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Islamic Education Approach to Digital Parenting: Addressing Technoference and Strengthening Parent-Child Relationships

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ABSTRACT

Digital technology has become embedded in family life, shaping how parents communicate, work, access information, and interact with their children. While digital parenting research has largely focused on children's screen use, parental mediation, and online safety, less attention has been given to how parents' own technology use may affect everyday parent-child interaction. One concern is parental technoference, where technology-related interruptions reduce parental attention and responsiveness. This conceptual study examines how Islamic education can inform a more relational approach to digital parenting by addressing parental technoference and parent-child interaction. An integrative literature review was conducted using Scopus, covering publications from 2016 to 2026, with selected seminal works retained to establish foundational concepts in Islamic education and adab. The review synthesised literature across three thematic domains: digital parenting and parental digital behaviour, parental technoference and parent-child interaction, and Islamic education, digital adab, and moral formation. Based on this synthesis, the study proposes an Islamic Digital Parenting Framework comprising four interconnected dimensions: digital adab, parental digital self-regulation, digital role modelling, and relational responsiveness. Digital adab provides the normative foundation, parental digital self-regulation serves as the primary behavioural mechanism for reducing unnecessary technoference, digital role modelling functions as an educational mechanism, and relational responsiveness represents the interpersonal mechanism of parent-child interaction. When technoference occurs, digital reconnection is conceptualised as a relational recovery process through which parental attention and interaction may be restored. The framework distinguishes between regulatory and reconnection pathways that are theoretically oriented towards supporting stronger parent-child connection. The study contributes a values-based perspective to digital parenting by shifting attention from regulating children's technology use alone towards parents' own digital conduct, moral responsibility, and relational responsiveness.

Keywords:

Islamic education; digital parenting; parental technoference; digital adab; parent-child relationship

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1. Introduction

Digital technology is now part of everyday family life. Parents use digital devices to communicate, obtain information, support their children's learning, and manage many aspects of family life. As a result, digital parenting has become an important area of research on how parents guide and regulate children's technology use. Much of the existing literature has positioned parents as mediators who monitor, regulate, and guide children's digital activities [1-5]. While this work has provided important insights into children's digital experiences, comparatively less attention has been given to how parents themselves use technology during everyday interactions with their children.

The Malaysian context provides a relevant setting for considering these issues, particularly in relation to Muslim family life and parental responsibility in digital environments. Questions concerning parental attention, appropriate technology use, moderation, and meaningful parent-child interaction can be considered not only in terms of digital competence and online safety but also through the ethical and educational principles of Islam. This context therefore provides a useful basis for examining how Islamic educational principles may inform parental digital behaviour.

This issue becomes more apparent in discussions of parental technoference. The term 'technoference' refers to situations where the use of technology interrupts interpersonal interaction or reduces parental engagement [68]. Rather than focusing only on how long technology is used, technoference draws attention to what happens when a parent's attention is diverted from an ongoing interaction. Research has linked parental mobile device use with lower responsiveness and changes in the quality of parent-child interaction [9-11]. The concern, therefore, is not simply the presence of a digital device in family settings, but whether its use interferes with parental attention when children need interaction and response.

Islamic education offers a useful perspective for considering this issue because its scope extends beyond the transmission of religious knowledge to include moral and social development [12]. In a digital environment, this broader understanding of education allows technology use to be considered in relation to responsibility, moral judgement, and appropriate conduct [13,14]. The concept of adab is particularly relevant. Islamic educational thought associates adab with appropriate conduct, recognition of value, and the maintenance of proper order [12,15]. In the context of digital parenting, these principles can help parents consider when technology use is appropriate and when direct attention to their children should take precedence.

Although digital parenting, technoference, and Islamic education have each received scholarly attention, their connections have not been sufficiently developed. Research on digital parenting has generated substantial knowledge about parental mediation and children's digital experiences, while research on technoference has highlighted the effects that parental device use may have on responsiveness and parent-child interaction [2,5,7,9,16]. Islamic education, meanwhile, offers principles related to moral formation, social responsibility, and adab in responding to changes in society and technology [12,13]. What remains less clear is how these principles can guide parents' own digital practices, particularly when technology begins to interfere with parent-child interaction.

This study addresses this gap by proposing an Islamic Digital Parenting Framework that brings Islamic educational principles into discussions of parental technoference and parent-child disconnection. The framework consists of four interconnected dimensions: digital adab, parental digital self-regulation, digital role modelling, and relational responsiveness. It further proposes that managing parental technoference and restoring interaction after digital interruption may strengthen parent-child connection. The study therefore shifts the discussion of digital parenting beyond regulating children's technology use toward parents' own digital responsibility, moral conduct, and relational presence. Accordingly, this study aims to:

(1) examine how Islamic educational principles, particularly digital adab, can inform parents' own digital conduct;

(2) conceptualise the relationships between parental digital self-regulation, parental technoference, relational responsiveness, and parent-child connection; and

(3) propose an Islamic Digital Parenting Framework (IDPF) that integrates normative, behavioural, educational, and relational dimensions of parental digital responsibility.

