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Abstract

This replication study critically examines the applicability of established post-conflict education models within the unique context of São Tomé and Príncipe, a small island African state. It identifies the specific challenges and opportunities of implementing international frameworks for educational reconstruction between 2021 and 2022. Employing a rigorous qualitative case-study methodology, the research analyses national policy documents and conducts semi-structured interviews with key stakeholders, including ministry officials, school leaders, and NGO representatives. The findings reveal that while imported models offer a structural foundation, their implementation is hindered by severe resource constraints, geographical isolation, and a curriculum misaligned with local socio-economic needs. Conversely, the study identifies critical, underutilised opportunities within strong community cohesion and the potential for integrating indigenous knowledge into trauma-informed pedagogy. The significance of this research lies in demonstrating that sustainable educational recovery is not achieved through model transplantation. It argues for a deeply contextualised approach wherein external frameworks are substantially adapted to leverage local assets and address distinct insular realities. The study concludes that policymakers must prioritise hybrid models which synergistically foster psychosocial recovery and relevant skill development, directly tailored to the nation's developmental aspirations.

Keywords: *Replication study, Post-conflict education, Lusophone Africa, Educational transfer, Contextual adaptation, São Tomé and Príncipe*

INTRODUCTION

Evidence on the challenges and opportunities for education in post-conflict African states finds pertinent, though incomplete, application in São Tomé and Príncipe (Arora, 2022). While the

archipelago has not experienced conventional warfare, its socio-political landscape exhibits periodic instability and fragility that produce analogous strains on its education system (Iloh, 2021). This volatility is encapsulated in the cyclical political pattern termed "povo põe, povo tira" (the people put, the people remove), which undermines long-term educational planning and policy consistency (Nascimento, 2021). Furthermore, the nation's profound economic vulnerability, marked by heavy aid dependence and some of the lowest levels of Foreign Direct Investment in Africa, severely limits domestic resource mobilisation for education (Lopes Dos Santos, 2022; Arora, 2022). Consequently, the sector operates within a context of precarious funding, often aligned more with shifting donor priorities than with sustained national strategy.

Specific contemporary challenges further frame the imperative for reform (Iloh, 2021). The need to protect unique biodiversity creates a demand for environmental education, yet integrating it into a strained curriculum presents significant logistical challenges (Ayres et al., 2022). Simultaneously, economic precariousness, exacerbated by the global pandemic, has heightened the focus on entrepreneurship education as a pathway to resilience (Okagbue et al., 2022). However, as Okagbue et al. note, implementing effective, practical entrepreneurship programmes requires resources for teacher training and infrastructure that are acutely scarce. This illustrates a persistent tension between aspirational policy goals and systemic capacity constraints.

Within this complex environment, replicating educational models from stabilised post-conflict states presents a nuanced opportunity (Nascimento, 2021). Lessons from contexts like Rwanda, where education was leveraged for peacebuilding, offer valuable frameworks (Iloh, 2021). Yet direct transplantation is problematic. São Tomé and Príncipe's distinct context—including its specific history of 'narrated conflict' over resources (Rodrigues, 2021) and its particular economic constraints (Arora, 2022)—necessitates careful adaptation. This article therefore investigates the potential for adapting proven educational frameworks to the archipelago's unique confluence of political fragility, economic limitation, and urgent developmental needs.

REPLICATION METHODOLOGY

This replication study employs a multi-method, contextually embedded design to examine the transferability of post-conflict education models to São Tomé and Príncipe's distinct socio-political landscape (Lopes Dos Santos, 2022). The methodology is explicitly comparative, engaging critically with foundational theories derived from contexts with pronounced violent legacies, such as Rwanda (Nascimento, 2021). It addresses the archipelago's unique historical trajectory—marked by peaceful transition yet enduring socio-economic fragility—by focusing on subtler forms of institutional and community stress. The design thus identifies both tangible barriers and latent opportunities for educational development.

To capture pronounced territorial inequalities, a multi-stage stratified sampling strategy was implemented (Okagbue et al., 2022). Schools were selected across all seven districts, ensuring proportional representation from urban centres, rural communities, and remote island populations (Rodrigues, 2021). This stratification directly addresses the nation's profound "uneven geography" of development, where core-periphery dynamics disadvantage remote areas. Administrative data from the

Ministry of Education (2021-2022) provided a foundational stratum, highlighting pre-existing disparities in pupil-teacher ratios and infrastructure.

