

Relational Attention Load Theory: A Qualitative Synthesis of Social Media Information Overload and Cognitive Failures Across the Lifespan in India

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Abstract: India's rapid shift to inexpensive, continuous mobile connectivity has outpaced the development of digital regulation skills, institutional norms and clinical frameworks. This paper reports a qualitative interpretive synthesis of how social media induced information overload relates to cognitive failures among adolescents, working professionals and retired adults in urban India. A purposive documentary corpus of 67 scholarly works and 13 policy instruments was analysed using reflexive thematic analysis and a line-of-argument synthesis. Five themes were developed: the obligation to remain available, attentional fragmentation, offloading and weakened rehearsal, erosion of role boundaries, and overload as appraised threat. The synthesis shows that vulnerability depends on the balance of load, capacity and buffers at each life stage, and that evidence for older adults and for India is thin. We propose the Relational Attention Load Theory (RALT), in which informational, relational obligation and role-boundary loads produce cognitive failure when they exceed life-stage capacity supported by buffers, and in which relational obligation amplifies informational load in relationally dense settings. Eight testable propositions and governance implications are derived.

Keywords: information overload; cognitive failures; social media; technostress; relational obligation; lifespan; India

1. Introduction

Within roughly two decades, India moved from scarce dial-up access to continuous, low-cost mobile connectivity. Messaging and video platforms now carry family coordination, work communication, news and health information. Elsewhere, media diffused over decades alongside media literacy and workplace norms; in India, digital consumption outpaced digital regulation skills.

Attention and working memory are limited (Sweller, 1988). Continuous demands on them may appear as cognitive failures, defined as everyday lapses of memory, perception and action (Broadbent et al., 1982), and as a sense of reduced capacity to decide. Research on overload is concentrated in Western, individualistic and student samples, rarely compares life stages and seldom considers relational pressures in interdependent cultures (Markus & Kitayama, 1991). We ask how the literature relates social media induced overload to cognitive failures, how this differs for adolescents, professionals and retired adults, and what theory and governance implications follow.

2. Theoretical Background

Cognitive Load Theory treats irrelevant demands as extraneous load that consumes working memory (Sweller, 1988), and the Limited Capacity Model proposes that encoding, storage and retrieval share one pool, so rapidly paced content may be attended to but poorly retained (Lang, 2000). Technostress research identifies overload and invasion as sources of strain among employed adults (Tarafdar et al., 2007; Ragu-Nathan et al., 2008), transactional appraisal explains why one demand may be a challenge for one person and a threat for another (Lazarus & Folkman, 1984), and cognitive ageing theory predicts greater sensitivity to irrelevant information when inhibitory control declines (Hasher & Zacks, 1988). Several widely

cited findings are contested: the Google effect did not replicate in a large project (Camerer et al., 2018), ego depletion failed a multilab replication (Hagger et al., 2016), and associations between technology use and adolescent wellbeing are small on average (Orben & Przybylski, 2019). These cautions shape the conditional form of the theory proposed here.

3. Method

We conducted a qualitative interpretive synthesis with a theory-building aim, within an interpretivist paradigm with a critical realist sensibility, because the contribution sought is conceptual and published evidence comparing the same constructs across the life span in India is sparse. The unit of analysis was the document. A purposive corpus covering foundational theory, overload, problematic use, technostress, cognitive ageing, offloading, misinformation, culture, measurement and method, and Indian and comparative policy instruments was selected by explicit inclusion and exclusion criteria, and claims that could not be traced to a publication were excluded. Analysis followed reflexive thematic analysis (Braun & Clarke, 2006), thematic synthesis (Thomas & Harden, 2008) and line-of-argument synthesis (Noblit & Hare, 1988), and theory building followed Whetten (1989). Trustworthiness was supported by a written protocol, audit trail, reflexive memorizing, negative case analysis and supervisory review, reported following ENTREQ (Tong et al., 2012). No human participants were involved. Evidence for each theme was graded as established, partial or inferential.

4. Findings

Theme 1: The obligation to remain available. Connectivity carries relational duty as well as information. In interdependent settings the self is defined through relationships and obligations (Markus & Kitayama, 1991),

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and messaging turns these into constant acts of replying, reacting and forwarding, with fear of missing out as motivator (Przybylski et al., 2013). Relational obligation appears to be a load distinct from information volume (partial evidence; inferential for India).

Theme 2: Attentional fragmentation as a cumulative cost. Interrupted workers finished faster at the price of more stress and effort (Mark et al., 2008). Evidence that media multitasking impairs cognitive control is mixed and causally unresolved (Uncapher & Wagner, 2018). The supported conclusion is a cumulative cost to stress and efficiency, not permanent damage to attention (partial).

Theme 3: Offloading and weakened rehearsal. Reliance on devices and group threads as external memory is often adaptive (Risko & Gilbert, 2016) but may reduce internal encoding, and failure to retrieve a detail from a thread may feel like personal memory failure (partial).

Theme 4: Erosion of role boundaries. Techno-invasion and techno-overload are linked to strain among employees (Tarafdar et al., 2007; Ragu-Nathan et al., 2008), and pandemic schooling and remote work placed study and work on social devices (established for employees; inferential for others).

