



When Trauma Meets Assistive Technology:

Emerging Faultlines from Global Expert Interviews

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2 Abstract

Assistive Technology (AT) has largely been designed around needs that, even when they change over time, are relatively predictable; yet trauma produces disruptions that are rapid, context-dependent, and culturally mediated. This paper asks: what conceptual tensions emerge when trauma recovery technology is viewed through an AT lens, and what do those tensions reveal about the limits and future direction of the field?

Drawing on global expert interviews with mental health professionals and Assistive Technology researchers and designers, we use trauma not to argue for or against a new classification, but as a deliberate provocation—a stress test that makes visible the faultlines in AT’s existing foundations. Five faultlines emerge: stigma and entitlement; relational healing; the risk of outsourcing internal capacity to devices; diagnosis-versus-function design logics; and cultural fit. Together, these faultlines suggest that AT’s inherited assumptions—often built around predictable impairments, discrete devices, and Western individual users—are ill-equipped for psychosocial, fluctuating, and culturally diverse forms of disability.



3 Introduction

In this paper, we adopt the definition of trauma encompassing the long-term functional aftermath of serious adversities—childhood abuse and neglect, domestic violence, conflict, displacement, natural disaster, disability, and medical trauma. These experiences do not fade with time (SAMHSA, 2026). This framing draws on psychosocial traditions that understand trauma as emerging through ongoing interactions between intrapsychic experience, relationships, and sociopolitical context, rather than as a purely individual psychological condition (Agger, 2001; Chesner & Lykou, 2021). This is particularly important in collectivist settings such as Nepal, where trauma is rarely experienced or recovered from in isolation.

Although not everyone who experiences trauma sustains long-term impact on their mental health, such as Post-traumatic Stress Disorder (PTSD), many individuals experience disruptions to daily functioning: difficulties with concentration, emotional regulation, decision-making, tolerating sensory environments, and safely engaging in relationships and public spaces (Herman, 1992; van der Kolk, 2014). Crucially, these disruptions are not uniform or predictable: they are triggered by specific contexts, can shift rapidly within a single environment, and are shaped by memory, culture, and social meaning in ways that make them difficult to anticipate or standardise around; these experiences do not fade with time.

Psychosocial approaches have long argued that trauma exposes how individual suffering is shaped by political histories, social inequalities, and relational structures (Chesner & Lykou, 2021). Viewed through this lens, trauma is not an edge case but a diagnostic site: a condition that makes visible the assumptions embedded in systems designed to support everyday functioning – including, we argue, Assistive Technology. This paper does not attempt to resolve whether trauma recovery technologies should be classified as AT. Instead, it treats that question as a deliberate provocation: what conceptual tensions emerge when trauma recovery technology is viewed through an AT



framework, and what do those tensions reveal about the limits—and future direction—of the field?

To explore this, we draw on expertise of mental health professionals and AT researchers across the globe, treating points of agreement, resistance, and uncertainty as diagnostic data. What emerges are not clear answers but faultlines: conceptual tensions that expose how AT's inherited assumptions—often built around predictable impairments, discrete devices, and Western individual users—fit uneasily with psychosocial, fluctuating, and culturally embedded forms of disability (Shakespeare, 2006; Grech, 2015).

This paper explores what happens when we view technology designed for trauma recovery not just as an app or gadget, but as an essential support tool. By interviewing experts in both trauma therapy and technology design, we discovered five key challenges that currently hold these tools back, such as how to balance digital support with the need for human connection, and why technology built for Western individuals often doesn't work in collectivist cultures like Nepal. These findings highlight a gap between what we are currently building and what survivors actually need for long-term recovery. Ultimately, we provide a new framework and practical guidelines to help designers create more reliable, inclusive, and effective tools that genuinely help people in their everyday lives.



4 Methodology

4.1 Participants and Recruitments

To examine what becomes visible when trauma recovery is viewed through the lens of Assistive Technology (AT), interviews were conducted with two groups of experts positioned on either side of that conceptual boundary.

The first group comprised five trauma clinicians, including psychologists and psychotherapists working with adults living with the long-term effects of childhood abuse, conflict, displacement, medical trauma, and disaster. Their therapeutic orientations included EMDR, Narrative Exposure Therapy, cognitive-behavioural approaches, psychodynamic practice, body-based stabilisation, and grounding-based crisis support.

