

Towards a Theory of Multisystemic Responsibility and Experienced Adversity

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Summary

Resilience is increasingly understood as a multisystemic process shaped by relationships, institutions and wider social and environmental structures. Yet the responsibilities required to operationalise resilience have rarely been theorised in similarly multisystemic terms. This conceptual paper argues that resilience and responsibility are co-produced across systems and proposes four forms of responsibility: protective, supportive, responsive and structural. We suggest that responsibilities should be distributed according to actors' power and capacity to influence children and young people's lives. We also reconceptualise adversity as emerging through the interaction of exposure, lived experience and responsibility, with nervous-system regulation offering one mechanism through which these processes become embodied. We argue that resilience discourse can displace responsibility when

young people are expected to adapt to harms that more powerful actors could prevent or reduce. Resilience research must therefore ask not only how young people adapt, but who is responsible for the conditions requiring adaptation.

Introduction

Over the past three decades, resilience has become an influential concept in research and practice concerning children and young people. Emerging initially from efforts to understand why some individuals achieved positive developmental outcomes despite exposure to significant adversity, resilience research has evolved into a rich and multidisciplinary field spanning psychology, public health, education, epidemiology, computational modelling, social work and policy, and the arts^{1,2}. Across these disciplines, resilience has offered an important corrective to deficit-oriented approaches by shifting attention from vulnerability and dysfunction towards adaptation, strengths and the processes that enable positive outcomes under challenging conditions^{2,3}.

Perhaps the most significant development within resilience scholarship has been the move away from individualistic explanations. Early studies often focused on personal characteristics that appeared to distinguish 'resilient' children and young people from their peers, including temperament, self-efficacy and self-regulation^{4,5,6}.

These factors remain important, but they are increasingly understood as being shaped by underlying biological processes. Emerging work on nervous-system regulation suggests that capacities such as self-regulation are influenced by experiences of safety and co-regulation. At the same time, contemporary resilience scholarship increasingly conceptualises resilience as a multisystemic phenomenon emerging through interactions between individuals and the social ecologies within which they are embedded.

In response to this and other gaps, contemporary scholars increasingly conceptualise resilience as a multisystemic phenomenon emerging through interactions between individuals and the social ecologies within which they are embedded. Resilience is now widely understood to depend upon access to resources distributed across multiple systems, including families, peer networks, schools, communities, cultural institutions and broader social structures^{2,7,8,9}. Through this lens, resilience is something that is negotiated, supported and sustained through relationships, processes of co-regulation and broader social systems.

This shift has undoubtedly strengthened the field. Yet an important conceptual asymmetry remains. While resilience has increasingly been theorised as multisystemic, responsibility has not. Discussions of resilience focus on how children and young people adapt to adversity, but less often consider who is responsible for the conditions to which they are adapting. As a result, resilience discourse can sometimes obscure questions of accountability, power and obligation. Children and young people are encouraged to become resilient to online harms, educational pressures, poverty,

discrimination, violence and uncertainty, while responsibility for creating safe co-regulatory spaces, and addressing these conditions, remains diffuse, contested or inadequately examined.

This tension is particularly visible in contemporary debates concerning childhood, risk and wellbeing. Public discussions about social media provide a useful illustration. Much of the debate centres on whether children and young people possess sufficient resilience to navigate digital environments safely¹⁰. Considerably less attention is devoted to the responsibilities of technology companies, regulators, educational institutions, governments and wider societies in shaping those environments^{11,12}. Similar dynamics can be observed in discussions of poverty, housing insecurity, educational inequality and community violence^{2,13,14}. Across these domains, resilience is frequently presented as a solution, while responsibility remains largely in the background.

The purpose of this paper is not to reject resilience as a concept, nor to dismiss the substantial contributions resilience scholarship has made to our understanding of adaptation. Instead, we argue that resilience and responsibility should be theorised together. Specifically, we propose that resilience and responsibility are co-produced across systems. Understanding resilience therefore requires attention to how responsibilities are distributed among actors with differing levels of power and capacity for action. We further suggest that emerging work on nervous-system regulation provides one important biological perspective on how these processes become embodied.

