

Examining the Impact of NAMA Foundation's BRIGHT Program on Students' Sense of Efficacy in Indonesia, Kyrgyzstan, And Tanzania

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ABSTRACT

This study examines the impact of the NAMA Foundation's BRIGHT program on secondary students' sense of efficacy in Indonesia, Kyrgyzstan, and Tanzania. Employing a longitudinal, quantitative design, the research compared baseline data from 2021 with midterm data from 2022, analyzing responses from 1,728 students in 63 participating schools. The Student Questionnaire, validated for reliability and convergent validity, measured the sense of efficacy across ten domains, including problem-solving, achievement, self-expression, and advocacy. Principal components analysis and independent t-tests revealed significant improvements in overall efficacy scores following the intervention, with most items showing large effect sizes. However, the gains in advocacy and assertiveness were notably smaller for Tanzanian students, suggesting contextual barriers. The findings affirm previous literature highlighting the link between holistic interventions and positive psychosocial outcomes, and they extend this knowledge to under-researched, low- and middle-income countries. This study underscores the value of structured, context-sensitive educational programs for enhancing students' confidence, agency, and school engagement. The results offer important implications for policymakers, educators, and international agencies aiming to foster holistic student growth in diverse, resource-constrained settings.

Keywords: Self-efficacy; Holistic student development; Educational intervention; NAMA Foundation; BRIGHT program

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INTRODUCTION

As global education systems evolve to meet 21st-century demands, increasing attention is being paid to non-cognitive factors that shape student success. Among these, a student's *sense of efficacy*—their belief in their capacity to achieve desired outcomes—has emerged as a powerful predictor of academic performance, motivation, and well-being. For adolescents in particular, the development of self-efficacy is closely tied to their broader experience of school life, including the quality of teaching, access to meaningful extracurricular activities, and a supportive social-emotional environment. Consequently, enhancing self-efficacy is now seen not only as an individual psychological goal but as a systemic educational imperative.

This study is situated within this paradigm shift. It investigates how the BRIGHT program, implemented by the NAMA Foundation in Indonesia, Kyrgyzstan, and Tanzania, contributes to improving students' sense of efficacy. While these countries differ in context and resources, they share common challenges—such as limited facilities, leadership instability, and the need for more integrated student support structures—that impact learners' confidence and capacity to thrive.

This section provides a critical review of the existing literature and empirical evidence related to adolescent self-efficacy and holistic development in secondary education. It aims to situate the present study within global policy frameworks and national educational realities, while highlighting the role of structured interventions in under-resourced contexts.

Four key themes will guide the discussion: (1) the theoretical foundations and educational significance of student self-efficacy, (2) the relationship between school environment and holistic development, (3) contextual insights from Indonesia, Kyrgyzstan, and Tanzania, and (4) the rationale for studying the BRIGHT program's impact. This review establishes the foundation for identifying the research gap and articulating the problem this study seeks to address.

Sense of efficacy among secondary school students

In contemporary educational discourse, the concept of success is increasingly viewed as multidimensional, encompassing not only academic achievement but also emotional well-being, motivation, and resilience. This shift has brought the construct of self-efficacy—defined as an individual's belief in their ability to perform tasks and influence outcomes (Bandura, 1997)—into sharper focus. For adolescents navigating the socially and cognitively demanding environment of secondary education, self-efficacy plays a foundational role in shaping both academic performance and psychological health. A stronger sense of efficacy has been consistently associated with higher achievement, reduced anxiety and depression, and greater subjective well-being (Telef & Ergün, 2013; Tahmassian & Moghadam, 2011; Andretta & McKay, 2020).

A robust body of research supports the link between self-efficacy and educational outcomes. Mahyuddin et al. (2006) found that academic self-efficacy significantly correlated with English achievement among Malaysian students ($r = .34$ to $.48$), while Talluri (2019) reported a positive relationship between self-efficacy and academic performance among Indian secondary students. In Israel, Alfassi (2003) demonstrated that students in remedial programs who received targeted interventions exhibited gains in both academic motivation and achievement, highlighting the malleability of efficacy beliefs.

The role of self-efficacy in psychological well-being is equally well-documented. Telef and Ergün (2013) reported that self-efficacy accounted for 19% of the variance in Turkish high school students' subjective well-being. In Iran, Moeini et al. (2008) and Tahmassian and Moghadam (2011) observed that higher levels of efficacy were associated with significantly lower levels of stress, anxiety, and depression. Emotional self-efficacy, in particular, has emerged as a critical buffer against mental health challenges during adolescence (Andretta & McKay, 2020).

Beyond its direct effects, self-efficacy also functions as a mediating variable in broader educational processes. For instance, Phan et al. (2016) showed that both academic and social self-efficacy mediated the relationship between student engagement and academic achievement. Similarly, Topal and Odacı (2025) found that self-efficacy and academic motivation together mediated the relationship between school attachment and subjective well-being. These findings underscore the centrality of self-efficacy in students' socio-academic trajectories and suggest that enhancing efficacy may generate ripple effects across multiple domains of development.