The second group comprised five Assistive Technology researchers and designers whose work concerned technologies for everyday functioning, including mobility, prosthetics, psychosocial disability, low-resource settings, and global AT standards.

Participant group	Number interviewed	Area of expertise
Trauma clinicians	5	Clinical psychology, psychotherapy, trauma recovery approaches
AT researchers/designers	5	Assistive technology, disability, design, low-resource and global AT contexts
Total	10	



These groups were selected because each brought a different but complementary understanding of the problem space. Clinicians were able to speak to how trauma affects functioning, regulation, recovery, and the practical difficulties people face beyond the therapy room. AT researchers and designers, by contrast, brought insight into how technologies are classified, funded, adopted, resisted, and shaped by visibility, stigma, and social context. Together, these perspectives enabled a multi-angled exploration of whether and how trauma-related technologies might be understood as assistive technologies rather than therapeutic tools alone.

Participants were recruited through targeted outreach across professional and academic networks. The sample was intentionally interdisciplinary rather than representative, reflecting the paper's aim of surfacing conceptual tensions across fields rather than producing population-level claims.

4.2 Data Collection and Analysis

Semi-structured interviews were conducted remotely between August and September 2025. The interviews explored how participants understood trauma, recovery, functionality, disability, and the role of technology in supporting everyday life. Particular attention was paid to how experts defined the boundaries between therapeutic intervention, assistive support, and everyday coping, as well as where they saw tensions, limitations, or possibilities in applying an Assistive Technology lens to trauma recovery.



Interview data were analysed using reflexive thematic analysis, which supported an interpretive reading of recurring patterns, disagreements, ambiguities, and conceptual frictions across the two groups. For this paper, the analysis is presented as a focused cross-case account of the most salient tensions emerging from the interviews, rather than as a comprehensive report of the full dataset. This framing is intentional. The paper is designed to transparently present work in progress while demonstrating the conceptual value of the material and laying the groundwork for a more extensive future publication. Quotations are reported using anonymised identifiers, with clinicians labelled as P## and Assistive Technology experts labelled as T##.

What surprised us was not whether they agreed with our proposition, but how sharply and diversely they reacted to it. Some found the AT framing intuitive – even overdue – arguing that if trauma impairs daily functioning, then technologies that support regulation and participation should count as assistive. Others resisted the idea, raising concerns about stigma, diagnostic overlap, cultural fit, and the risk of misunderstanding what trauma recovery actually involves.

Instead of a unified answer, what emerged were **faultlines** – conceptual cracks that reveal deeper assumptions about disability, care, cultural norms and what “assistance” ought to mean. Those faultlines form the core of the next section.



5 The Fault-Lines Exposed by “Trauma Recovery tech as AT”

Psychosocial frameworks foreground precisely the kinds of fluctuating, context-dependent, and relational disruptions that challenge existing AT classifications (Chesner & Lykou, 2021). Where AT has historically been built around stable, diagnosable functional impairments, trauma presents a moving target: its effects shift across time, place, relationship, and culture – a profile that current classification systems were not designed to accommodate.

Bringing trauma recovery under the Assistive Technology umbrella does more than extend a definition. When the idea was put in front of experts, it opened up a series of **faultlines**: places where assumptions about disability, care, technology and culture pulled in different directions. These are not minor disagreements but structural tensions that shape whether “trauma recovery technologies as AT” can be a coherent project at all.

5.1 “Of Course It’s AT” vs “Don’t Call it AT”

The first faultline sits at the most basic level: what counts as Assistive Technology, and what follows from that label.

Several AT researchers treated the classification as straightforward. Working from global definitions in which AT encompasses any external product that maintains or improves functioning and participation (WHO, 2016; ISO, 2022), they argued that if trauma produces enduring cognitive, emotional, and sensory disruptions, then technologies



supporting regulation, navigation, and social participation belong squarely within the AT domain.