2. Methodology

2.1 Review Design

This conceptual study employed an integrative literature review to examine the intersections between digital parenting, parental digital behaviour, parental technoference, parent-child relationships, and Islamic education in the digital era. An integrative review was considered appropriate because the study sought to synthesise empirical, conceptual, and theoretical literature from related fields to identify areas of convergence, conceptual gaps, and potential relationships relevant to the development of the Islamic Digital Parenting Framework (IDPF).

The review was organised around three overarching thematic domains: (1) digital parenting and parental digital behaviour, (2) parental technoference and parent-child interaction, and (3) Islamic education, digital adab, and moral formation. More specific concepts, including parental mediation, parental responsiveness, digital literacy, parental digital self-regulation, and digital role modelling, were treated as subthemes within these broader domains.

2.2 Search Strategy and Eligibility Criteria

A structured literature search was conducted using the Scopus database, covering publications from 2016 to 2026. The search included publications in English and Malay. This period was selected to capture contemporary developments in digital parenting, parental technology use, parental technoference, parent-child interaction, and digital approaches to Islamic education. Earlier seminal works were subsequently retained where necessary to establish foundational theoretical concepts, particularly in relation to Islamic education and adab.

The search employed combinations of terms related to the main concepts examined in the study, including "digital parenting", "parental mediation", "parental digital behaviour", "parental smartphone use", "technoference", "parental responsiveness", "parent-child interaction", "digital literacy", "Islamic education", "Islamic parenting", "Islamic values", and "adab". Boolean operators such as AND and OR were used where appropriate to combine related concepts.

Sources were considered for inclusion when they: (1) addressed digital parenting, parental technology use, parental technoference, or parent-child interaction; (2) examined parental attention, responsiveness, mediation, digital behaviour, or related relational processes; (3) discussed Islamic education, Islamic parenting, adab, moral formation, or digital ethics relevant to parental conduct; (4) were published between 2016 and 2026, except for seminal works retained for their theoretical importance; and (5) were published in English or Malay.

Sources were excluded when they focused exclusively on children's technology use without meaningful implications for parental behaviour or parent-child interaction, fell outside the conceptual scope of the study, duplicated another source, or provided insufficient conceptual relevance to the development of the framework.

2.3 Literature Screening and Source Selection

The initial Scopus search identified approximately 27 potentially relevant records. These records were screened for relevance to the study's conceptual focus on parental digital behaviour, technoference, parent-child interaction, and Islamic educational perspectives on digital conduct. Following the screening process and subsequent purposive supplementation of the literature, 20 sources were included in the final integrative synthesis. Of these, 18 were published between 2016 and 2026, while two earlier seminal works were retained because of their foundational significance to Islamic educational theory and the concept of adab. The two earlier works were Halstead's discussion of the Islamic concept of education and al-Attas's foundational work on education and adab.

The final corpus comprised 15 journal articles, two scholarly handbook chapters, one conference paper, one book, and one institutional report. The inclusion of non-journal materials was purposive: the handbook chapters contributed contemporary synthesis on digital parenting and technoference, the conference paper supported discussion of Islamic education in the digital context, the book provided the foundational conceptualisation of adab, and the institutional report offered contextual information on digitalisation.

The distinction between the primary database search and purposively included foundational or contextual sources was maintained to ensure methodological transparency. The final corpus should therefore be understood as the body of literature used for conceptual synthesis rather than as a set of sources derived exclusively from the Scopus search.

Table 1
Summary of literature search, screening, and final source composition

Thematic domain	Focus	Key references
Digital parenting and parental digital behaviour	Mediation, parental practices, digital literacy, role modelling	[1–5, 16, 19, 20]
Parental technoference and parent-child interaction	Interruption, responsiveness, relational recovery	[6–11, 17, 18]
Islamic education, digital adab and moral formation	Adab, moral formation, responsible digital conduct	[12–15]

2.4 Thematic Analysis and Framework Development

The selected literature was analysed through an interpretive thematic synthesis. Rather than treating individual search terms as separate analytical categories, the literature was organised into three overarching thematic domains.

The first domain, digital parenting and parental digital behaviour, examined parental mediation, parental digital literacy, parents' own technology practices, and digital role modelling. The second domain, parental technoference and parent-child interaction, focused on technology-related interruption, parental attention, responsiveness, relational disruption, and the restoration of interaction following digital interruption. The third domain, Islamic education, digital adab, and moral formation, examined Islamic educational principles relating to knowledge, moral responsibility, self-discipline, appropriate conduct, and the application of adab within digitally mediated family environments.

Each thematic domain was first examined to identify its central concepts and explanatory contribution. The domains were subsequently compared to identify areas of conceptual convergence, distinction, and gaps across the literature. Attention was given to how Islamic educational principles could provide a normative foundation for parental digital conduct, how parental digital self-regulation could address unnecessary technology-related interruption, and how relational responsiveness and digital reconnection could contribute to the maintenance or restoration of parent-child interaction.

The findings from this synthesis were subsequently integrated to develop the proposed Islamic Digital Parenting Framework (IDPF). The framework was therefore derived through conceptual integration rather than statistical aggregation and should be understood as a theoretical proposition requiring subsequent empirical validation.