While Bandura's (1997) social cognitive theory laid the foundation for understanding self-efficacy, contemporary studies have expanded its applications across educational and developmental psychology. Research has now delineated distinct domains of efficacy—academic, emotional, and social—each with unique influences on student outcomes. However, many empirical investigations have failed to differentiate between these domains, limiting theoretical precision and intervention specificity.

Moreover, the literature remains methodologically constrained. Most studies are cross-sectional and correlational, limiting causal inferences. The lack of longitudinal or experimental designs, especially in non-Western and under-resourced contexts, further restricts the generalizability and practical utility of findings. While Arslan (2013) explored demographic moderators—such as gender, grade level, and socioeconomic status—other studies (e.g., Talluri, 2019) found no significant gender differences, reflecting ongoing inconsistencies in the literature.

Research on self-efficacy has often treated it as an individual attribute, yet it is also shaped by contextual and institutional factors. School environment, leadership, curriculum relevance, and availability of extracurricular

opportunities all influence the development of student agency. Despite this, structural determinants of efficacy—such as leadership continuity, pedagogical coherence, and policy support—are rarely integrated into efficacy models.

This gap is especially salient in low- and middle-income countries, where educational systems face compounded challenges: resource scarcity, weak infrastructure, limited professional development, and inconsistent policy implementation. In these contexts, the very conditions necessary for nurturing self-efficacy—such as learner-centered teaching, inclusive practices, and value-driven school cultures—are often lacking or fragmented.

Addressing this lacuna, the BRIGHT program, implemented by the NAMA Foundation in Indonesia, Kyrgyzstan, and Tanzania, offers a compelling case for examining how structured interventions can cultivate student self-efficacy in diverse and resource-constrained environments. The program is rooted in a comprehensive Theory of Change and operationalized through the NAMA Index for Education, which assesses multiple dimensions of school effectiveness including student life, learning success, culture and values, and parent/community engagement (NAMA Foundation, 2022).

Findings from the 2022 Midprogram Progress Report indicate notable improvements across these domains. In Indonesia, 100% of participating schools showed improvement in ToC indicators, with several reaching Band 3—the highest level of performance. Strong leadership, stable teacher teams, and collaborative school cultures contributed to marked gains in students' moral development, agency, and engagement in extracurricular activities. In Kyrgyzstan, improvements were also substantial, although leadership turnover and limited pedagogical training moderated results in some schools. Tanzania, while showing progress, lagged behind due to systemic issues such as overcrowded classrooms, poor hostel facilities, and leadership instability. Despite these challenges, schools across all three countries demonstrated enhanced policy awareness, stronger planning processes, and gradual shifts toward holistic education practices.

Although the BRIGHT program appears promising, the midline evaluation also identified several persistent challenges. These include inconsistent understanding of the program's objectives among teachers, limited integration of 21st-century skills in pedagogy, and insufficient mechanisms for student voice and community involvement. Moreover, while students exhibited improved behavioral outcomes and ethical alignment, opportunities for developing self-efficacy through hands-on learning, reflection, and leadership roles remained underutilized in some schools.

The findings from BRIGHT align with global education reform trends emphasizing the importance of student well-being and socio-emotional development. Initiatives such as UNESCO's *Happy Schools Framework* and OECD's *Learning Compass 2030* prioritize values-based education, learner agency, and inclusive environments as essential pillars of quality education

(UNESCO, 2024; OECD, 2023). Similarly, the World Bank's post-pandemic recovery strategies underscore the need to integrate psychosocial support and well-being into school systems, particularly in vulnerable regions (World Bank, 2024).

In this policy climate, self-efficacy emerges as a practical and measurable lever for achieving multiple educational goals. Enhancing self-efficacy not only supports learning recovery and mental health, but also contributes to broader outcomes such as civic engagement, lifelong learning, and social cohesion. This is particularly critical in low-resource settings, where traditional metrics of school quality—such as test scores and graduation rates—may fail to capture students' lived realities and aspirations.

Sense of Efficacy among Indonesian Secondary School Students

In the Indonesian educational context, self-efficacy has emerged as a key psychological construct that significantly influences both student well-being and academic performance across various school settings. Research consistently supports the view that students' belief in their ability to succeed academically—commonly referred to as academic self-efficacy—not only boosts scholastic outcomes but also enhances psychological resilience and life satisfaction. This body of literature spans different types of secondary institutions, including public high schools, vocational schools, and Islamic boarding schools, and encompasses both urban and rural regions such as Yogyakarta, Jakarta, Semarang, Malang, and Palu.

Across several studies, self-efficacy shows a consistent and statistically significant positive relationship with different forms of student well-being: school well-being, psychological well-being, and subjective well-being. The strength of this association varies but remains robust, with variance explained (R^2) ranging from 11.7% to as high as 84.4%.

In the context of school well-being, Firmanila and Sawitri (2015) found a strong correlation ($r = 0.59$, $p < .001$) between academic self-efficacy and students' perceived well-being at school, with the model explaining 35% of the variance among secondary school students in Jakarta. Mudzkiyyah, Wahib, and Bulut (2022) explored this dynamic in a Yogyakarta boarding school and found that academic self-efficacy and peer attachment together predicted 52.3% of the variance in school well-being. Similarly, Nanda and Widodo (2015) reported that academic self-efficacy accounted for 15.7% of the variance in school well-being among vocational high school students in Semarang ($r = 0.397$, $p < .001$).