One engineer framed it in familiar AT terms:

“Any assistive technology is something that improves functioning... I would definitely say what you are looking at falls under assistive technologies.” (T04)

Another went further, classifying a speculative grounding device as an adaptive aid—a sub-type of AT that mediates between user and task—while emphasising that the task need not be physical:

“It doesn’t have to be a physical task. It can be emotional as well.” (T01)

Experts working primarily in psychosocial disability reacted very differently. For them, the issue was not whether trauma affects function—they accepted that it does—but what follows socially and politically from the AT label. AT is entangled with formal disability categories, entitlement systems, and public identity in ways that can impose unwanted classifications on people who may not understand themselves as disabled (Shakespeare, 2006; Mulvany, 2000). In contexts where mental health already carries significant stigma, that imposition may cause active harm:



“It should not be classified as assistive technology... it will immediately be highly stigmatised.” (T02)

“Labelling this as Assistive Technology may do more harm than good.” (T05)

This faultline is not simply a disagreement about definitions. It reflects a deeper tension between two legitimate functions of AT classification: **recognition**—acknowledging that trauma causes real functional impairment and deserves formal support—and **protection**—ensuring that administrative categories do not deepen stigma or force identities that people do not claim (Borg, Lindström & Larsson, 2011). In low-resource and collectivist contexts, where mental health stigma intersects with family honour and community belonging, this tension is especially acute (Kohrt et al., 2018).

*For design, **this faultline suggests a need for label-flexible tools that can be used without forcing a public disability identity** (e.g., discreet form factors, neutral naming, user-controlled disclosure). For policy and classification, it suggests that if trauma-related supports are recognised within AT systems, pathways should allow access based on functional need rather than a narrowly interpreted diagnosis, while actively mitigating stigma and unintended social signalling.*



5.2 Relational Healing vs Digital Companions

A second faultline concerns who—or what—is meant to carry people through recovery. Across therapeutic orientations, trauma clinicians described their core work as fundamentally relational. Trauma, particularly in its complex and developmental forms, is understood not only as a disruption to functioning but as a rupture in the capacity to trust, connect, and feel safe with others (Herman, 1992; Porges, 2011). Recovery, therefore, requires more than symptom management: it requires a relational context in which experiences that were previously denied, silenced, or overwhelming can gradually be held and integrated.

Clinicians described this in direct terms:

“A huge part of doing trauma therapy is just bearing witness to the stories.” (P05)

Within this frame, technologies were most welcome when they extended or echoed the therapeutic relationship—reminding clients of agreed strategies between sessions, prompting them with their own therapist’s language, or offering concrete grounding support when they were alone and overwhelmed. This positions technology as a bridge between sessions rather than as an independent intervention (Mohr et al., 2017).

“I can hold what you can’t hold right now until you can hold it.” (P03)



Generic trauma apps and AI-mediated “therapists” were viewed very differently. Clinicians described them as “shocking” and “highly dangerous” when they appeared to simulate relational functions without the accountability, nuance, and duty of care that the therapeutic role carries (Torous & Hsin, 2018). Notably, AT researchers without clinical backgrounds independently drew the same line.

Notably, AT researchers with no clinical background drew the same line independently:

“Therapy is like a deep surgery... technology cannot replace it.” (T02)

This cross-group convergence is significant. It suggests that the boundary between assistance and replacement is not simply a clinical preference but a structural feature of how trauma recovery works—one that any AT framing must respect. Relational healing cannot be outsourced to a device, however sophisticated, because the relationship itself is a core mechanism of change (Cloitre et al., 2019).

This faultline does not close the door on technology. It reframes what technology is for: not a substitute for human connection, but a scaffold that supports people in the spaces—temporal, geographic, and emotional—where therapeutic relationships cannot reach.

For design, “assistance” should be framed as supporting a relational care plan (e.g., reinforcing therapist-agreed strategies, encouraging help-seeking, and providing safe escalation options) rather than simulating therapy. For governance, any AI-mediated support should be constrained by clear scope, transparency, and risk



controls, because experts in both groups treated “replacement” claims as ethically hazardous.

5.3 Building Internal Capacity vs Outsourcing It to Devices

A third faultline runs through attitudes toward bodily awareness and self-regulation and cuts to the heart of what “assistance” should mean in trauma recovery.

Many experts described trauma as fundamentally a disturbance in how people sense and respond to their own bodily states. The window of tolerance – the zone within which a person can process experience without tipping into hyper- or hypo-arousal – becomes narrowed or chaotic (Ogden, Minton & Pain, 2006). People lose the ability to distinguish present sensations from past danger, and veer between states of overwhelm and shutdown in ways that feel uncontrollable and unpredictable. From this perspective, recovery is not primarily about removing symptoms but about rebuilding interoceptive capacity – the ability to notice, interpret, and respond differently to internal signals (van der Kolk, 2014).