3. Literature Review

3.1 Digital Parenting and Parental Digital Behaviour

Digital parenting has been discussed in relation to the ways parents help children navigate technology. Much of the literature focuses on parental mediation, including setting rules, monitoring children's activities, discussing online experiences, and sharing digital activities with children [1,2, 16]. These strategies remain important because parents play a significant role in shaping children's exposure to digital opportunities and risks.

However, parental involvement in children's digital lives does not end with mediation. Parents are also regular users of digital devices, and their habits shape the environment in which children develop their understanding of technology. Research has therefore begun to focus on parental digital behaviour, including how parents use smartphones and other devices while interacting with their children [4,5]. This shift is important because parental behaviour may communicate digital norms to children even when parents are not explicitly teaching them about technology.

Parental digital behaviour also needs to be considered in context. Device use may serve legitimate purposes, including work, communication, education, and family coordination. The issue is therefore not simply whether parents use technology around their children, but how and when that use occurs. When digital engagement repeatedly takes attention away from an ongoing interaction, it raises a different concern from ordinary technology use. This distinction provides useful insight into the relationship between digital parenting research and the literature on parental technoference.

3.2 Parental Technoference and Parent-child Disconnection

Parental technoference describes interruptions to interpersonal interaction associated with technology use [6-8]. The concept has broadened discussions of parental technology use by shifting attention from the amount of time spent with a device to the interruption that occurs during interaction. In family settings, this distinction matters because even short interruptions can occur at moments when children are seeking parental attention or responding to their parents.

Several studies have linked parental mobile device use with changes in parental responsiveness and parent-child interaction [9,10]. When attention is directed towards a device, parents may be less available to notice or respond to children's verbal and nonverbal cues. Repeated interruptions may therefore affect the quality of interaction, particularly when device use becomes a regular feature of shared family time [11]. At the same time, technoference should not be treated as evidence that all parental technology use is harmful. Parents may need to respond to messages, complete work-related tasks, or manage family responsibilities through digital devices. The more relevant question

is whether technology use interferes with the parent's ability to remain responsive. This distinction supports a more contextual understanding of technoference and avoids reducing the issue to simple measures of screen time.

It should be noted that a substantial proportion of the current evidence on parental technoference and relational responsiveness has been derived from studies involving infants and young children. This developmental context is important because younger children may depend more directly on parental attention, responsiveness, and nonverbal interaction. The present framework is conceptually intended to address parent-child relationships more broadly; however, the strength and form of the proposed relationships may differ across developmental stages. Its application to older children and adolescents should therefore be examined empirically rather than assumed to operate in the same manner.

Recent work has also begun to examine what happens when interaction resumes following digital interruption. Research involving mother-infant interaction suggests that smartphone-related distraction may be associated with changes in interpersonal coordination, while renewed interaction may provide opportunities for relational recovery [17,18]. These findings remain an emerging area of research, but they provide a useful basis for considering digital reconnection as a relational recovery process following technology-related interruption.

3.3 Islamic Education, Adab, and Digital Moral Formation

Islamic education provides a broader educational framework in which knowledge, moral development and social conduct are closely connected. Its purpose is therefore not limited to the transmission of religious knowledge but also involves developing individuals to apply knowledge in appropriate conduct [12]. This perspective is relevant to digital parenting because the use of technology involves decisions about attention, responsibility, priorities, and relationships between parent and child.

Recent discussions of Islamic education in the context of digitalisation have emphasised the need to engage with technological developments while maintaining Islamic values and ethical principles [13,14]. From this perspective, digital literacy can therefore be understood as more than the ability to access and operate digital technologies. It also involves knowing how to use technology responsibly within social and moral contexts.

The concept of adab provides a particularly relevant connection. Al-Attas [15] places adab within a broader understanding of appropriate order, value, and conduct, while Halstead [12] highlights the moral and character-forming dimensions of Islamic education. Applied to digital parenting, adab allows parents to consider the appropriateness of their technology use in relation to the situation and the people around them. A parent who chooses to put aside a device during an important conversation, for example, is not merely reducing screen use but demonstrating a particular understanding of attention, respect and responsibility.

This interpretation also brings parents' own behaviour into the educational process. Children observe how adults use technology, respond to interruptions and balance digital activities with interpersonal responsibilities. Parents therefore teach digital conduct not only through rules and explanations but also through what they repeatedly demonstrate in everyday family life.

The literature reviewed above points to a gap that sits between three areas of research. Digital parenting has generated substantial discussion about parental mediation of children's technology use. At the same time, research on technoference has drawn attention to the effects of parents' own device use on interaction and responsiveness. Islamic education, meanwhile, offers concepts such as

adab, moral formation, and responsible conduct that can provide a basis for thinking about technology use in ethical terms.

What remains insufficiently developed is the connection between these areas. Existing literature provides limited conceptual explanation of how Islamic educational principles might guide parents' own digital behaviour when technology competes with parent-child interaction. The issue is therefore not simply whether parents should limit children's technology use, but whether parents themselves can develop digital practices that preserve attention, demonstrate appropriate conduct and support meaningful interaction.