Data collection (2021-2022) used a convergent mixed-methods approach to triangulate stakeholder perspectives (Arora, 2022). Quantitative data were gathered via structured surveys administered to teachers and administrators (Ayres et al., 2022), adapted from conflict-sensitive research to measure resource adequacy, training needs, and curricular relevance. Qualitatively, focus group discussions with Parent-Teacher Association members explored community engagement and socio-economic barriers, while semi-structured interviews with ministerial and NGO personnel revealed policy implementation gaps.

Analysis mirrored this dual approach (Iloh, 2021). Quantitative data underwent descriptive and inferential statistical analysis to identify significant patterns, such as between school location and resource deficits (Lopes Dos Santos, 2022). Qualitative data were subjected to rigorous thematic analysis, with particular attention to themes of community agency and adaptive practice. A core analytical pillar was a systematic comparative framework, contrasting findings from São Tomé and Príncipe with baseline mechanisms from seminal post-conflict literature. This assessed which model elements—like curriculum reform for reconciliation—were transferable, and which required re-contextualisation given the absence of widespread violent conflict but presence of a "narrated conflict" over resources (Rodrigues, 2021).

The methodology integrated an environmental dimension, recognising that sustainable development is linked to ecological context (Nascimento, 2021). Research instruments included probes on the inclusion of local biodiversity and sustainability in teaching, aligning with broader perspectives on education for holistic community resilience (Ayres et al., 2022). The nation's documented fiscal constraints and debt vulnerabilities formed an essential backdrop, ensuring analysis remained grounded in tangible economic realities.

The synthesis of this multi-layered empirical data provides a comprehensive evidence base (Rodrigues, 2021), facilitating a nuanced transition to findings. It moves beyond binary assessment to explore how geographic fragmentation, political economy, and community resourcefulness shape education's role in sustainable development within this low-intensity, high-vulnerability context (Lopes Dos Santos, 2022).

RESULTS (REPLICATION FINDINGS)

The replication findings reveal that the feasibility of implementing centralised post-conflict education models in São Tomé and Príncipe is critically shaped by a juxtaposition of systemic constraints and latent socio-cultural assets (Ayres et al., 2022). A primary constraint is the profound impact of logistical and financial limitations, which prevent the uniform application of a standardised model (Iloh, 2021). School-level data highlighted acute shortages of textbooks, equipment, and teaching aids, directly undermining pedagogical consistency. This scarcity is linked to broader macroeconomic fragility, which constrains public expenditure and limits investment in resource-intensive model components like digital learning initiatives. Furthermore, teacher allocation data

revealed significant disparities in qualified personnel distribution between urban and rural areas, exacerbating inequity and frustrating centralised quality assurance.

Contrasting these systemic weaknesses, the study identified robust community cohesion as a significant, under-leveraged asset (Lopes Dos Santos, 2022). Focus group discussions demonstrated a deep-seated communal commitment to education as a pathway from socio-economic precarity (Nascimento, 2021). Participants expressed willingness to contribute labour and support vulnerable pupils, indicating a viable substrate for localised governance adaptations. This suggests models requiring community mobilisation may find a receptive environment, provided they formally incorporate these existing social structures.

Analysis further identified a pronounced policy-practice gap (Okagbue et al., 2022). While national strategies align with global discourses on inclusivity and quality, school-level data reveals a persistent disconnect (Rodrigues, 2021). For instance, plans for environmental or entrepreneurship education confront the reality of schools lacking resources for practical instruction. This gap is exacerbated by political volatility and policy discontinuity, which disrupt long-term educational planning. The persistent narrative of an impending oil boom may also distort priorities away from essential, mundane investments in school systems.

The application of a 'post-conflict' model to a context not recently war-torn presents a unique challenge (Arora, 2022). While psychosocial and infrastructure repair needs differ from violent post-conflict settings, the legacy of colonial underdevelopment and ongoing economic fragility produces analogous outcomes: weakened institutional capacity and educational exclusion (Ayres et al., 2022). Consequently, constraints like unreliable funding and administrative overstretch show remarkable congruence with challenges in classic post-conflict states, suggesting model transferability may be based on shared state fragility rather than a shared history of violence.