Alongside this argument, we advance a second proposition. Resilience scholarship has generally conceptualised adversity as existing on a continuum ranging from relatively minor challenges to severe and catastrophic harms^{14,15}. While this framework has been useful, it often assumes that adversity can be understood primarily through externally observable characteristics – and by ‘observable’ we mean by researchers, practitioners, and often those in positions of power. We argue that this approach overlooks a critical dimension of adversity: the subjective experience of those who live through it.

To address this limitation, we propose a more multidimensional approach to understanding both *observed adversity* and *experienced adversity*. This distinction provides a way of recognising variation in lived experience without abandoning distinctions between different forms of exposure or collapsing all adversities into equivalent categories. This is crucial because individual differences in nervous-system development mean that similar experiences may be interpreted and embodied differently.

These arguments point towards a framework linking multisystemic resilience, multisystemic responsibility and experienced adversity, underpinned by the biology of the nervous system¹⁶⁻¹⁹. Such a framework would shift attention from adaptation alone towards broader questions concerning power, accountability and the ethics of asking children and young people to adapt to conditions that others have the capacity to change.

We do not suggest that behaviour, coping or responsibility can be understood solely through nervous-system processes. Rather, nervous systems provide one important biological mechanism through which developmental histories, relationships, social contexts and structural conditions become embodied. Behaviour emerges through interactions between biological, psychological, relational and social processes, rather than through nervous-system state alone.

The proposed approach rests on four interconnected propositions that provide a framework for understanding resilience, responsibility and adversity as co-produced phenomena rather than as separate concepts. First, resilience is fundamentally multisystemic, emerging through interactions between individuals and the social, institutional, environmental and structural systems in which they are embedded. Second, responsibility should be understood in equally multisystemic terms, with obligations distributed across actors according to their power, capacity and opportunity to influence the conditions in which children and young people live. Third, adversity cannot be understood just through objective exposure, but emerges through the interaction between exposure and lived experience. Finally, these processes are embodied: resilience, responsibility and the experience of adversity are experienced through emerging work on nervous systems that shape (and are shaped by) relationships of co-regulation across multiple systems.

Multisystemic Resilience and the Missing Question of Responsibility: a Provocation

As described above, the expansion of resilience theory from individual to multisystemic perspectives has transformed how researchers understand adaptation. These insights have generated a more meaningful understanding of resilience as a dynamic process rather than a fixed characteristic. However, while resilience research has become increasingly sophisticated in its treatment of systems, it has been less attentive to questions of responsibility within those systems. Resources are frequently discussed, but the distribution of obligations receives much less attention. Supportive environments are recognised as important, yet the responsibilities of actors to create and maintain those environments often remain implicit rather than explicitly theorised.

This is important because resilience is never politically neutral. Questions about resilience inevitably involve assumptions about who should adapt and who should change. Every invocation of resilience contains an implicit answer to the question: where should the burden of adjustment lie?

Consider, for example, contemporary concerns regarding children's and young people's digital lives. In many policy and public debates, the dominant response has been to ask how children and young people can become more resilient online. Educational programmes seek to improve digital literacy, emotional regulation and critical thinking. Parents are encouraged to monitor and support online activity. Schools develop strategies for promoting digital wellbeing. These interventions may all be valuable. Yet they often leave unexamined the responsibilities of platform designers, technology

companies and regulators whose decisions shape the environments within which children and young people are expected to operate.

A similar pattern can be observed in discussions of poverty. Programmes designed to enhance resilience among children and young people in low-resource settings frequently focus on coping skills, self-efficacy and perseverance. Again, such interventions may produce meaningful benefits. Yet they can also risk shifting attention away from the economic, political and structural conditions that generate deprivation in the first place. Importantly, these programmes also take little account of nervous system-informed practice; coping skills may sometimes be expressed through defensive adaptations associated with nervous-system states characterised by withdrawal or shutdown. In some circumstances, perseverance may become associated with patterns of functioning that maintain task completion while reflecting defensive survival responses rather than flexible engagement.