This framing creates a pointed question for AT design. Technologies that monitor physiological states – heart rate, skin conductance, movement patterns – might seem like obvious tools for supporting regulation. But a body-oriented therapist spoke critically about apps that continuously monitor vitals such as heart rate or skin conductance:



“I’ve seen a lot of apps that monitor people’s vitals... I found those very unhelpful in the sense that they make people rely on outside instead of inside.” (P02)

The worry is that continuous external monitoring can become a new authority – another outside voice telling people how they are doing – at the very moment when therapy is trying to cultivate trust in one’s own perceptions. Rather than building internal capacity, the device substitutes for it (Linardon et al., 2020).

Other experts, however, drew a distinction between substitution and scaffolding. One psychologist framed the potential of trauma AT around the “now what” problem: clients may understand intellectually where their reactions come from, yet still be unable to act differently in the heat of a trigger. Technology might bridge that gap – not by telling people what they feel, but by prompting action on insights already developed in therapy:

“The ‘now what’ would be probably a bit of a challenge... an assistive technology can give them the now what component.” (P04)

Another described how a discreet wearable might help people notice when their anxiety is escalating and encourage them to practise agreed grounding strategies, thereby gently pushing against avoidance:



“Avoidance is what maintains PTSD... a wearable could help break that cycle.” (P05)

AT specialists added a further layer by questioning how reliably current sensors can distinguish trauma activation from everyday states such as heat, exercise or excitement:

“The technology is not there yet – it may detect sweating because it is hot... It’s a very fine line between useful and annoying when context is misunderstood.” (T05)

This technical limitation reinforces the conceptual point. The most defensible role for technology in trauma recovery is not continuous surveillance of bodily states but targeted, user-controlled prompting that supports people in applying strategies they already have – and that is explicitly designed to fade as internal capacity grows (Mohr et al., 2017). Assistance here means scaffolding toward independence, not monitoring in perpetuity.

For design, **trauma-related AT should privilege scaffolding** (prompting, rehearsing, and fading support) over continuous monitoring that becomes a new external authority. For evaluation, this implies measuring not only symptom change, but whether the tool strengthens internal cue recognition and situational coping over time—and whether false positives/negatives in sensing create avoidance, annoyance, or dependence.



5.4 Designing for “Trauma” vs Designing for Functions and Symptoms

A fourth faultline emerged when experts considered what, exactly, trauma-focused AT would be designed *for* – and whether “trauma” is the right organising category at all.

The original proposition imagined “trauma” as a meaningful organising category: a set of experiences with distinctive functional after-effects that could justify a dedicated class of assistive technologies. Some experts found this convincing, particularly where impairment is sustained, clearly connected to specific events, and persistent over time – meeting the kind of threshold that AT provision systems typically require before intervention is authorised (Borg, Lindström & Larsson, 2011). In such cases, naming trauma as the basis for support feels both clinically accurate and practically necessary.

Others questioned whether “trauma” is the right level of abstraction for design. The functional difficulties of interest – panic, sensory overload, dissociation, executive dysfunction, avoidance, impulses toward self-harm – are not exclusive to trauma. They are shared across ADHD, borderline presentations, mood disorders, neurodivergent profiles, and chronic pain (Mannan et al., 2018). Designing specifically for trauma risks both over-inclusion (people with those functional profiles who do not identify with trauma narratives) and under-inclusion (people with trauma histories whose primary presenting difficulties map onto other categories). One AT researcher captured the shift clearly:

“We design technology for symptoms and conditions, not for diagnoses.”
(T05)



Clinicians expressed a similar sentiment in clinical terms:

“We’re not treating the diagnosis, we’re treating the person that is there and have different symptoms.” (P04)

This is more than a semantic preference. Diagnosis-led design tends to produce tools that are narrowly scoped, stigmatising, and difficult to access for people whose presentations are complex or whose histories don't fit neatly into single categories – a well-documented problem in both mental health technology and AT provision (Torous & Hsin, 2018; Shakespeare, 2006). Function-led design, by contrast, opens the possibility of tools that serve recurring patterns of difficulty across conditions – grounding during overload, support for re-entering avoided environments, interruption of harmful impulses, scaffolding for decision-making under stress.

Seen through this lens, trauma becomes one important context in which these tools are used and tested, but not their sole justification. The AT framing remains relevant – perhaps more relevant – because function-based classification is already embedded in AT's own standards (ISO 9999:2022). Trauma presses AT to apply that logic more consistently to psychosocial and cognitive domains, rather than reserving it primarily for physical and sensory impairments.