4. Proposed Islamic Digital Parenting Framework

The preceding literature indicates that digital parenting needs to move beyond a child-centred approach towards greater consideration of parents' own digital behaviour and relational responsibilities. Digital parenting research has established the importance of parental mediation, while technoference research highlights the potential consequences of parental technology-related interruption for responsiveness and parent-child interaction. Islamic education provides an additional normative perspective through concepts of adab, moral formation, self-discipline, and role modelling. Integrating these strands, this study proposes the Islamic Digital Parenting Framework (IDPF) as a conceptual framework for understanding how Islamic educational principles can guide parental digital behaviour and strengthen parent-child connection in digitally mediated family environments.

The framework is based on the proposition that responsible digital parenting involves more than controlling children's technology use. Parents have the capacity to regulate their own digital behaviour, demonstrate appropriate technology practices and remain responsive to children's relational needs. The framework therefore integrates four interconnected dimensions: digital adab, parental digital self-regulation, digital role modelling and relational responsiveness. These dimensions are not proposed as isolated characteristics but as mutually reinforcing components of Islamic digital parenting.

Although the framework is intended to be conceptually applicable across different stages of parent-child relationships, its current empirical foundation draws substantially on technoference studies involving infants and young children. Developmental differences should therefore be considered when applying the framework to older children and adolescents.

4.1 Digital Adab

Digital adab represents the normative foundation of the framework. It refers to Islamic principles of appropriate conduct, value recognition, and moral responsibility in parents' engagement with digital technology. In the context of parenting, digital adab requires parents to consider whether their technology use is appropriate to the situation, whether it fulfils a legitimate purpose, and whether it interferes with their responsibilities towards their children. This perspective moves beyond questions of whether technology use is permissible by focusing on whether its use is ethically appropriate within a given relational context.

Digital adab is relevant to parental technoference because digital interruption is not necessarily determined by the technology itself. A smartphone may serve a purpose, yet its use may become inappropriate when it repeatedly displaces parental attention during meaningful interaction. Digital adab therefore provides an evaluative principle through which parents can distinguish necessary digital engagement from unnecessary distraction. It encourages conscious prioritisation of relational

responsibilities and reinforces the principle that technological convenience should not automatically take precedence over parental presence.

Within the IDPF, digital adab is therefore positioned as the overarching normative foundation rather than as a parallel behavioural dimension. It provides the moral orientation that informs parental digital self-regulation, digital role modelling and relational responsiveness.

4.*2 Parental Digital Self-Regulation*

Parental digital self-regulation refers to parents' capacity to consciously manage their own technology use according to situational, relational and moral priorities. This dimension extends conventional digital parenting approaches by positioning parents themselves as subjects of digital regulation. Rather than focusing primarily on how parents restrict or monitor children's screen use, the framework emphasises the parents' ability to recognise unnecessary digital engagement, control device-related distractions and redirect attention towards the child when required.

Self-regulation is particularly important in addressing technoference because digital devices can create repeated and sometimes habitual interruptions to family interaction. Parents may experience notifications, messages, or social media activity as competing demands for attention. The ability to pause, defer, or discontinue such engagement can therefore help preserve relational presence. Within an Islamic educational perspective, this capacity can be understood as part of broader moral self-discipline, in which individuals regulate their behaviour according to recognised responsibilities rather than responding automatically to external stimuli.

Parental digital self-regulation is consequently positioned as the principal behavioural mechanism through which digital adab can be translated into everyday practice. Digital adab establishes the question of what constitutes appropriate conduct, while self-regulation enables parents to act according to that judgement. Within the framework, parental digital self-regulation is therefore conceptualised as the primary behavioural mechanism for reducing unnecessary parental technoference.

4.3 Digital Role Modelling

Digital role modelling refers to how parents' everyday technology practices provide implicit examples for children's own digital behaviour. Parents are not only regulators of children's technology use but also visible models whose actions may communicate what constitutes acceptable, necessary, or excessive digital engagement. Consequently, parental behaviour may complement formal rules and verbal guidance concerning children's technology use.

From an Islamic educational perspective, role modelling is particularly significant because moral education involves enacting values in everyday conduct. Parents who demonstrate appropriate device use, prioritise interpersonal communication and consciously disengage from unnecessary digital activity provide children with practical examples of responsible digital behaviour. Conversely, persistent parental distraction may create an inconsistency between the digital rules imposed on children and parents’ own behaviour.

Digital role modelling therefore extends the influence of Islamic digital parenting beyond direct parental instruction. It positions parents' own digital conduct as an educational practice through which values such as responsibility, moderation, attentiveness, and respect for others can be communicated. The dimension is connected to digital self-regulation because effective role modelling depends on parents' capacity to enact the digital behaviours they expect from their children.

Digital role modelling is therefore conceptualised primarily as an educational mechanism rather than as a direct mechanism for reducing parental technoference. Its contribution lies in translating parents' regulated digital behaviour into observable examples of responsible technology use for children. In this sense, parental digital self-regulation precedes and supports effective role modelling, while the educational effects of such modelling are expected to be reflected primarily in children's developing digital norms and practices.