Moving beyond the school environment, psychological well-being has also been explored. Fahmawati et al. (2022), in a large sample of 774 students from the Sidoarjo district, found a moderate positive correlation between self-efficacy and psychological well-being ($r = 0.479$), with self-efficacy and social skills together explaining 31.8% of the variance. Likewise, Rahmawati,

Handarini, and Triyono (2017) found that self-efficacy contributed 11.6% to the overall explained variance (adjusted $R^2 = 0.507$) in psychological well-being when analyzed alongside self-esteem and emotional intelligence among students in Malang. As for subjective well-being, Pramudita (2014) reported a statistically significant relationship between self-efficacy and this form of well-being among students in Belitang ($r = 0.341$, $p < .001$), with self-efficacy explaining 11.7% of the variance.

A particularly noteworthy finding comes from Febriyanto et al. (2025), who examined the joint influence of internal locus of control and academic self-efficacy on school well-being. In their study involving 127 high school students in Medan, they reported a strikingly high R^2 of 84.4%, with standardized regression coefficients of $\beta = 0.718$ for internal locus of control and $\beta = 0.190$ for academic self-efficacy. This indicates that while both constructs are influential, self-efficacy holds its own as a significant predictor.

The reviewed studies reveal a network of mediating variables and context-dependent influences. For instance, Mudzkiyyah et al. (2022) and Fahmawati et al. (2022) incorporated peer attachment and social skills respectively, both of which contributed meaningfully to student well-being but did not diminish the predictive power of self-efficacy. Teacher-student relationships and emotional intelligence have similarly been cited as contributing factors (Alsa et al., 2015; Rahmawati et al., 2017). These findings suggest that while other variables modulate the educational experience, self-efficacy consistently plays a central role.

Cultural and educational contexts also matter. The diversity of school settings across the studies—from public and private schools to vocational and religious institutions—demonstrates that the impact of self-efficacy is resilient across differing value systems, curricula, and teacher expectations. This resilience across contexts enhances the generalizability of findings, even as it calls for more nuanced, culturally grounded understandings of how self-efficacy develops in different educational milieus.

The influence of self-efficacy extends decisively into the academic domain. Three studies directly examined its predictive power on academic outcomes, especially in subjects like mathematics and science. Shamdas (2023), using a problem-based learning approach, demonstrated that academic self-efficacy predicted 69.9% of the variance in cognitive learning outcomes among high school biology students in Palu ($B = 1.733$, $p < .001$). In another study, Alsa et al. (2015) found that academic self-efficacy and teacher-student relationships together explained 13.3% of the variance in math achievement among senior high school students in Yogyakarta, with self-efficacy alone accounting for 7%. Suryadi and Santoso (2017) also reported a significant but unspecified effect of self-efficacy and adversity quotient on mathematics achievement among Grade IX students. These findings affirm Bandura's (1997) theory that efficacy beliefs shape how students approach challenging academic tasks, how much effort they invest, and their resilience in the face of setbacks.

Despite these consistent results, limitations across the reviewed literature must be acknowledged. Most studies employed cross-sectional, correlational designs, limiting causal inference. Sample sizes varied widely, and reporting quality—particularly in terms of reliability coefficients and demographic breakdowns—was inconsistent. Only a few studies reported Cronbach's alpha values for their scales (e.g., Firmanila & Sawitri, 2015; Nanda & Widodo, 2015), while others provided little to no information on psychometric properties. Additionally, while some models incorporated multiple predictors, few tested for mediation or moderation effects explicitly, leaving unexplored the interactive pathways through which self-efficacy may operate.

The above studies show that self-efficacy is an important psychological construct associated with both well-being and academic success among secondary school students. The strength and consistency of this relationship across diverse school settings point to the importance of designing interventions—such as those that build student autonomy, foster peer support, and promote mastery experiences—to cultivate self-efficacy. These efforts may be especially impactful in resource-constrained environments where other supports for well-being and achievement are limited.

Sense of Efficacy in Kyrgyzstan

While empirical studies directly investigating self-efficacy among secondary school students in Kyrgyzstan remain scarce, a growing body of research from neighboring and culturally adjacent regions—particularly Russia, Turkey, and broader international contexts—offers compelling evidence on the positive associations between self-efficacy, well-being, and academic achievement. These findings are critical to informing educational practice and policy in Kyrgyzstan, especially amid ongoing efforts to reform secondary education and promote learner-centered, inclusive environments.

Albert Bandura's (1997) social cognitive theory conceptualizes self-efficacy as an individual's belief in their ability to perform tasks successfully, which influences motivation, perseverance, and emotional responses. In adolescent learners, particularly in transitional or resource-constrained environments, self-efficacy serves as a powerful internal asset that buffers against academic stress and fosters engagement (Schunk & Pajares, 2009). The multidimensional nature of self-efficacy—comprising academic, emotional, social, and interpersonal dimensions—makes it especially relevant in holistic education frameworks like those advocated by UNESCO and the OECD.