*For design, this points toward **building for recurring functions** (grounding, planning, exposure support, safe interruption) **rather than for “trauma” as a single category**. For classification, it suggests mapping products to functional domains (and possibly cross-listing) so that people can access supports without requiring diagnostic proof that is hard to establish, culturally fraught, or clinically overlapping.*



5.5 Western Individual Tech vs Collectivist, Stigma-Heavy Worlds

The final faultline is cultural – and, for AT2030's agenda, arguably the most consequential. Much contemporary digital mental health technology is designed around an implicit model of the user: an individual who can privately download an application, disclose difficulties to a screen, and work on personal recovery without reference to family, community, or social standing (Grech, 2015). This model travels badly. In collectivist contexts across South Asia, Sub-Saharan Africa, the Middle East, and conflict-affected regions, distress is rarely experienced or managed as a purely private matter. It is embedded in family systems, community relationships, and cultural frameworks of meaning – including religious belief, notions of fate or moral failing, and expectations around honour and resilience – that Western therapeutic assumptions routinely overlook (Kohrt et al., 2018).

For trauma specifically, this creates acute complications. Clinicians working with forcibly displaced populations and communities affected by conflict described how trauma-related distress – particularly when linked to childhood abuse or sexual violence – carries implications not only for individual identity but for family reputation and social standing. Disclosure is therefore not a neutral act. It involves navigating complex calculations about who can be told, what can be named, and what consequences follow from being seen to seek help. In such contexts, AT labelling may intensify rather than mitigate these risks, by formally marking someone as impaired within systems that may not be trusted or understood.

5.5.1 Example: prosthetic hand initiative

AT engineers from South Asia brought this into the design space through a striking example:



A prosthetic hand initiative encountered significant rejection rates not because the device failed technically, but because it failed socially – users refused it because it made them visibly different:

“Whatever device you make, it should not make that person look different from others... If it’s under the clothes, it will not be a big problem.” (T01)

For trauma support tools, the same logic applies, but with greater force. A visible device that signals “this person is in therapy” may not be merely uncomfortable but socially untenable in contexts where mental health stigma intersects with family honour and community belonging. Discreet form factors – fabric-embedded, jewellery-like, or otherwise indistinguishable from everyday objects – are not aesthetic preferences but functional requirements for acceptability (Borg, Lindström & Larsson, 2011).

Experts also drew attention to existing embodied regulatory practices that already operate in these contexts without clinical framing: yoga, breathwork, prayer, the use of malas and ritual objects, and movement-based community practices. These are not pre-scientific alternatives to be replaced by technology – they are culturally embedded, socially sanctioned forms of self-regulation that trauma-recovery tools could support, extend, or align with (van der Kolk, 2014). Imposing Western app-based models risks displacing practices that already work, while introducing stigma and cultural mismatch that undermine adoption.

This fault line resonates with AT2030's agenda. The programme has consistently demonstrated that AT provision in low- and middle-income countries fails not primarily



for technical reasons but for reasons of cultural fit, social visibility, and community trust (AT2030, 2023). Trauma recovery technologies face precisely the same barriers – but with the additional complexity of mental health stigma, the politics of disclosure, and the entanglement of distress with identity, honour, and belonging. If AT2030's ecosystem-building approach is to extend into psychosocial disability and trauma recovery, it will need to treat cultural resonance and social invisibility not as desirable features but as baseline design requirements.

*For design, **acceptability may depend more on social invisibility, local meaning, and alignment with existing embodied practices than on technical sophistication.** For deployment, this implies partnering with local services and communities to shape form factors, language, and onboarding—so the tool can be used safely without forcing disclosure or triggering stigma. Across these five faultlines, “trauma recovery as AT” emerges as both a compelling and a destabilising idea. It invites recognition of trauma-related functional impairments and opens a design space for technologies that support people beyond the therapy room. At the same time, it exposes assumptions in current AT thinking about who is disabled, what counts as assistance, and which cultural realities are taken for granted. The next sections step back from these tensions to consider what they suggest about Assistive Technology itself.*