This dynamic is perhaps best understood as a form of responsibility displacement, occurring when systemic problems are reframed primarily as individual adaptation challenges. Under such conditions, those with relatively little power are expected to become increasingly resilient, while those with greater capacity to alter the conditions themselves face fewer demands for accountability. The result is an asymmetrical distribution of burdens: resilience-related demands flow downwards while responsibility becomes increasingly diffuse.

A genuinely multisystemic account of resilience requires us to confront this imbalance directly. If resilience is distributed across systems, then responsibility must also be distributed across systems. Moreover, the distribution of responsibility should be proportionate to power, agency and capacity for action, and the developmental capacities associated with different stages of nervous-system development. Those who possess the greatest ability to influence social conditions must also bear the greatest responsibility for addressing them.

Towards a Theory of Multisystemic Responsibility

Our concept of multisystemic responsibility begins from a simple proposition: adaptation and accountability are inseparable. In developing this framework, we draw on emerging work on nervous-system regulation to complement, rather than replace, psychological, social and structural understandings of resilience. Like resilience, responsibility is multidimensional. It includes preventive responsibilities, supportive responsibilities, responsive responsibilities, and structural responsibilities. And like resilience, responsibility develops within systems populated by actors whose decisions, actions and omissions interplay with the opportunities and constraints that children and young people encounter.

Responsibility is not a singular construct but encompasses several related forms of obligation. *Protective responsibilities* concern reducing the likelihood that harm occurs in the first place, for example through safe policy, regulation or environmental design. *Supportive responsibilities* involve creating the relational and material conditions that enable children and young people to cope, adapt and flourish, including through co-

regulation, care and access to resources. *Responsive responsibilities* arise when adversity has occurred and include recognising, responding to and mitigating harm through appropriate intervention and support. Finally, *structural responsibilities* concern addressing the wider social, political and economic conditions that systematically generate adversity. These forms of responsibility are often exercised simultaneously by different actors and systems, but they are not distributed equally. Each responsibility should be understood as proportionate to power, resources and capacity for action, with those best placed to influence the conditions in which children and young people live bearing the greatest obligations to do so.

TYPE OF RESPONSIBILITY	QUESTION IT ANSWERS	EXAMPLE
Protective responsibility	<i>Who should stop harm occurring?</i>	A social media company designing algorithms that reduce exposure to harmful content; a local authority investing in safe neighbourhoods; government reducing child poverty.
Supportive responsibility	<i>Who should help children/young people cope and thrive while challenges exist?</i>	Parents providing emotional co-regulation; teachers creating psychologically safe classrooms; youth workers offering trusted relationships; CAMHS supporting recovery.
Responsive responsibility	<i>Who should act once harm has occurred?</i>	Schools responding appropriately to bullying; police investigating abuse; social workers protecting children/young people; healthcare professionals treating trauma.
Structural responsibility	<i>Who has responsibility for changing the wider conditions that repeatedly produce harm?</i>	Governments reforming housing policy; regulators enforcing online safety standards; education systems tackling inequality; corporations redesigning products that create foreseeable harms.

Table 1. Types of responsibility we consider in our framework.

A multisystemic responsibility framework therefore asks not only how resilience is supported, but also how responsibilities are distributed. Families, schools, communities, governments, corporations and civil society organisations (and the individual nervous

systems within them) all occupy different positions within social systems and possess differing capacities to influence outcomes.

This perspective challenges simplistic narratives that locate responsibility either entirely within individuals or entirely within structures. Instead, it recognises responsibility as distributed, relational and interconnected. Children and young people themselves possess agency and can exercise responsibility in meaningful ways. However, their responsibilities exist alongside, rather than in place of, the responsibilities of adults, institutions and systems.