Though studies from Kyrgyzstan are limited, evidence from similar educational and cultural settings—such as Russia and Turkey—supports a robust link between self-efficacy and both psychological and academic outcomes.

In a foundational study, Telef and Ergün (2013) examined academic, social, and emotional self-efficacy among 311 high school students. Their results

showed that these forms of self-efficacy together accounted for 19% of the variance in students' subjective well-being, underscoring the emotional benefits of efficacy beliefs. Kholodkova and Parfenova (2023), using a sample of 100 secondary school students in Barnaul, Russia, found a strong positive correlation ($r = .551, p < .012$) between self-efficacy in academic and interpersonal domains and students' life-meaning orientations—a proxy for psychological maturity and well-being.

Meta-analytic evidence provides further validation. Korpershoek et al. (2019) analyzed data from 82 studies involving over 208,000 students and found that self-efficacy was moderately correlated with academic achievement ($r = .18$) and even more strongly with behavioral engagement ($r = .421$) and social-emotional outcomes ($r = .30-.39$). These findings suggest that efficacy beliefs do more than improve grades—they help students develop essential skills and dispositions for lifelong success.

Arslan (2013), in a large-scale study of 984 Turkish secondary school students, explored self-efficacy in relation to learning performance and academic outcomes. His results demonstrated that self-efficacy was significantly associated with academic achievement, moderated by gender, socioeconomic status, and learning style (Wilk's $\Lambda = .865, F = 18.358, p < .05$). These demographic nuances are particularly relevant in Kyrgyzstan, where disparities in educational access and gender norms persist, especially in rural areas.

Across the reviewed studies, self-efficacy was operationalized as a multifaceted construct. Telef and Ergün (2013) employed the Self-Efficacy Scale for Children to examine academic, emotional, and social domains, while Arslan (2013) used the Motivated Strategies for Learning Questionnaire (MSLQ) subscales to focus on sources of self-efficacy such as mastery experiences, social persuasion, and physiological feedback. Kholodkova and Parfenova (2023) used Russian-adapted measures to assess efficacy in academic and interpersonal spheres, linking them to students' existential orientations.

This multidimensionality reflects the growing recognition that school success requires more than cognitive aptitude—it depends on a student's confidence to navigate academic challenges, sustain peer relationships, and manage emotional pressures.

Multiple studies also identified moderating variables that shape the strength and direction of the efficacy–outcome relationship. For instance, Arslan (2013) reported that socioeconomic status (SES), gender, and learning style significantly moderated the effect of self-efficacy on achievement. Boys and girls differed in their efficacy beliefs, and students from higher SES backgrounds showed stronger efficacy–performance linkages.

Similarly, Korpershoek et al. (2019) emphasized the role of school belonging, a social-emotional construct related to self-efficacy. Students who felt accepted and valued within their school community exhibited higher

engagement and motivation, pointing to school climate as a mediator in the efficacy–well-being pathway.

These contextual nuances highlight the importance of tailoring educational interventions to local realities. In Kyrgyzstan, where rural–urban disparities, gendered expectations, and economic instability may constrain students’ aspirations, reinforcing self-efficacy through culturally responsive pedagogies becomes vital.

Across the studies, the psychological benefits of self-efficacy were as pronounced as academic ones. Telef and Ergün (2013) linked efficacy beliefs to overall life satisfaction and emotional positivity, while Kholodkova and Parfenova (2023) connected them to mature life-meaning orientations—a key marker of adolescent well-being in developmental psychology. These results suggest that efficacy beliefs help students feel more in control of their life trajectories, a particularly empowering outcome in uncertain or under-resourced environments.

In the meta-analysis by Korpershoek et al. (2019), school belonging and self-efficacy emerged as mutually reinforcing variables, together predicting improved behavioral and motivational outcomes. This reciprocal dynamic reinforces the theory that social and emotional well-being is both a precondition and outcome of strong self-efficacy.

Despite the consistency of findings across studies, several limitations are notable. First, no empirical studies were found directly examining self-efficacy among secondary students in Kyrgyzstan. This gap limits generalizability and underscores the need for country-specific research. Second, most studies used correlational, cross-sectional designs, precluding causal inference. Third, measurement tools varied, with limited reporting of psychometric properties in some cases. Lastly, intervention studies were absent, limiting insights into how efficacy can be systematically improved through school programs.

Existing evidence from regional and international contexts affirms the vital role of self-efficacy in shaping both the well-being and academic trajectories of secondary school students. While direct research in Kyrgyzstan is limited, the applicability of these findings is strong, given shared cultural and educational features with Russian and Turkish systems. As Kyrgyzstan continues to pursue education reform, interventions that foster academic, social, and emotional self-efficacy—especially among underserved populations—hold promise for improving both educational outcomes and adolescent well-being.

Sense of Efficacy in Tanzanian Secondary Schools

In Tanzania, emerging research suggests that academic self-efficacy plays a modest but meaningful role in shaping secondary school students’ academic performance, particularly in mathematics. However, its relationship to broader dimensions of student well-being remains largely unexamined. This section

synthesizes evidence from three relevant studies—two conducted in Tanzania and one from a similar Sub-Saharan African context (Nigeria)—to understand how self-efficacy manifests, what influences it, and how it relates to academic success.