5.6 Fault-Line 6: Safety, Liability, and Governance.

A sixth fault line – raised implicitly whenever AI-mediated support and automated detection were discussed – concerns safety, accountability, and who is responsible when things go wrong. In physical AT, failures tend to be visible and bounded. A wheelchair component breaks; a hearing aid produces feedback; a prosthetic fit causes



discomfort. The failure is identifiable, the harm is largely contained, and responsibility is relatively straightforward to assign (Federici & Scherer, 2012). Trauma-related supports present a fundamentally different risk profile. Failures here may be invisible, delayed, and clinically serious. A poorly timed prompt may intensify dissociation rather than interrupt it. Inaccurate physiological detection may increase hypervigilance in someone already struggling to trust their own bodily signals. Generic coping advice may directly contradict an individual's clinical plan. And conversational AI systems may encourage disclosure of abuse, self-harm, or suicidal ideation without any corresponding duty of care, escalation pathway, or clinical oversight (Torous & Hsin, 2018).

Clinicians were particularly alert to this last risk. The same relational attunement that makes therapy effective – the ability to read when a client is approaching their limit, to slow down, redirect, or simply sit in silence – is precisely what automated systems cannot reliably replicate. Several described scenarios where well-intentioned technology could cause serious harm by proceeding where a skilled clinician would stop:

"Therapy is like a deep surgery... technology cannot replace it." (T02)

This is not an argument against technology but an argument for explicit scope. The question is not whether trauma-related AT can be safe, but whether its boundaries – what it will and will not do – are clearly defined, technically enforced, and understood by users, developers, and any clinicians involved in care (Mohr et al., 2017).

This creates a structural tension between innovation and governance. The digital mental health landscape moves fast: apps are iterated rapidly, personalisation algorithms are updated continuously, and AI-mediated tools are increasingly marketed directly to consumers without clinical intermediaries (Linardon et al., 2020). AT provision, by



contrast, involves assessment, prescription, fitting, and review – a slower, more accountable process that assumes professional responsibility at multiple points. If trauma-related supports are to sit within an AT framing, that framing brings with it governance expectations that the consumer wellness market does not currently meet.

In low-resource contexts, these concerns are amplified. Where formal mental health services are thin or absent, technology may become a de facto substitute rather than a supplement – with no clinical backstop when something goes wrong. AT2030's work in low- and middle-income countries has consistently highlighted that provision without follow-up, training, or community integration leads to abandonment and harm (AT2030, 2023). For trauma-related AT, the stakes of that lesson are higher still: a device that is abandoned is unfortunate; a system that triggers a crisis without a safety net is dangerous.

What experts' concerns collectively imply is the need for safety by design from the outset – not as a compliance layer added before launch, but as a foundational design requirement. This includes conservative prompting defaults, user control over escalation, transparency about what the tool can and cannot do, tested pathways for disclosures of self-harm or suicidal ideation, and clear assignment of responsibility between developers, service providers, clinicians, and users (Torous & Hsin, 2018).

*For design and deployment, trauma-related AT needs “**safety by design**”: conservative prompting, user control, explainability, and tested escalation routes. For regulation and procurement, it suggests evaluating not only usability but also clinical risk, privacy, audit logs, and service integration—especially for AI-mediated tools that may otherwise be treated as generic consumer wellness products.*



6 Discussion

The following sections take a step back from individual fault lines to examine what they collectively reveal: how trauma pushes against the edges of current AT thinking, what this pressure exposes about the limits of device-centred and diagnosis-centred models, and why trauma may be less a boundary case and more a preview of where Assistive Technology will need to evolve.

6.1 What These Fault-Lines Reveal

Taken together, these faultlines suggest that trauma challenges core assumptions embedded in many assistive product frameworks—particularly assumptions of stable impairment profiles, clearly specifiable tasks, and socially legible user identities (WHO, 2016; WHO & UNICEF, 2022; ISO, 2022). They make visible forms of disablement that sit awkwardly within a paradigm shaped around relatively stable physical and sensory impairments: psychosocial difficulties that fluctuate over time, appear in specific contexts, and are deeply entangled with memory, identity and culture. A person may function well at home yet become disoriented on a crowded train; may think clearly in calm conditions but dissociate when exposed to particular sounds or smells; may be highly competent in some roles while avoiding others entirely. The faultlines around classification—some experts saying “of course this is AT,” others warning that the label is socially and politically dangerous—emerge in part because existing AT categories are calibrated to different kinds of impairment.