4.4 Relational Responsiveness

Relational responsiveness represents the interpersonal dimension of the framework. It refers to parents' capacity to notice, attend to, and respond appropriately to children's verbal and nonverbal cues during interaction. The concept is particularly relevant to technoference because the relational significance of parental device use depends partly on whether digital engagement interrupts parents' ability to remain psychologically and behaviourally available to their children.

Within the framework, relational responsiveness provides an important indicator of whether parental digital behaviour is consistent with the relational objectives of parenting. A parent may use technology for legitimate purposes without necessarily disrupting the parent-child relationship when attention can be appropriately managed and interaction can be maintained. Conversely, repeated device engagement that reduces responsiveness may contribute to moments of relational disconnection.

Relational responsiveness also provides the basis for understanding digital reconnection. Within the IDPF, digital reconnection refers to the intentional restoration of parental attention and interaction following a technology-related interruption. It is therefore conceptualised as a relational recovery process rather than a strategy for preventing technoference. When interruption occurs, parents may recognise the temporary relational disruption, disengage from unnecessary digital activity and deliberately re-engage with the child. Through this process, relational responsiveness may be restored following technoference. Relational responsiveness is treated as an interpersonal mechanism within the framework, whereas parent-child connection represents the broader relational outcome.

4.5 Interrelationship between the Framework Dimensions

The dimensions of the Islamic Digital Parenting Framework (IDPF) are conceptually interconnected but perform distinct functions within the framework. Digital adab serves as the overarching normative foundation, providing the moral orientation through which parents evaluate the appropriateness of their technology use in relation to their responsibilities towards their children. It informs parental judgement concerning when digital engagement is appropriate, when it should be limited, and when relational attention should take priority.

Parental digital self-regulation represents the primary behavioural mechanism through which digital adab is translated into everyday practice. It enables parents to recognise unnecessary digital engagement, manage competing technological demands, and redirect attention towards their children when required. Through this process, greater parental digital self-regulation may contribute to reducing unnecessary parental technoference by limiting avoidable technology-related interruptions during parent-child interaction.

Digital role modelling performs a primarily educational function within the framework. Parents' everyday digital practices provide observable examples through which children may develop understandings of responsible technology use, moderation, attentiveness, and appropriate digital

conduct. Effective digital role modelling therefore depends partly on parents' ability to regulate their own digital behaviour. It is not conceptualised as a direct mechanism for reducing parental technoference but as an educational expression of responsible parental digital conduct.

Relational responsiveness represents the interpersonal mechanism of the framework. It refers to parents' capacity to notice, attend to, and respond appropriately to children's verbal and nonverbal cues during interaction. When unnecessary technology-related interruptions are reduced, parents may be better able to maintain such responsiveness. Relational responsiveness is therefore distinguished from parent-child connection, which represents the broader relational outcome that may be supported through sustained and meaningful interaction.

The framework also recognises that digital interruptions cannot always be prevented. Parents may need to respond to work-related communication, emergencies, family coordination, or other legitimate digital responsibilities. When parental technoference occurs, digital reconnection functions as a relational recovery process rather than as a preventive mechanism. It involves recognising the temporary disruption, restoring parental attention, and intentionally re-engaging with the child. Through this process, relational responsiveness may be re-established following a technology-related interruption.

Accordingly, the IDPF distinguishes between two complementary conceptual pathways. The first is a regulatory pathway, in which digital adab informs parental digital self-regulation, which may reduce unnecessary technoference and support the maintenance of relational responsiveness. The second is a reconnection pathway, which becomes relevant when technoference has already occurred and involves the intentional restoration of attention and interaction to re-establish relational responsiveness. Both pathways are oriented towards supporting stronger parent-child connection.

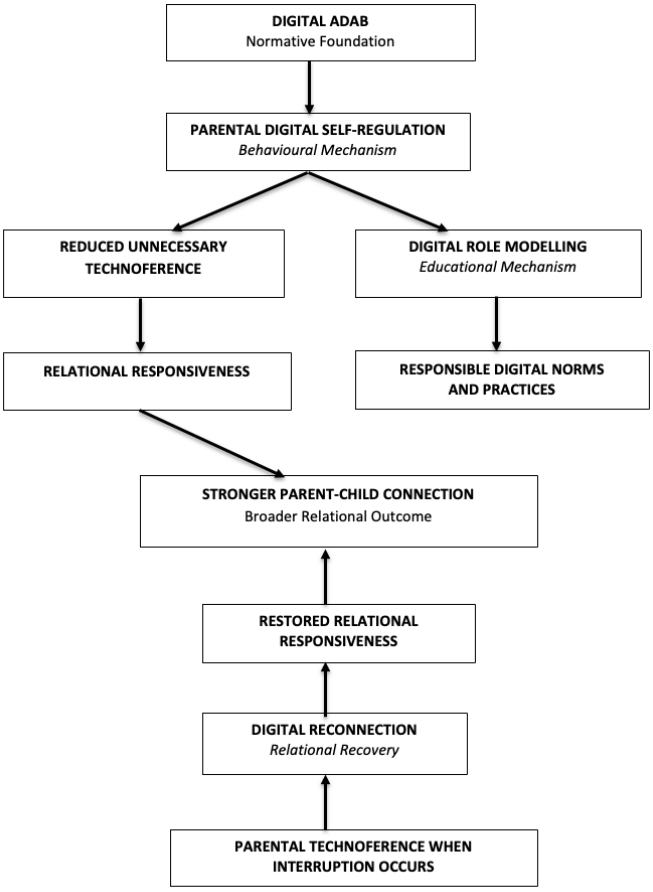

Fig. 1. Proposed Islamic Digital Parenting Framework (IDPF): Regulatory and reconnection pathways