Kyaruzi (2019), in one of the most extensive studies available, surveyed 2,767 Form III students across 48 secondary schools in Dar es Salaam and Kilimanjaro. The study found that 59% of students reported high confidence in mathematics, indicating elevated levels of mathematics self-efficacy. Both self-efficacy and the effective use of teacher feedback demonstrated a weak but positive correlation with mathematics performance, suggesting that belief in one's ability and timely instructional support can contribute—albeit modestly—to academic outcomes. Complementing this, Kyaruzi (2021) examined 267 students in three public secondary schools and explored the sources of mathematics self-efficacy. Mastery and vicarious experiences, as well as social persuasions, emerged as positive predictors of mathematics performance. In contrast, physiological states—particularly anxiety—negatively influenced performance, highlighting the affective dimension of self-efficacy.

The above findings resonate with broader African evidence. Adeyemo (2005), in a Nigerian study, found that academic self-efficacy was significantly shaped by parental involvement, student interest in schooling, and the broader school environment. Though contextualized in Nigeria, these variables are potentially influential within Tanzanian schooling as well. This convergence underscores the importance of relational and ecological factors—teacher feedback, parental involvement, and school ethos—in shaping student beliefs and outcomes.

Despite these insights, significant limitations constrain the generalizability and depth of the current evidence base. First, all identified studies employed correlational or descriptive designs; none used experimental or longitudinal methodologies. While associations between self-efficacy and academic performance are statistically supported, the directionality and causality of these relationships remain uncertain. Second, self-efficacy was mostly examined in the context of mathematics, with no studies exploring other academic domains or generalizing findings across subject areas. Third, and perhaps most critically, none of the Tanzanian studies examined self-efficacy in relation to holistic wellbeing indicators such as emotional health, life satisfaction, or school belonging—domains increasingly recognized as essential for adolescent flourishing (UNESCO, 2024; World Bank, 2024).

Furthermore, demographic considerations—such as gender and cultural context—are acknowledged but not comprehensively addressed. Kyaruzi (2021) reported that boys and girls experience mastery and feedback differently, suggesting gendered pathways to efficacy development. However, no studies explicitly explored how sociocultural norms, poverty, or systemic barriers may intersect with efficacy beliefs in Tanzanian youth.

The Tanzanian literature provides important yet incomplete insights. It affirms that self-efficacy—especially when supported by teacher feedback and positive learning experiences—can enhance academic performance. Yet the lack of multidimensional measures, wellbeing indicators, and robust methodologies leaves much to be explored. Future research in Tanzania must expand beyond mathematics, adopt more rigorous designs, and integrate psychosocial dimensions to fully understand and support secondary students' holistic development.

Despite growing global interest in adolescent self-efficacy as a predictor of both academic performance and psychosocial wellbeing, research in the Tanzanian context remains relatively sparse compared to countries such as Indonesia and Kyrgyzstan. Several interrelated factors help explain this disparity.

Tanzania, like many Sub-Saharan African nations, faces chronic underinvestment in education research infrastructure. National budgets often prioritize basic service delivery—such as school access and textbook provision—over research and development. Unlike Indonesia and Kyrgyzstan, which benefit from stronger government-university linkages, international donor engagement, and regional networks (e.g., ASEAN education initiatives, Central Asian education policy forums), Tanzanian research institutions frequently operate with constrained resources and limited external collaboration. Consequently, longitudinal or multi-variable studies on psychological constructs like self-efficacy receive less attention.

Tanzania's educational research and policy discourse have historically prioritized structural and equity-based concerns—such as enrollment expansion, gender parity, and teacher deployment—over internal student outcomes like self-belief, wellbeing, or motivation. This contrasts with Indonesia's more recent focus on holistic student development and Kyrgyzstan's integration of psychosocial indicators into school quality frameworks, both of which have catalyzed studies on self-efficacy and its correlates.

There is also a methodological gap. Validated, context-specific tools for measuring academic, emotional, and social self-efficacy remain scarce in Tanzania. Most instruments are adapted from Western contexts, and few have been normed or psychometrically validated in East African settings. In contrast, Indonesia and Kyrgyzstan benefit from a longer tradition of localized psychological measurement, influenced by their respective ties to international testing regimes and psychology communities.

While countries like South Africa, Kenya, and Nigeria have begun building robust research ecosystems on student motivation and wellbeing, Tanzania's academic culture is still evolving in this regard. The publication volume on adolescent psychology and educational psychology remains low, with limited incentives for teacher-researchers or early-career academics to engage in classroom-based psychological studies. By contrast, Kyrgyzstan benefits from

its Soviet-era legacy of empirical educational psychology, and Indonesia from its diversified higher education sector and Ministry-led research programs.