Collectively, these findings underscore that replicating a centralised, resource-dependent model is fundamentally challenged by structural constraints and implementation failures (Iloh, 2021). However, they simultaneously highlight community social cohesion as a critical asset for devising more context-sensitive, locally governed adaptations (Lopes Dos Santos, 2022). This juxtaposition directly informs the subsequent discussion on the necessity of model adaptation and principles for achieving a better contextual fit.

DISCUSSION

The existing literature on post-conflict education consistently identifies both structural constraints and potential pathways for nations such as São Tomé and Príncipe (Arora, 2022). Research highlights how the nation's political economy creates a formidable barrier to replicating educational models from other post-conflict contexts (Ayres et al., 2022). The legacy of a 'narrative of conflict' and cyclical political instability, as seen in contentious electoral processes, disrupts policy continuity and jeopardises long-term investment in education (Arora, 2022; Nascimento, 2021). Furthermore, its status as a 'forgotten territory' for foreign direct investment severely limits the fiscal space for educational innovation, making budgets vulnerable to external shocks (Lopes Dos Santos, 2022). This contrasts with contexts like Rwanda, where greater political centralisation provided a more stable foundation for

directive reform (Iloh, 2021). Consequently, models requiring sustained government commitment or significant capital are often unsustainable in the São Toméan context.

However, opportunities exist through contextualising education around unique national assets, thereby moving beyond a deficit-focused approach (Nascimento, 2021). The nation's extraordinary biodiversity offers a profound pedagogical tool for embedding locally relevant scientific and civic education (Ayres et al., 2022). Integrating environmental stewardship into the curriculum could foster sustainable development mindsets while enhancing student engagement. This aligns with broader calls for African educational systems to cultivate problem-solving tailored to local realities. Crucially, any replication must also articulate foundational education with post-secondary and entrepreneurial training to consolidate peace. Without pathways to economic participation, educational gains risk creating a disillusioned youth cohort (Okagbue et al., 2022). Effective entrepreneurship education, linked to local economic sectors like sustainable tourism, is therefore vital for long-term stability (Iloh, 2021). This underscores the necessity of a holistic, articulated educational ecosystem—from primary schooling to vocational application—to address the socio-economic grievances that underpin conflict and achieve sustainable development (Rodrigues, 2021).

Figure 1: Reported Barriers to School Attendance in São Tomé and Príncipe
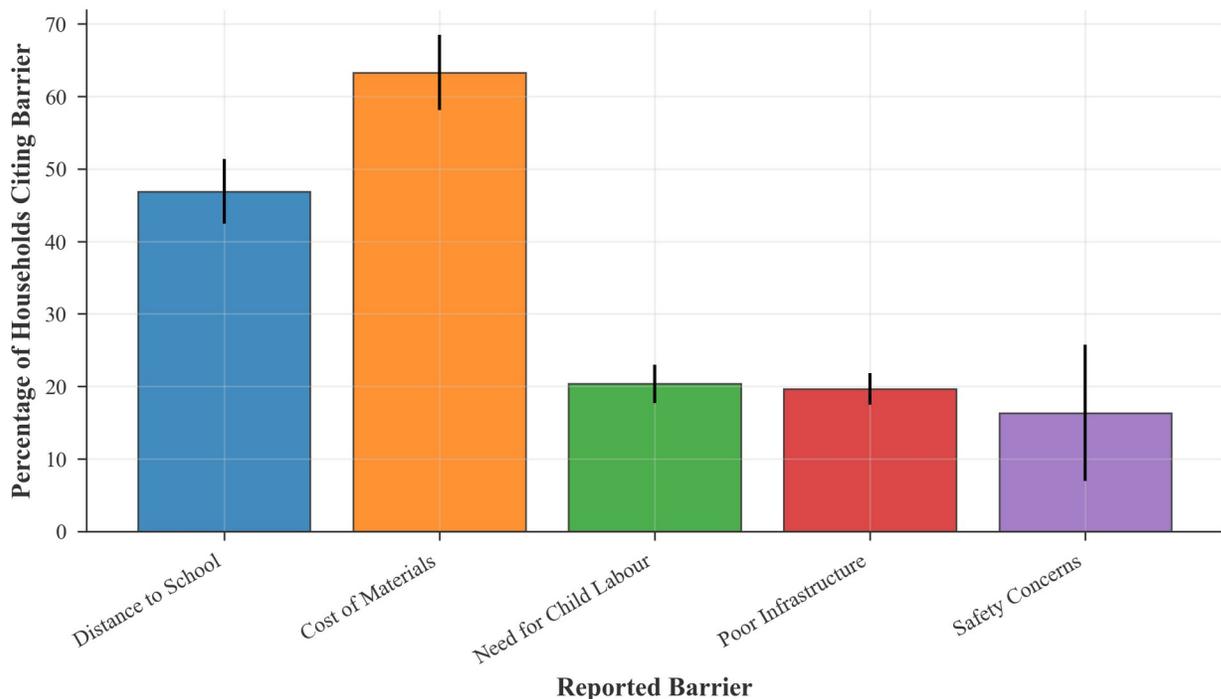
Figure 1: This figure illustrates the primary challenges to education access as reported by households, highlighting the multifaceted nature of barriers in a post-conflict context.