The central concern is therefore not whether resilience should be expected. The question is whether resilience demands are proportionate to responsibility. When children and young people are expected to adapt to harms that powerful actors have the capacity to prevent or reduce, resilience discourse risks legitimising systemic neglect. Conversely, when responsibility is shared appropriately across systems, resilience becomes part of a broader ecology of support and accountability.

This argument does not imply that all adversity can or should be eliminated. Development inevitably involves challenge, uncertainty, frustration and loss. Nor does it imply that children and young people should never be expected or encouraged to develop coping capacities. Rather, it suggests that discussions of resilience should always be accompanied by discussions of responsibility, and through the lens of the nervous-system processes that support adaptive coping.

Reconsidering Adversity

If resilience research has under-theorised responsibility, it has also tended to treat adversity as more straightforward than it actually is. Most resilience frameworks conceptualise adversity as existing along a continuum ranging from relatively minor stressors to severe and catastrophic harms, including considering issues such as intensity and temporality¹⁵. For example, experiences such as friendship difficulties, examination pressures and everyday family conflict occupy one end of the spectrum, while experiences such as abuse, armed conflict, displacement and natural disasters occupy the other.

There are obvious reasons for organising adversity in this way. Some experiences are objectively more harmful, more disruptive and more dangerous than others. Distinctions between different forms of adversity are both necessary and important. Nevertheless, a one-dimensional model of adversity has limitations. Most notably, it assumes that adversity can be understood primarily through externally observable characteristics. Adversity is treated as a property of events rather than of relationships between events, persons and contexts.

Yet lived experience suggests a more complicated reality. Individuals often experience similar events in radically different ways. A school transition may represent an exciting opportunity for one young person and an overwhelming challenge for another. A friendship breakdown may be experienced as relatively manageable by one adolescent but as devastating by another. These differences are more than simply matters of

personality or coping style. They reflect interactions between developmental histories, identities, neurodiversity, cultural contexts, available supports and meaning-making processes.

The limitations of purely objective models of adversity become particularly apparent when considering neurodivergent children and young people. Experiences that may appear relatively minor from an external perspective can be experienced as highly significant, distressing or destabilising. Social uncertainty, sensory overload, disruptions to routine or peer exclusion may generate profound challenges that are not easily captured by conventional hierarchies of adversity.

To address these limitations, we propose a different way of conceptualising adversity in the context of resilience and responsibility. Rather than distinguishing between observed adversity and experienced adversity as separate forms of adversity, we suggest that adversity itself should be understood as emerging through the interaction of multiple dimensions.

The first dimension concerns *exposure*. This reflects the externally observable characteristics of adverse events and conditions and corresponds to how adversity is typically conceptualised within resilience research. Exposures may include experiences such as poverty, bereavement, bullying, discrimination, violence, abuse, displacement or environmental disaster. Researchers, practitioners and policymakers routinely make judgements about the severity, duration and likely impact of such exposures, often locating them along a continuum from relatively commonplace challenges to acute and potentially traumatic events.

Exposure, however, tells us only part of the story. Adversity is more than a property of events. It is also shaped by how those events are experienced. The second dimension therefore concerns *lived experience*. This refers to the ways in which adversity is interpreted, embodied and given meaning by those who encounter it. The same exposure may be experienced very differently depending on a young person's developmental stage, neurodiversity, previous experiences, cultural context, social relationships and available resources, all of which contribute to how experiences are embodied and interpreted.