THE PRESENT STUDY

Adolescents' sense of efficacy—their belief in their ability to influence learning and life outcomes—has been widely recognized as a key determinant of academic success, student wellbeing, and holistic development. Research across diverse contexts affirms that self-efficacy is positively associated with school engagement, academic performance, and psychological resilience. However, empirical evidence from low- and middle-income countries remains uneven. While countries such as Indonesia and Kyrgyzstan have shown growing interest in measuring psychosocial and affective dimensions of student development, evidence from Sub-Saharan Africa, including Tanzania, is still scarce and fragmented. Furthermore, most existing studies rely on cross-sectional data or limited sample sizes, offering insufficient insight into the causal impact of structured educational interventions on students' evolving sense of efficacy.

Given the conceptual importance of self-efficacy, the empirical support for its multifaceted benefits, and the demonstrated potential of targeted interventions such as BRIGHT, there is a clear need for more rigorous, context-sensitive research in this domain. This study addresses that need by investigating how participation in the BRIGHT program has influenced secondary school students' sense of efficacy and holistic development in Indonesia, Kyrgyzstan, and Tanzania. The BRIGHT program—an initiative spearheaded by the NAMA Foundation—was implemented in secondary schools across Indonesia, Kyrgyzstan, and Tanzania. Designed to promote holistic student development, the program includes structured extracurricular activities, youth leadership development, and teacher-student relationship enhancement strategies. While the program's implementation has been well documented, empirical assessments of its impact on students' psychological outcomes—particularly their sense of efficacy—remain underexplored.

This study responds to that gap by analyzing longitudinal data collected at two time points: baseline in 2021 and midterm review in 2022. Using validated self-efficacy instruments and statistical analysis (paired-sample *t*-tests), this research aims to quantify changes in students' sense of efficacy and related dimensions. By comparing pre- and post-intervention data across three culturally distinct yet educationally underserved countries, this study offers new insights into how context-sensitive interventions contribute to students' psychological and educational development. Its findings are intended to inform future programming and policymaking by foundations, ministries, and educators working to improve holistic outcomes in secondary education systems globally. By synthesizing empirical data with theoretical insights and policy relevance, the present study contributes to an emerging body of work that repositions self-efficacy as both an outcome and an enabler of educational transformation—especially in regions where such transformation is most urgently needed.

To evaluate the impact of the BRIGHT program on secondary school students' sense of efficacy in Indonesia, Kyrgyzstan, and Tanzania by comparing baseline and midterm data using validated psychological instruments and quantitative analysis.

Research Objectives

1. To measure changes in students' overall sense of efficacy between the 2021 baseline and 2022 midterm using t-tests.
2. To compare the impact of the BRIGHT program on self-efficacy across three country contexts (Indonesia, Kyrgyzstan, Tanzania).

Research Questions

1. Has there been a statistically significant improvement in students' sense of efficacy following the implementation of the BRIGHT program between 2021 and 2022?
2. Does the change in self-efficacy differ significantly across Indonesia, Kyrgyzstan, and Tanzania?

The significance of this study lies in its contribution to closing a critical knowledge gap regarding the impact of structured, holistic educational interventions on students' psychosocial development—specifically their sense of efficacy—in underserved and culturally diverse secondary school settings. While much of the existing literature emphasizes academic outcomes, this study foregrounds the psychological dimensions of student success, offering robust, cross-national evidence from Indonesia, Kyrgyzstan, and Tanzania. By using validated instruments and longitudinal data analyzed through t-tests, the research provides empirical insights into how the BRIGHT program enhances students' confidence in their own abilities, a key predictor of academic achievement, resilience, and wellbeing. The study's findings are poised to inform the design of future programs by NGOs, education ministries, and international development partners seeking to support not just cognitive but also affective student growth in resource-constrained environments.

METHODOLOGY

This study adopted a longitudinal, quantitative research design to assess the effect of the BRIGHT program—implemented by the NAMA Foundation—on secondary school students' sense of efficacy across Indonesia, Kyrgyzstan, and Tanzania. The research focused solely on the CVS1 dimension of the NAMA Index for Education (NIE), which measures students' belief in their ability to act responsibly, make decisions, and solve problems. The design enabled a comparison of student self-efficacy scores at two time points: baseline (2021) and midterm (2022), thereby capturing the program's impact over time.

The study involved students only, drawn from 63 secondary schools participating in the BRIGHT program: 23 schools in Indonesia, 20 in Kyrgyzstan, and 20 in Tanzania. A total of 5,131 students responded to the baseline survey in 2021, and 5,618 students participated in the midterm survey in 2022. Schools were selected purposively to reflect diverse socio-cultural and economic contexts within each country. Participation in the surveys was voluntary and conducted anonymously. For the purpose of this paper, results from 1728 students were randomly selected for analysis; 864 (Indonesia = 361, Kyrgyzstan = 258, and Tanzania = 245) from the baseline data of 2021 and 864 (Indonesia = 361, Kyrgyzstan = 258, and Tanzania = 245) from the mid-term assessment of 2023.