These relationships should be understood as conceptual rather than empirically established causal pathways. The framework therefore provides a theoretical basis for examining how Islamic educational principles may shape parental digital conduct and relational interaction, while the specific relationships among its constructs require subsequent empirical investigation.Based on these conceptual relationships, the regulatory and reconnection pathways of the IDPF are illustrated in Fig. 1.

4.6 Conceptual Propositions

Based on the integrative synthesis and the conceptual relationships developed in the preceding sections, the Islamic Digital Parenting Framework (IDPF) proposes a set of theoretical relationships that may be examined in future empirical research. These propositions are not intended to represent empirically validated causal claims. Rather, they articulate the expected relationships between the principal constructs of the framework and provide a basis for subsequent operationalisation and testing.

The first proposition concerns the relationship between digital adab and parental digital self-regulation. Within the IDPF, digital adab functions as the normative foundation that enables parents to evaluate the appropriateness of their digital behaviour in relation to moral, relational, and parental responsibilities. Parental digital self-regulation represents the behavioural expression of this normative orientation, as parents translate judgements concerning appropriate digital conduct into everyday decisions about when, why, and how technology should be used during interaction with their children. Accordingly, the framework proposes:

1. P1: Digital adab positively informs parental digital self-regulation

Parental digital self-regulation is subsequently positioned as the primary behavioural mechanism for managing unnecessary technology-related interruptions. Parents who can recognise competing digital demands, delay non-essential digital engagement, and redirect their attention when relational needs take priority may be better able to minimise avoidable interruptions during parent-child interaction. The framework therefore proposes:

2. P2: Greater parental digital self-regulation is associated with lower levels of unnecessary parental technoference

Parental self-regulation also has an educational implication through digital role modelling. Children observe how parents respond to notifications, balance digital and interpersonal demands, and manage their own technology use. Consistent regulation of parental digital behaviour may therefore provide more coherent examples of responsible digital conduct. Within the IDPF, digital role modelling is consequently treated primarily as an educational mechanism rather than as a direct mechanism for reducing technoference. This leads to the following proposition:

3. P3: Greater parental digital self-regulation supports more consistent digital role modelling

The relational consequences of technoference are addressed through relational responsiveness. When unnecessary digital interruptions are reduced, parents may be better able to notice, attend to and respond appropriately to children's verbal and nonverbal cues. Relational responsiveness is therefore conceptualised as an interpersonal mechanism rather than as the final relational outcome of the framework. Based on this relationship, the IDPF proposes:

4. P4: Lower levels of unnecessary parental technoference are associated with greater relational responsiveness during parent-child interaction

The framework also recognises that digital interruptions cannot always be prevented. Work responsibilities, communication demands, emergencies and other legitimate forms of technology use may temporarily interrupt parent-child interaction. In such circumstances, digital reconnection becomes relevant as a relational recovery process. Digital reconnection refers to the intentional restoration of attention and interaction after a technology-related interruption has occurred. It therefore follows technoference rather than functioning as a strategy for preventing it. Accordingly, the framework proposes:

5. P5: When parental technoference occurs, intentional digital reconnection supports the restoration of relational responsiveness

Relational responsiveness and parent-child connection are treated as conceptually distinct within the framework. Relational responsiveness refers to parents' immediate capacity to remain attentive and appropriately responsive during interaction, whereas parent-child connection represents the broader relational outcome that may develop through sustained or restored responsiveness. The framework therefore proposes:

6. P6: Greater relational responsiveness is associated with stronger parent-child connection

Taken together, these propositions clarify the different functions of the principal constructs within the IDPF. Digital adab provides the normative foundation, parental digital self-regulation represents the primary behavioural mechanism, digital role modelling represents an educational mechanism, and relational responsiveness represents the interpersonal mechanism through which parental digital behaviour becomes relationally meaningful. Parental technoference represents a form of technology-related interruption, while digital reconnection provides a recovery pathway when such interruption occurs. Parent-child connection is positioned as the broader relational outcome towards which both the regulatory and reconnection pathways are directed.

The propositions also provide a basis for future empirical development of the framework. Subsequent studies may operationalise the proposed constructs, examine the strength and direction of the relationships identified above, and investigate whether these relationships vary according to children's developmental stages, family contexts, and patterns of parental technology use. Future research may examine whether relational responsiveness functions as a mediating mechanism between parental digital behaviour and parent-child connection, and whether digital reconnection mitigates the relational consequences of parental technoference.

