing in the emergence of cultural trauma.

To address this, the study identified the theory's main propositions and conceptual components. At its core, cultural trauma theory suggests that an event affects all aspects of collective life. However, since collective experiences require systems of representation, these events are not directly experienced but are mediated through institutional arenas. This mediation process depends on carrier groups—social agents who construct and promote claims about the event's significance. These claims, in turn, lead to the construction of meaning, which involves the spiral of signification—an iterative process that assigns significance to the event through social discourse and representation.

The spiral of signification requires engagement with an event and the subsequent recognition of four key elements:

1. The nature of the pain
2. The nature of the victim
3. The relationship between the audience and the victim
4. The attribution of responsibility

Together, these four elements contribute to the emergence of a new master narrative of social suffering. Within this narrative, a collective group perceives and internalises an event as horrendous, which then triggers shock, fear and heightened group emotions. These emotional reactions reinforce group consciousness, which solidifies into group memory. Over time, this marked group memory initiates a semantic shift in collective identity, forcing the group to reinterpret and reconstruct its identity multiple times. This iterative transformation of identity, as Alexander defines it, constitutes cultural trauma.

Employing IPA enabled a detailed mapping of Alexander's propositions, resulting in the identification of 29 conceptual elements and 10 concatenated links, yielding a systemicity score of 0.34. This places cultural trauma theory above the structural average of many prominent social science theories. For comparison, the systemicity of social entrepreneurship theory stands at 0.13 (Wallis 2009b).

For reference, Wallis and Johnson (2018) assessed the systemicity scores of four theories on social power systems, ranging from 0.17 to 0.70. Organizational learning theory scored just 0.16 (Wallis 2009a), indicating very weak structural robustness. A set of conflict theories in sociology scored between 0.23 and 0.34 (Wallis 2016), poverty theories scored 0.33 (Wallis and Wright 2018), and six institutional theories averaged 0.31 (Wallis 2012b)—all in the moderate range. The theory of complexity, by contrast, demonstrated a high level of robustness with a systemicity score of 0.56 (Wallis 2009d).

The relative structural richness of cultural trauma theory, therefore, affirms its robustness, depth, and potential explanatory power in analysing complex social transformations.

Furthermore, this analysis affirms that Alexander's theory satisfies the principle of correspondence—the idea that theories with higher structural coherence are better suited to interpret and predict real-world phenomena. As cultural trauma transcends

cultural and geographical boundaries (Alexander 2013), the theory's internal integrity makes it particularly well positioned to guide cross-cultural and comparative sociological research.

Cultural trauma, as a dynamic system, comprises interconnected components that span from causative factors to various forms of response (Herman 2015), all of which are shaped by socio-cultural context. One crucial contextual element is social support, considered an essential external system. It consists of networks of individuals, institutions, resources and processes of exchange among them (Hobfoll et al. 2007; Ungar 2011). Social support acts as a key carrier of symbolic codes and plays an active role in the broader system of cultural trauma. It contributes significantly to shaping and disseminating the traumatic narrative and helps mitigate the effects of trauma through restorative coding mechanisms (Alexander 2005; Alexander 2013).

The dominant trauma narrative can influence the type of support needed, shape the priorities of support systems (e.g., psychological support), and, in some cases, severely damage the trust underlying informal support networks. This may overwhelm formal support institutions, creating a vicious cycle of social distrust (Sztompka 2000), which can lead to burnout and reduced effectiveness of these systems. Weaknesses in the social support system may, in turn, reinforce victimhood narratives (Hobfoll et al. 2007). These interactions reflect the dynamic interdependence of subsystems within the broader social reality.

Beyond its theoretical significance, this study demonstrates the practical value of IPA as a rigorous, replicable method for assessing and refining sociological theory. By highlighting structural gaps, inconsistencies, or strengths, IPA facilitates the continuous improvement of theoretical frameworks and enhances their utility for empirical application.

In sum, this study contributes to both theoretical advancement and methodological innovation. It confirms that cultural trauma theory, as articulated by Alexander, is a highly structured, conceptually integrated, and empirically relevant model for understanding the social construction of suffering. Simultaneously, it showcases IPA's broader potential in evaluating and developing theories that seek to make sense of the complex, evolving nature of collective experiences in a globalised world.

Ethics Statement

This declaration is not applicable.

Data Availability Statement

This declaration is not applicable.