Instrumentation

The primary data collection instrument was the Student Questionnaire, developed and validated by the NAMA Foundation research team in alignment with the NAMA Index for Education rubric. The questionnaire consisted of 12 items addressing various domains of school life and holistic development, including participation in extracurricular activities, community engagement, leadership, teamwork, school attendance, and personal responsibility. The CVS1 subscale consisted of Likert-scale items (0 = no opinion to 4 = agree a lot) designed to assess students' confidence in handling tasks, making responsible decisions, and contributing meaningfully to their learning environment. The instrument underwent validation by content experts, followed by pilot testing to ensure cross-cultural reliability and internal consistency. Data were collected through in-person administration by trained enumerators at both time points, following the same protocol to ensure consistency. Only student responses on the CVS1 scale were extracted for analysis. The detailed items are presented in Table 1.

Table 1: Questionnaire Items

Label	Items	domain
CVS11	I feel that I am important in my school.	Belonging
CVS12	I feel that I am successful in my school.	Achievement
CVS13	I can solve my problems.	Problem-solving
CVS14	I learn from the mistakes I make.	Reflection
CVS15	My school prepares me to be successful in the future.	Success orientation
CVS16	If a teacher marks my test unfairly, I talk to him/her to check my mark again.	Assertiveness
CVS17	When I have a difficult assignment, I can ask my teacher for help.	Help-seeking
CVS18	If I don't agree with the teacher, I can express my ideas clearly.	Expression
CVS19	If I don't agree with something at school, I can talk to my principal about it.	Advocacy
CVS110	My school helps me to grow and learn more.	Growth

The questionnaire’s language and content were reviewed for cultural appropriateness and clarity in each context. Participation was voluntary and responses were anonymous to encourage honest feedback. The items were reported to have good validity and reliability by Ssekamanya & Mahmood (2024) who examined its constructs using both Cronbach’s Alpha and Composite Reliability (CR). In their study, they presented the reliability and validity outcomes, including the factor loadings for the items, for both the

overall sample and each country-specific subsample. All Alpha coefficients and CR values for the overall sample exceeded the recommended threshold of 0.700. However, the Alpha and CR values demonstrated some variation across the individual country samples (Indonesia, Kyrgyzstan, and Tanzania). The Average Variance Extracted (AVE) and CR values were all above or near the suggested cutoffs of 0.500 and 0.700, respectively, thereby indicating that the constructs exhibited satisfactory convergent validity.

Data Analysis

Before assessing the impact of ROOTS, the analysis first ran an exploratory factor analysis technique, i.e., Principal Components Analysis (PCA) with Varimax rotation, on the data to ascertain that the nine indicators used in the lesson observations did indeed measure a single construct, i.e., students' sense of efficacy. To establish the results' interpretability and usability, eight PCA measures were examined, namely (1) the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (which should be between 0.8 and 1 to indicate adequate sampling); (2) Bartlett's test of sphericity (which must be statistically significant at $p < .05$); (3) the inter-item correlation matrix (which must show low or moderate correlations among the items or indicators); (4) communalities; (5) proportion of variance explained; (6) factor loadings; (7) eigenvalues (which must be greater than 1 for a factor to be retained); and finally (8) the scree plot and factor interpretability to decide the number of factors to be retained (in case there was more than the expected one factor measuring students' sense of efficacy).

The subsequent analyses involved the use of descriptive statistics and effect size estimations. Frequencies, percentages, means and standard deviations were used to describe and summarize the sense of efficacy among students in the selected schools across the three countries. Charts, tables and graphs are used wherever necessary in this report to illustrate the changes in every indicator and to enhance the readability and utility of the results. Next, the effect sizes of the changes were estimated using Cohen's d , where $d = 0.2$ is considered small, $d = 0.5$ is medium, and $d = 0.8$ and above is large and of practical importance (Cohen, 1988).

RESULTS

As expected, the Principal Components Analysis (PCA) results support the presence of a single factor measuring a single construct, i.e., sense of efficacy. The measures of sampling adequacy were well-satisfied. The ten indicators loaded into a single dimension representing sense of efficacy, in congruence with the scree plot that shows the presence of a single construct in the data (Figure 1):

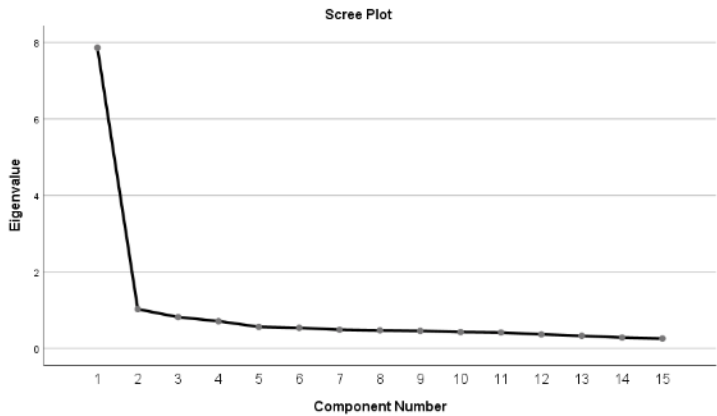


Figure 1: Scree Plot Suggesting a One-Factor Structure of the Data

The extracted factor with the ten indicators explains 43.7% of the variance in the students’ sense of efficacy data with an eigenvalue of 4.63. The inter-item correlation matrix (Table 3) shows that the nine indicators are either weakly or moderately correlated with one another, supporting the idea that they do not constitute an identity matrix, as earlier indicated by the statistically significant Bartlett’s test of sphericity.