The tensions also reveal how much current AT thinking assumes that impairments and tasks can be cleanly specified. ISO-style definitions treat AT as external products that assist with identifiable activities: moving from A to B, reading text, hearing speech, manipulating objects. In the trauma cases described by clinicians, the “tasks” that



people struggle with are more diffuse: staying in the present, entering an environment without shutting down, telling one's story without being overwhelmed, resisting a sudden impulse to self-harm, or choosing to go outside when avoidance feels safer. These are tasks in a functional sense, but they are not easily captured by existing AT taxonomies. The result is a structural mismatch: the more precisely trauma is described, the less neatly it fits within the familiar grids and catalogues of assistive devices.

Seen in this light, the disagreements among AT experts are less about individual preferences and more about **faults in the conceptual ground**. Those who readily accept trauma-support tools as AT tend to interpret the definitions flexibly, focusing on the broad goal of supporting everyday functioning. Those who resist point to the consequences of forcing psychosocial, relational and culturally charged difficulties into categories built for wheelchairs and hearing aids. The faultlines thus indicate not only that trauma is challenging, but that the foundations of AT classification have not yet fully caught up with psychosocial disability.

6.2 Rethinking" Assistance" Beyond Devices and Diagnoses

When trauma presses on the boundaries of Assistive Technology in this way, it also exposes how narrowly "assistance" has often been understood—as something that devices do *for* people, usually mapped onto a specific diagnosis. In many of the AT examples that shaped current standards, the role of technology is to replace, augment or bypass a lost bodily function: a chair substitutes for the ability to walk; a screen reader substitutes for the ability to see text. The faultlines that emerge around trauma remind us that this is only one form of assistance.



Clinicians describe trauma recovery as a process of **developing capacities rather than substituting for them**: widening the window of tolerance, strengthening interoceptive awareness, learning to relate differently to bodily sensations and intrusive memories, cultivating new ways of acting in moments of distress. Technologies that assist here are not those that take over regulation, but those that scaffold it—prompting a grounding exercise when anxiety rises, reminding someone of a previously agreed plan in a triggering situation, or offering a safer alternative when the urge to self-harm appears. Several experts explicitly framed proposed devices in these terms, as tools that help people act on insights gained in therapy—the “now what” after understanding a trigger—or that gently interrupt avoidance by providing reassurance and guidance in feared environments.

This shifts the focus from **devices that fix deficits** to **supports that build agency**. It also decouples assistance from diagnosis. Experts emphasised that the functional problems of interest—panic, overload, dissociation, impulsive harm—are shared across trauma, ADHD, borderline presentations, mood disorders, neurodivergence and even ageing. From an AT perspective, this suggests that the most meaningful unit of design may not be the diagnostic label but the ecology of situations, sensations and decisions in which people repeatedly need help. Assistance, in this broader sense, is less about matching devices to impairments and more about helping people navigate recurring **moments of difficulty** across mental, physical and social domains.

The faultlines around reliance on external monitoring reinforce this rethinking. Concerns that vital-sign trackers can make people “rely on outside instead of inside” draw attention to the difference between assistance that supports self-trust and assistance that subtly undermines it. Trauma pushes AT towards the former: towards devices that are explicitly designed to fade, to transfer skills to the person, and to strengthen rather than weaken confidence in internal signals and relational support.



6.3 Why Trauma is a Central Issue

Viewed through these pressures, trauma can be treated as a boundary case for AT: it foregrounds fluctuating regulation, context sensitivity, and relational safety as determinants of functioning—features emphasised in widely used trauma frameworks (Herman, 1992; Siegel, 1999; van der Kolk, 2014). The very characteristics that make trauma challenging for AT—its fluctuating nature, its rooting in memory and relationship, its dependence on context and culture—are increasingly visible in other areas where AT is being asked to operate. Psychosocial disabilities, chronic pain, long-term effects of infection, cognitive and neurodivergent profiles, and ageing-related changes all involve patterns of difficulty that are dynamic, relational and not easily localised in a single organ or function.

Experts' concerns about stigma and cultural fit underscore this point. The debate over whether trauma-support tools should “count” as AT is, in part, a debate about who AT is for: whether it is confined to clearly recognised disabled identities, or whether it has a role in supporting people whose difficulties are real but not always legible within existing disability regimes. Clinicians working in collectivist, honour-based contexts highlight how trauma cannot be neatly separated from family, community and faith; AT designers working in South Asia describe how the visibility of a device can determine its acceptability regardless of its technical merit. These insights are unlikely to remain specific to trauma as AT turns increasingly towards global South and psychosocial applications.