Endnotes

[1] https://kumu.io/pbidel-57/%D9%86%D8%B8%D8%B1%DB%8C%D9%87-%D8%AA%D8%B1%D9%88%D9%85%D8%A7%DB%8C%D9%81%D8%B1%D9%87%D9%86%DA%AF%DB%8C#untitled-map?selection=ZWRnZS13YThlR3lWNQ%3D%3D

References

Abrutyn, S. 2023. "The Roots of Social Trauma: Collective, Cultural Pain and Its Consequences." *Society and Mental Health* 14: 21568693231213088.

Alexander, J. C. 2005. *Toward a Theory of Cultural Trauma*. Polity Press.

Alexander, J. C. 2013. *Trauma: A social theory*. John Wiley & Sons.

Alexander, J. C., R. Eyerman, B. Giesen, N. J. Smelser, and P. Sztompka. 2004. *Cultural Trauma and Collective Identity*. Univ of California Press.

Bacharach, S. B. 1989. "Organizational Theories: Some Criteria for Evolution." *Academy of Management Review* 14, no. 4: 496–515.

Chafetz, J. S. 1987. "A Primer on the Construction and Testing of Theories in Sociology", Paperback.

Chalabi, M. 2016. *Theoretical and Comparative Analysis in Sociology*. Nashre Ney. https://doi.org/10.1108/17471111011083428.

Erikson, K. 1976. *Everything in its Path: Destruction of Community in the Buffalo Creek Flood*. Simon & Schuste.

Herman, J. L. 2015. *Trauma and Recovery: The Aftermath of Violence–From Domestic Abuse to Political Terror*. Hachette UK.

Hirschberger, G. 2018. "Collective Trauma and the Social Construction of Meaning." *Frontiers in Psychology* 9: 1441. https://doi.org/10.3389/fpsyg.2018.01441.

Hobfoll, S. E., P. Watson, C. C. Bell, et al. 2007. "Five Essential Elements of Mass Trauma Intervention." *Psychiatry* 70, no. 4: 283–315.

Ritzer, G. 1990. "Metatheorizing in Sociology." *Sociological Forum* 5, no. 1: 3–15.

Ritzer, G., and J. D. Schubert. 1991. "The Changing Nature of Neo Marxist Theory: A Metaphorical Analysis." *Sociological perspective*. 34, no. 3: 359–371.

Shoemaker, P. J., J. W. Tankard Jr., and D. L. Lasorsa. 2004. *How to build social science theories*. Sage publications.

Smelser, N. J. 1962. *Theory of Collective Behavior*. Routledge & Kegan Paul.

Smelser, N. J. 2004. "Psychological Trauma and Cultural Trauma." In *Cultural trauma and collective identity*, vol. 4, 31–59. Cultural Trauma and Collective Identity.

Suedfeld, P., P. E. Tetlock, and S. Streufert 1992. "27 Conceptual/integrative complexity".

Tanhaei, H. A. 2004. *Theoretical Sociology of Sociological Imagination in the Context of History*. Bahman Barna.

Turner, J. H. 1986. *The Structure of Sociological Theory*. 4th ed. Dorsey Press.

Turner, J. H. 1990. "The Misuse and Use of Metatheory." *Sociological Forum* 5, no. 1: 37–53. http://www.jstor.org/stable/684580.

Turner, J. H. 2010a. *Theoretical Principles of Sociology, Volume 1: Macrodynamics*. Springer.

Turner, J. H. 2010b. *Theoretical Principles of Sociology, Volume 3: Macrodynamics*. Springer.

Turner, J. H. 2012. *Theoretical Principles of Sociology, Volume 2: Macrodynamics*. Springer.

Wallis, S. E. 2008. "Validation of Theory: Exploring and Reframing Popper's Worlds." *integral-review*. 4, no. 2: 72–91. https://integral-review.org/validation-of-theory-exploring-and-reframing-poppers-worlds/.

Wallis, S. E. 2009a. "Seeking the Robust Core of Organisational Learning Theory." *International Journal of Collaborative Enterprise* 1, no. 2: 180–193.

Wallis, S. E. 2009b. "Seeking the Robust Core of Social Entrepreneurship Theory." In *Social entrepreneurship & complexity*, edited by J. A. Goldstein, J. K. Hazy, and J. Silberstang. ISCE Publishing.