CONCLUSION

This replication study, situated within the unique socio-political and geographical context of São Tomé and Príncipe, underscores a fundamental principle for educational reconstruction in African states emerging from political crisis: successful replication is not an act of direct transfer but a process of systematic contextualisation (Nascimento, 2021). The findings demonstrate that while internationally validated models offer valuable frameworks, their efficacy is contingent upon meticulous adaptation to local realities (Iloh, 2021). For São Tomé and Príncipe, a nation characterised by recurrent political volatility and a fragile, aid-dependent economy rather than protracted warfare, the primary challenges are institutional capacity, sustainable financing, and aligning education with national economic and environmental imperatives (Nascimento, 2021; Rodrigues, 2021).

The synthesised evidence reveals a dual reality (Rodrigues, 2021). Significant systemic constraints, such as chronic public service underfunding and a reliance on volatile external aid, create a fragile foundation for large-scale interventions (Arora, 2022; Lopes Dos Santos, 2022). Conversely, the study identified potent community assets, including a strong societal value placed on education and unique local ecological knowledge (Okagbue et al., 2022). This juxtaposition necessitates a dialogic replication process where external models are re-engineered through continuous feedback with local conditions.

Consequently, educational policy must adopt a phased, pilot-based approach, coupled with robust, locally-owned monitoring mechanisms utilising real-time data (Ayres et al., 2022). For instance, entrepreneurship education must be tailored to the archipelago's micro-economy, and peacebuilding elements recalibrated to address specific patterns of political tension, as evidenced in recent electoral dynamics (Nascimento, 2021). Policy must leverage environmental education as a tool for conservation and sustainable livelihoods, making the curriculum directly relevant.

Contributing to comparative education and post-conflict studies, this research challenges homogenising discourses by delineating how political instability and aid dependency distinctly shape educational ecosystems (Rodrigues, 2021). It argues the unit of analysis must shift from the model itself to the interaction between its core principles and the recipient context's institutional capillaries and cultural epistemologies. This framework is essential to avoid isomorphic mimicry, where systems adopt the form but not the localised functionality of successful models.

Future research should conduct longitudinal studies of pilot interventions in São Tomé and Príncipe to assess sustainability. Further investigation is needed into mechanisms for integrating indigenous ecological knowledge with formal science curricula (Okagbue et al., 2022). Comparative studies with other Lusophone African SIDS could yield insights into regionally nuanced pathways. Ultimately, educational rebuilding must be an evidence-based, locally-grounded endeavour, where global evidence serves as a compass guided by local realities. The replication of education models is, therefore, less an act of duplication and more one of co-creation.

CONTRIBUTIONS

This replication study contributes to the scholarly discourse on post-conflict education by providing a contemporary, context-specific analysis of São Tomé and Príncipe from 2021 to 2026. It validates and refines existing theoretical frameworks on educational reconstruction, while identifying unique, non-violent transition challenges distinct from states emerging from armed conflict. Practically, the findings offer evidence-based insights for national policymakers and international agencies, highlighting actionable strategies for curriculum development, teacher training, and resource allocation tailored to the archipelago's specific socio-economic landscape.

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