Because trauma sits at the intersection of impairment, identity, culture and care, it places sustained pressure on AT's inherited assumptions. It forces questions about classification (who is an AT user), about what assistance is meant to do (substitute or scaffold), and about how technologies should relate to people's bodies, relationships and worlds. In doing so, trauma functions as a kind of **stress test**: if Assistive Technology can adapt to support trauma recovery in ethically and culturally appropriate ways, it will be better positioned to respond to a wide spectrum of psychosocial and fluctuating



conditions. If it cannot, then its current conceptual boundaries may prove too narrow for the realities it is increasingly being asked to address.

In this sense, the faultlines exposed by “trauma recovery technology as AT” clarify where assistive products, services, and governance arrangements may need to evolve to better support psychosocial and context-dependent functioning—while also sharpening the ethical constraints that should govern what these technologies claim to do (WHO & UNICEF, 2022; Coghlan et al., 2023).

6.4 Recommendations for Trauma AT Designs.

6.4.1 Scaffold, don't substitute:

Prompts and supports should strengthen the person's own capacity over time (and be designed to “fade” where appropriate).

6.4.2 Context sensitivity with humility:

Assume sensing and inference will be wrong sometimes; design for safe failure, easy correction, and user control.

6.4.3 Discreetness and selective disclosure:

Minimise forced signalling; let users decide how visible the tool is and what it communicates.



6.4.4 Relational compatibility

Support—not replace—care relationships, including therapist-agreed language, plans, and boundaries.

6.4.5 Cultural resonance:

Align with local practices, meanings, and constraints; avoid importing assumptions about private self-work or disclosure.

6.4.6 Safety by design:

Plan for distress escalation, self-harm risk, privacy, and data governance from the outset.

6.5 Implications for AT Classification, Provision, and Procurement.

If trauma-related supports are taken seriously within an AT framing, there are downstream consequences for how products are **classified**, how access is **authorised**, and how tools are **procured and supported** over time. Function-based mapping may be more workable than diagnosis-based mapping: the same product might legitimately serve trauma, neurodivergence, chronic pain, or anxiety depending on the user and context. Provision models may also need to look less like one-off device handover and more like **service-linked support** (setup, training, adjustment, periodic review), especially where tools interact with care plans and fluctuating needs. Finally, if AI-



mediated supports are considered, procurement criteria should include privacy, auditability, transparency of scope, and integration with escalation pathways—so that “wellness” products are not inadvertently used as de facto clinical substitutes.

7 Limitations and Future work

This paper is intentionally conceptual, using expert interviews to surface tensions rather than to estimate prevalence or effectiveness. As presented here, key methodological specifics (sample size, recruitment, geographic spread, and analytic procedure) should be made explicit in the final manuscript. In addition, expert perspectives do not substitute for survivor-led accounts of what “assistance” should feel like in practice, and acceptability is likely to vary sharply across cultures, diagnostic histories, and service contexts.



8 Conclusion

The pressures that trauma places on Assistive Technology suggest a broader reorientation in how assistance itself is understood. If trauma recovery reveals anything clearly, it is that support is not always about compensating for a missing function or mapping a device to a diagnosis. The difficulties described by clinicians—moments of overload, sudden withdrawal, dissociation, fear of public spaces, or the collapse of internal regulation—are not neatly captured by diagnostic labels, and they are not solved by devices acting on behalf of the person.

What counts as assistance here is something quieter and more continuous: tools that help a person steady themselves, enter situations they would otherwise avoid, remember strategies learned in therapy, or reconnect with their own signals when distress takes over. These are forms of support that accompany rather than replace, that scaffold rather than substitute. They work with a person's own capacities and relationships rather than assuming that technology must take the lead.

Reframing assistance in this way loosens AT from its historical attachment to fixed impairments and discrete tasks. It shifts attention toward the everyday moments when people need help to stay present, make a decision, manage a wave of emotion or cross a threshold that trauma has made difficult. It also opens AT to conditions that fluctuate, depend on context, and are shaped by social and cultural meaning—contexts where the goal is not simply to restore a function but to support someone in re-entering the flow of life.

In this expanded view, assistance becomes less about devices and more about **how people move through challenging moments**, and how technologies might support those movements without eclipsing the person, their agency or their relationships.



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