Wallis, S. E. 2009c. "The Structure of Theory and the Structure of Scientific Revolutions: What Constitutes an Advance in Theory?" In *Cybernetics and Systems Theory in Management: Views, Tools, and Advancements*, edited by S. E. Wallis. IGI Global.

Wallis, S. E. 2009d. "The Complexity of Complexity Theory: An Innovative Analysis." *Emergence, Complexity & Organization* 11, no. 4: 26–38. Chicago.

Wallis, S. E. 2010a. "Toward a Science of Meta Theory." *integral-review.* 6, no. 3: 73–120. https://integral-review.org/toward-a-science-of-metatheory/.

Wallis, S. E. 2010b. "Developing Effective Ethics for Effective Behavior." *Social Responsibility Journal* 6, no. 4: 536–550. https://doi.org/10.1108/17471111011083428.

Wallis, S. E. 2010c. "Towards the Development of More Robust Policy Models." *Integral Review* 6, no. 1: 153–160.

Wallis, S. E. 2010d. "The Structure of Theory and the Structure of Scientific Revolutions: What Constitutes an Advance in Theory?" In *Cybernetics and systems theory in management: Tools, views, and advancements*, 151–175. IGI global.

Wallis, S. E. 2012a. "A Systems Approach to Understanding Theory: Finding the Core, Identifying Opportunities for Improvement, and Integrating Fragmented Fields." *Systems Research and Behavioral Science* 31, no. 1: 23–31.

Wallis, S. E. 2012b. "The Right Tool for the Job: Philosophy's Evolving Role in Advancing Management Theory." *Philosophy of Management* 11, no. 3: 67–99.

Wallis, S. E. 2013. "How to Choose Between Policy Proposals: A Simple Tool Based on Systems Thinking and Complexity Theory." *E:CO - Emergence: Complexity & Organization* 15, no. 3: 94–120.

Wallis, S. E. 2014. "Structures of Logic in Policy and Theory: Identifying Sub-systemic Bricks for Investigating, Building, and Understanding Conceptual Systems." *Foundations of Science* 20, no. 3: 213–231.

Wallis, S. E. 2015a. "Are Theories of Conflict Improving? Using Propositional Analysis to Determine the Structure of Conflict Theories Over the Course of a Century." *Emergence: Complexity and Organization* 17, no. 4: 1–17.

Wallis, S. E. 2015b. "Integrative Propositional Analysis: A New Quantitative Method for Evaluating Theories in Psychology." *Review of General Psychology.* 19, no. 3: 365–380. https://doi.org/10.1037/gpr0000048.

Wallis, S. E. 2016. "The Science of Conceptual Systems: A Progress Report." *Foundations of Science* 21, no. 4: 579–602.

Wallis, S. E. 2018. "The Basics of Integrative Propositional Analysis." In *Knowledge Mapping for Literature Reviews: A Science of Conceptual Systems Approach 62nd Meeting of the ISSS (International Society for the Systems Sciences) – College of Engineering*. Oregon State University.

Wallis, S. E. 2019a. "Improving Our Theory of Evaluation Through an African Made Process. An Ubuntu Answer to the Decolonising Question." *Administratio Publica*. 27, no. 4: 287–291.

Wallis, S. E. 2019b. "The Missing Piece of the Integrative Studies Puzzle." *Interdisciplinary Science Reviews* 44, no. 3–4: 402–429. https://doi.org/10.1080/03080188.2019.1680145.

Wallis, S. E. 2021. "Understanding and Improving the Usefulness of Conceptual Systems: An Integrative Propositional Analysis-based Perspective on Levels of Structure and Emergence." *Systems Research and Behavioral Science*. 38, no. 4: 426–447. https://doi.org/10.1002/sres.2769.

Wallis, S. E., and L. Johnson. 2018. "Using Integrative Propositional Analysis to Understand and Integrate Four Theories of Social Power Systems." *Journal on Policy and Complex Systems* 4, no. 1: 169–194.

Wallis, S. E., and B. Wright. 2018. "Integrative Propositional Analysis for Understanding and Reducing Poverty." *Kybernetes* 486: 1264–1277. https://doi.org/10.1108/K-03-2018-0136.

Zhao, s. 1991. "Met Theory, Met Method, Meta Data Analysis: What, Why, and How." *Sociological perspective* 34, no. 3: 377–390.

Ungar, M. 2011. "The Social Ecology of Resilience." *American Journal of Orthopsychiatry* 81, no. 1: 1–17.