5. Discussion

The proposed Islamic Digital Parenting Framework reframes digital parenting by extending parental responsibility beyond regulating children's technology use to regulating parents' own digital behaviour. Existing digital parenting approaches have provided valuable strategies for parental mediation, including restrictive, active, and autonomy-oriented approaches [1,4,5,16]. However, these approaches primarily position parents as mediators of children's digital experiences. The present framework extends this perspective by positioning parents themselves as active participants in digital regulation. In this sense, parental responsibility encompasses not only guiding children's technology use but also managing personal technology practices, modelling appropriate behaviour and maintaining relational availability. This proposition is consistent with evidence that parental

digital behaviour can influence children's digital experiences and that parents communicate digital norms through everyday conduct as well as explicit rules [2,19,20].

This conceptual shift is particularly important in relation to parental technoference. A parent may effectively regulate a child's screen time while simultaneously engaging with a smartphone during direct interaction with the child. Such a situation illustrates a potential inconsistency between parental mediation and parental modelling. The proposed framework addresses this inconsistency by placing parental digital self-regulation and digital role modelling alongside conventional parental mediation. The contribution therefore lies not in rejecting existing digital parenting strategies but in expanding their scope towards parental digital responsibility. This broader orientation recognises that children's digital environments are shaped not only by the restrictions and guidance provided by parents but also by what parents themselves demonstrate through everyday technology use.

The framework also suggests that responsible digital parenting should not be reduced to technological restriction. Existing mediation strategies frequently address access, duration, content, and digital activities, which remain important for protecting children from inappropriate content and developmental risks [1,5,16]. However, technoference represents a different type of problem because its significance depends on the relational context in which technology is used. The same device can support family communication in one situation but interrupt meaningful interaction in another. This contextual understanding is consistent with evidence that parental technology use may also provide functional benefits for communication, information seeking and social support [11]. Accordingly, the framework proposes a shift from technology restriction towards digital stewardship, in which technology is evaluated according to purpose, context, responsibility and relational priorities.

Within this perspective, digital adab provides the distinctive Islamic educational contribution of the framework. Islamic education connects knowledge with moral development and responsible conduct, while adab provides a normative orientation towards appropriate order, value and behaviour [12,15]. Applied to digital parenting, digital adab enables parents to evaluate technology use according to its appropriateness within a particular situation rather than simply according to whether the technology itself is beneficial or harmful. This is particularly relevant to technoference because ethical concern arises when digital engagement competes with relational responsibilities. A nonessential notification, message or online activity may be technically harmless but become problematic when it repeatedly displaces parental attention during meaningful interaction.

This interpretation extends existing discussions of Islamic education and digitalisation, which have often emphasised digital literacy, technological access and the maintenance of Islamic values within changing digital environments [13,14]. The proposed framework moves this discussion towards the micro level of family interaction, where Islamic values are expressed through everyday parental decisions. Digital adab therefore functions not merely as a principle for evaluating online content but as a mechanism through which Islamic moral formation can influence parents' own digital conduct. In this respect, digital parenting becomes an extension of Islamic moral education because parents' everyday technology practices may themselves become part of the educational environment experienced by children.

A further contribution concerns the position of relational responsiveness within the framework. Existing technoference research has associated parental device use with changes in responsiveness and parent-child interaction [9-11]. Within the IDPF, relational responsiveness is conceptualised as an interpersonal mechanism rather than the ultimate relational outcome. It reflects parents' moment-to-moment capacity to notice, attend to, and respond appropriately to children's verbal and nonverbal cues. Reduced unnecessary technoference may support such responsiveness by limiting avoidable disruptions to parental attention. Parent-child connection, by contrast, represents the

broader relational outcome that may be supported through sustained or restored responsiveness over time.

The framework also introduces digital reconnection as a complementary relational recovery process. While much of the literature on technoference focuses on preventing or reducing technology-related interruption, digital interruptions cannot always be eliminated from contemporary family life. Parents may need to respond to work demands, emergencies, communication, or other legitimate digital responsibilities. Emerging research on mother-infant interaction suggests that relational coordination may be disrupted during smartphone-related interruption and may subsequently recover when interaction is restored [18]. Although this evidence remains preliminary, it provides a conceptual basis for considering what occurs after technoference rather than focusing exclusively on its prevention.

Within the IDPF, digital reconnection refers to the intentional restoration of parental attention and interaction following a technology-related interruption. It functions as a relational recovery process rather than as a strategy for preventing technoference. When an interruption occurs, parents may recognise the temporary relational disruption, disengage from unnecessary digital activity, and deliberately re-engage with the child. Through this process, relational responsiveness may be restored and the broader parent-child connection supported. This reconnection pathway complements the regulatory pathway by recognising that responsible digital parenting involves not only minimising unnecessary interruptions but also repairing relational disruption when interruption has already occurred.

The framework has implications for Islamic education because it expands the context in which moral and social education takes place. If Islamic education involves knowledge acquisition, individual development and moral and social formation, then digital family environments represent an important context for the enactment of these educational objectives [12]. Islamic digital parenting can therefore complement existing digital literacy and online safety initiatives by addressing the digital behaviour of parents as well as children. Parent education programmes could incorporate digital adab, self-regulation, role modelling and relational responsiveness alongside conventional guidance concerning children's online safety. The distinctive contribution would be the integration of technological competence with moral reasoning and family relational responsibility.