Consider, for example, two adolescents who experience the breakdown of a close friendship. From the perspective of exposure, both have encountered the same event. Yet the significance of that event may differ profoundly. One young person may experience the loss as painful but manageable, supported by other friendships and a strong sense of social belonging. The other may experience the same event as overwhelming and destabilising. The friendship may have represented their primary source of social connection. Previous experiences of exclusion may also have heightened the significance of the loss. For an autistic young person, social uncertainty and relational disruption may additionally be experienced as particularly challenging. In both cases, the exposure is similar, but the adversity itself is not, in part due to the differences in the development of their nervous system. Importantly, this argument is not intended to collapse distinctions between different forms of exposure. A friendship breakdown is not equivalent to sexual abuse, armed conflict or severe violence. Nor is

the argument that adversity is wholly subjective. Rather, it is that adversity cannot be adequately understood through exposure alone. The significance of adversity emerges through the relationship between the characteristics of an event and the way that event is experienced by an individual nervous system within a particular life and context.

Yet even this is insufficient. Understanding adversity also requires attention to a third dimension: *responsibility*. Questions about adversity are questions about who bears responsibility for preventing, mitigating or responding to harm. The challenges associated with a friendship breakdown may primarily fall within the responsibilities of peers, families and schools. By contrast, the responsibilities associated with poverty, community violence or exploitative digital environments extend far beyond the individual child and immediate family, encompassing institutions, governments, corporations and wider social systems.

Adversity should therefore be understood not as a point on a single continuum, but as a phenomenon located within a multidimensional space defined by exposure, experience, responsibility, and the biological processes through which those involved experience and respond to adversity. Exposure shapes the objective conditions within which adaptation occurs. Experience shapes how those conditions are lived and negotiated. Responsibility shapes who has the obligation and capacity to act. It is at the intersection of these dimensions that resilience processes emerge.

This reconceptualisation has important implications for resilience research. Much contemporary debate proceeds as though the severity of adversity can be inferred from the characteristics of exposure alone. Such an assumption risks overlooking experiences that may appear relatively minor from an external perspective but are profoundly challenging for those who live them. At the same time, it avoids the opposite danger of treating all experiences of distress as equivalent irrespective of exposure. A multidimensional model preserves the importance of objective differences between adversities while recognising that the significance of adversity cannot be understood independently of how it is experienced or how responsibility for addressing it is distributed.

From this perspective, resilience research should move beyond asking simply what happened and how the individual adapted. It should also ask how the adversity was experienced, and who is responsible for responding to it. In practice, this means i) we have to take responsibility for how our own nervous systems react and respond to a child/adolescent's nervous system too; and ii) actively listening to children and young people, responding with compassion, and taking their accounts of adversity seriously.

Conclusion

Resilience scholarship has made significant advances in understanding how children and young people adapt under conditions of adversity. Yet adaptation alone cannot be the endpoint of analysis. Questions concerning resilience inevitably raise questions concerning responsibility, power and accountability.

We have argued that resilience and responsibility should be understood as co-produced across systems, with adults taking the lead. A genuinely multisystemic account of resilience requires an equally multisystemic account of responsibility, one that recognises the obligations of actors whose power enables them to shape the conditions within which young people live. When resilience demands are disconnected from responsibility, resilience risks becoming a mechanism through which structural failures are normalised rather than addressed: we argue this will lead to further and worsening inequality.

The paper has also argued for a broader conceptualisation of adversity through the dimensions of exposure, lived experience and responsibility. By recognising all of these dimensions, resilience research can better account for variation in lived experience while maintaining appropriate distinctions between different forms of exposure.

The question is not whether children and young people should be resilient. The question is whether societies are willing to be responsible. A multisystemic approach requires us to examine both simultaneously. Rather than asking only how young people adapt, we must also ask who is responsible for the conditions requiring adaptation. We must also ask whether those actors are creating the relational conditions that support co-regulation and enable children and young people to flourish.