Theme 5: Overload as appraised threat. Verifying information adds burden (Vosoughi et al., 2018), and noticing slips may be read as decline, raising anxiety; because the Cognitive Failures Questionnaire is sensitive to mood, perceived and actual failures differ (partial; inferential for retirees).

Life-stage profiles differed. Adolescents combine high peer obligation and informational load with still-maturing control (Steinberg, 2005). Professionals carry the highest role-boundary load with mature but depleted capacity. Retirees face high family-group obligation and verification burden with, on average, reduced inhibitory control and often limited digital scaffolding, but direct evidence for this group is the thinnest. No life stage was simply more vulnerable; vulnerability reflected the balance of load, capacity and buffers.

5. The Relational Attention Load Theory

RALT is a middle-range theory for cognitive failure in

relationally dense, mobile-led digital settings. It assumes that attention is limited, that demands arise from social obligations attached to information as well as from information itself, that capacity differs by life stage, that buffers outside the individual support or weaken capacity, and that cognitive failure is a conditional, reversible and graded outcome. Three load streams (informational, relational obligation and role-boundary) act through attentional fragmentation, offloading dependence and threat appraisal, and lead to cognitive failures, decision fatigue, perceived cognitive decline and diagnostic ambiguity (Figure 1). Regulatory capacity and four buffers (individual literacy, family scaffolding, institutional norms and platform design) condition these paths.

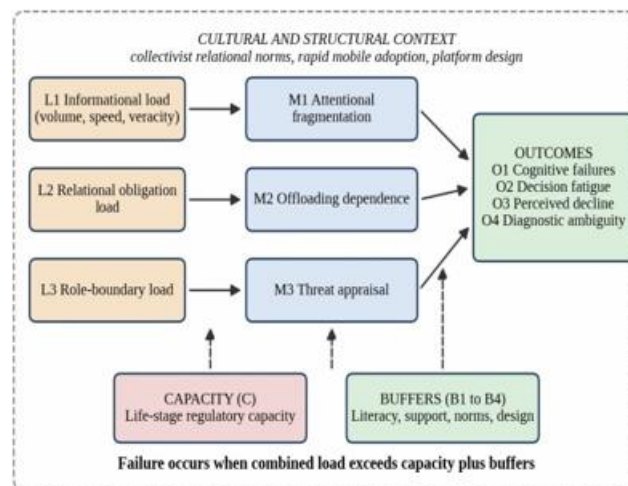


Figure 1: The Relational Attention Load Theory (RALT) model

The core claim is a threshold: risk rises when weighted combined load exceeds capacity supported by buffers. Relational obligation amplifies informational load because filtering becomes socially costly where norms make disengagement expensive. The theory extends the inverted-U heuristic (Yerkes&Dodson,1908) by proposing that the crash point shifts later as buffers strengthen. It extends Cognitive Load Theory by adding relational and role-boundary extraneous load, and technostress theory by applying it beyond the workplace and across the lifespan.

6. Propositions for Future Research

Table 1: Propositions of RALT

No.	Proposition	Test
P1	Risk of cognitive failures rises non-linearly when combined load exceeds capacity plus buffers	Polynomial regression
P2	Relational obligation strengthens the effect of informational load on fragmentation	Moderation
P3	For professionals, role-boundary load predicts decision fatigue more than volume	Effect comparison; diary
P4	For adolescents, peer obligation predicts checking more than volume, weakened by family and school norms	Moderated regression
P5	For retirees, load effects are stronger when inhibitory capacity and scaffolding are low	Moderation by inhibition task
P6	Threat appraisal mediates load and perceived decline, especially in retirees	Mediation
P7	In high-obligation settings, collective buffers outperform individual buffers	Multilevel; trials
P8	Perceived failures exceed objective deficits where threat appraisal is high	Self-report plus tasks

7. Implications for Practice and Governance

For clinicians, complaints about memory and attention

should be assessed within the person's digital environment, but never attributed to overload before standard cognitive screening and exclusion of other causes. We use the descriptive term overload-linked cognitive inefficiency in

place of the dated term pseudodementia, treat it as a hypothesis and not a diagnosis, and suggest a brief digital-load history as a supplement to clinical interviews.

Because much of the load arises from relational duty and platform design, individual advice has limited reach. We propose a four-tier governance framework: household agreements on quiet hours and forwarding checks; institutional norms in schools, workplaces and elder care; state recognition of cognitive wellbeing in digital policy, review of a right to disconnect and proportionate platform risk assessment; and platform defaults such as notification batching, forwarding friction and group controls. Measures should be proportionate to evidence, protect privacy, autonomy and inclusion, and be piloted and evaluated before being mandated.

8. Limitations and Future Research

This documentary synthesis has no primary data, so the propositions are hypotheses. The corpus was purposive and English-language, evidence on retirees and India is thin and mostly correlational, and the theory rests on urban, English-using contexts. Future work should test P1 to P8 with moderated mediation, diary and longitudinal designs, qualitative family-level studies, buffer-level intervention trials and rural and vernacular-language samples.

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