At the practical level, the framework suggests that Muslim families may benefit from developing context-sensitive digital practices rather than relying exclusively on general recommendations concerning children's screen time. Examples may include prioritising direct attention during important family conversations, delaying nonurgent digital engagement, modelling attentive listening and consciously reconnecting following unavoidable interruptions. These practices should not be interpreted as universal rules or as a requirement to eliminate technology from family life. Instead, they illustrate how digital adab can guide parents towards decisions that balance legitimate technology use with relational responsibilities. These practices reflect distinct functions within the framework: self-regulation addresses unnecessary digital interruption, role modelling demonstrates responsible digital conduct, while reconnection provides a mechanism for restoring interaction after interruption has occurred.

Overall, the Islamic Digital Parenting Framework provides a conceptual bridge between digital parenting, parental technoference, and Islamic education. Its distinctive contribution lies in differentiating the normative, behavioural, educational, and interpersonal functions involved in parental digital conduct. Digital adab provides the normative foundation, parental digital self-regulation represents the primary behavioural mechanism, digital role modelling serves an educational function, and relational responsiveness represents the interpersonal mechanism through which parental digital behaviour becomes relationally meaningful.

The framework further distinguishes between two complementary relational pathways. The regulatory pathway emphasises the role of digital adab and parental self-regulation in reducing unnecessary technoference and maintaining relational responsiveness. The reconnection pathway becomes relevant when technoference has already occurred and emphasises the intentional restoration of parental attention and interaction. Digital role modelling operates alongside these pathways as an educational mechanism through which responsible digital conduct is demonstrated to children. Together, these processes are theoretically oriented towards supporting stronger parent-child connection.

As the IDPF remains a conceptual framework, these relationships should not be interpreted as empirically established causal effects. The framework may offer relevance for Muslim-majority and Malaysian family contexts, although empirical validation is required. The conceptual propositions developed in this study provide a basis for subsequent empirical examination across different Muslim family contexts, developmental stages, and patterns of parental technology use. The framework should also be interpreted considering the developmental scope of the literature reviewed. Much of the available empirical evidence on parental technoference and responsiveness involves infants and young children.

Although the IDPF is conceptually formulated for parent-child relationships more broadly, its applicability to school-aged children and adolescents requires further examination. Developmental differences in children's autonomy, communication patterns, technology use, and expectations of parental availability may influence how technoference, responsiveness, and reconnection operate across age groups. Future research should therefore examine the IDPF across different developmental stages and family contexts, including Muslim families in Malaysia. Comparative studies involving parents of young children, school-aged children, and adolescents may help determine whether the proposed regulatory and reconnection pathways operate differently according to children's developmental needs and patterns of family technology use.

6. Conclusion

The principal contribution of this study is its shift from child-centred digital regulation towards parental digital responsibility. Existing digital parenting approaches have largely examined how parents regulate, mediate and support children's technology use. The proposed Islamic Digital Parenting Framework extends this perspective by asking how parents themselves should manage technology when digital engagement competes with their responsibilities towards their children. This reframing positions parental digital behaviour within Islamic moral education and extends digital parenting beyond children's screen use.

The framework further highlights digital reconnection as an important relational recovery process within responsible digital parenting. Complete avoidance of digital interruption is increasingly unrealistic as parents depend on digital technologies for work, communication and everyday responsibilities. Responsible digital parenting should therefore involve not only reducing unnecessary technoference but also recognising moments of relational disruption and intentionally restoring parental attention and interaction. Emerging evidence concerning changes in interpersonal synchrony during smartphone-related interruption and renewed parent-infant interaction provides a promising basis for further investigation of digital reconnection [18].

The study has practical implications for Islamic parenting programmes, family education initiatives, and Islamic educational institutions. Digital literacy and online safety programmes could be extended to address parents' own digital behaviour through digital adab, parental digital self-regulation, digital role modelling, and relational responsiveness. Such programmes could encourage

parents to establish periods of focused interaction, minimise unnecessary digital interruptions and model responsible technology use. These practices should remain context-sensitive and adaptable to different family circumstances rather than being applied as universal rules.

The proposed framework remains conceptual and therefore requires empirical validation. Future research should develop and validate measures of digital adab, parental digital self-regulation, digital role modelling and relational responsiveness. Quantitative studies could examine relationships between these dimensions and parental technoference, while qualitative and observational research could explore how Muslim parents negotiate technology use within everyday family interactions. Cross-cultural research could further examine the applicability of the IDPF across diverse Muslim family contexts.

Ultimately, the challenge of digital parenting is not simply how much technology enters family life, but how technology is positioned within relationships, responsibilities, and moral conduct. Reframing digital parenting through Islamic education provides a basis for connecting technological engagement with moral formation, parental self-regulation, and relational presence. The proposed IDPF therefore offers a conceptual foundation for understanding digital parenting not only as technology management, but also as a contemporary expression of Islamic moral education, parental self-regulation, relational responsiveness, responsible role modelling, and the intentional restoration of parent-child interaction following digital interruption.

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