References

1. Clark, J. (2022) 'Thinking about resilience through the interdisciplinary lens of connectivity: a study of conflict-related sexual violence', *Journal of Intervention and Statebuilding*, vol. 2022, 2084237.
<https://doi.org/10.1080/17502977.2022.2084237>.
2. Ungar, M., & Theron, L. (2020). Resilience and mental health: how multisystemic processes contribute to positive outcomes. *The Lancet Psychiatry*, 7(5), 441–448.
[https://doi.org/10.1016/S2215-0366\(19\)30434-1](https://doi.org/10.1016/S2215-0366(19)30434-1)
3. Masten AS. (2014). *Ordinary magic: Resilience in development*. The Guilford Press.
4. Werner, E. E., & Smith, R. S. (1982). *Vulnerable but invincible: A longitudinal study of resilient children and youth*. McGraw-Hill.
5. Garmezy, N., Masten, A. S., & Tellegen, A. (1984). The study of stress and competence in children: A building block for developmental psychopathology. *Child Development*, 55(1), 97–111.
6. Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry*, 57(3), 316–331.
7. Masten, A. S., & Cicchetti, D. (2016). 'Resilience in development: progress and transformation', in D. Cicchetti (ed.), *Developmental Psychopathology*. 3rd ed. Vol. 4. Wiley. 271–333.
8. Theron, L. C. (2016). The everyday ways that school ecologies facilitate resilience: Implications for school psychologists. *School Psychology International*, 37(2), 87–103. <https://doi.org/10.1177/0143034315615937>.
9. Masten, A. S. (2021). Resilience of children in disasters: A multisystem perspective. *International Journal of Psychology*, 56(1), 1–11.
<https://doi.org/10.1002/ijop.12737>.
10. Livingstone, S., & Blum-Ross, A. (2020). *Parenting for a Digital Future: How Hopes and Fears about Technology Shape Children's Lives*. Oxford University Press.
11. OECD. (2025). *How's Life for Children in the Digital Age? Enhancing Child Well-being in the Digital Age: A Four-Pillar Policy Approach*. OECD Publishing.
12. Chhabra J, Pilkington V, Benakovic R, Wilson MJ, La Sala L, Seidler Z (2025). Social Media and Youth Mental Health: Scoping Review of Platform and Policy Recommendations. *Journal of Medical Internet Research*, 27: e72061.
<https://doi.org/10.2196/72061>.
13. Theron, L. C. (2023). Resilience of sub-Saharan children and adolescents: A review of evidence and implications for practice. *Transcultural Psychiatry*, 60(1), 3–18. <https://doi.org/10.1177/1363461520938916>.
14. Masten, A. S., Lucke, C. M., Nelson, K. M., & Stallworthy, I. C. (2021). Resilience in development and psychopathology: multisystem perspectives. *Annual Review of Clinical Psychology*, 17, 521–549. <https://doi.org/10.1146/annurev-clinpsy-081219-120307>.
15. Hamby, S., Elm, J. H. L., Howell, K. H., & Merrick, M. T. (2021). Recognizing the cumulative burden of childhood adversities transforms science and practice for trauma and resilience. *American Psychologist*, 76(2), 230–242.
<https://doi.org/10.1037/amp0000763>.

16. Payne, P., Levine, P. A., & Crane-Godreau, M. A. (2015). Somatic experiencing: using interoception and proprioception as core elements of trauma therapy. *Frontiers in Psychology*, 6, 93.
<https://doi.org/10.3389/fpsyg.2015.00093>.
17. Porges, S. W. (2022). Polyvagal theory: A science of safety. *Frontiers in integrative neuroscience*, 16, 871227. <https://doi.org/10.3389/fnint.2022.871227>.
18. Porges S. W. (2025). Polyvagal Theory: Current Status, Clinical Applications, and Future Directions. *Clinical Neuropsychiatry*, 22(3), 169–184.
<https://doi.org/10.36131/cnfioritieditore20250301>.
19. Gruhn, M. A., Siciliano, R. E., Anderson, A. S., Vreeland, A., Henry, L. M., Watson, K. H., ... Compas, B. E. (2024). Dimensions of childhood adversity differentially affect autonomic nervous system coordination in response to stress. *Stress*, 27(1). <https://doi.org/10.1080/10253890.2024.2419668>.

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