Table 2: Inter-Item Correlation Matrix for the students’ sense of efficacy

	CVS1 1	CVS1 2	CVS1 3	CVS1 4	CVS1 5	CVS1 6	CVS1 7	CVS1 8	CVS1 9	CVS1 10
CVS11	1.000									
CVS12	.448	1.000								
CVS13	.483	.521	1.000							
CVS14	.505	.517	.425	1.000						
CVS15	.598	.312	.436	.598	1.000					
CVS16	.414	.455	.473	.468	.523	1.000				
CVS17	.438	.490	.587	.606	.542	.497	1.000			
CVS18	.437	.486	.487	.484	.561	.491	.526	1.000		
CVS19	.318	.376	.327	.304	.476	.421	.371	.483	1.000	
CVS110	.503	.534	.408	.507	.532	.474	.640	.500	.335	1.000

Given the interpretability and reliability of the items and construct, the study proceeded with the analysis of the impact of the BRIGHT program on students’

overall sense of efficacy across three country contexts (Indonesia, Kyrgyzstan, Tanzania) between the 2021 baseline and 2022 midterm using t-tests.

Before comparing the means, it is important to check whether the groups had similar variances using Levene's test. It was found that the test was significant for all of the items ($F = 0.019$, $p = 0.0890$). This confirmed that the assumptions of equal variance were not met.

Independent t-tests were conducted to compare the results of the midterm assessment (2022) with baseline data (2021) to determine the effectiveness of NAMA's intervention in enhancing students' overall sense of efficacy. Separate t-tests were run for the Tanzanian, Kyrgyz, and Indonesian samples respectively (Table 3). Statistical significance was calculated at $p < 0.05$ with 95% confidence intervals. For all of the items, there were significant between the midterm assessment (2022) with baseline data (2021), yielding t values ranging from 4.786 to 25.847. These results indicate that the levels of students' sense of efficacy were significantly higher in the midterm assessment (2022) compared to baseline data (2021). This demonstrates the effectiveness of NAMA's intervention in this domain.

To determine the practical importance of these results, we additionally calculated the effect size using the formula: Cohen's $d = (M_2 - M_1) / SD_{\text{pooled}}$, where: $SD_{\text{pooled}} = \sqrt{((SD_1^2 + SD_2^2) / 2)}$. A small Cohen's d of around 0.2 indicates a small effect, a medium effect is around 0.5, and a large effect is around 0.8. A Cohen's d of 0.4 in an independent samples t-test indicates a small to medium effect size (Gülkesen, et al., 2022). For most of the items, there were large effect sizes of more than .8. The only exceptions are item CVS19 which saw a medium effect for both the Indonesian and Kyrgyz samples and a small effect for the Tanzanian sample; and item CVS18 which saw a medium effect for the Tanzanian sample.

The study demonstrated a significant improvement in students' overall sense of efficacy following the implementation of the BRIGHT program across Indonesia, Kyrgyzstan, and Tanzania. Using independent t-tests, results showed that mean scores on all indicators of self-efficacy were significantly higher in the 2022 midterm assessment compared to the 2021 baseline. The effect sizes were generally large for most items, indicating a substantial and meaningful impact of the program on students' self-confidence, problem-solving, and advocacy abilities. Notably, the only exceptions were in the area of advocacy, where effect sizes were moderate to small. This underscores the BRIGHT program's effectiveness.

Table 3: T-test Results

TANZANIA										KYRGYZTAN										INDONESIA									
Items	Mean	SD	t	DF	P-value	d	Mean	SD	t	DF	P-value	d	Mean	SD	t	DF	P-value	d	Mean	SD	t	DF	P-value	d					
CVS11	2021	2.25	0.49				2.31	.51					2.29	.48					2.29	.48									
	2022	3.07	0.73	14.548	427.127	.000	1.318	.73	15.133	457.777	.000	1.254	3.13	.70	18.827	638.495	.000	1.349	3.13	.70	18.827	638.495	.000	1.349					
CVS12_A	2021	2.16	0.49				2.32	.49					2.25	.46					2.25	.46									
	2022	2.89	0.80	12.156	405.855	.000	1.100	.66	17.340	474.403	.000	1.513	3.10	.69	18.891	628.004	.000	1.449	3.10	.69	18.891	628.004	.000	1.449					
CVS12	2021	2.09	0.47				2.35	.50					2.25	.45					2.25	.45									
	2022	2.72	0.81	10.556	389.938	.000	0.951	.71	15.764	462.207	.000	1.384	3.10	.66	20.067	636.683	.000	1.504	3.10	.66	20.067	636.683	.000	1.504					
CVS13	2021	2.26	0.55				2.39	.52					2.58	.49					2.58	.49									
	2022	2.93	0.89	10.052	406.688	.000	0.865	.68	17.069	482.149	.000	1.503	3.55	.55	25.195	713.108	.000	1.766	3.55	.55	25.195	713.108	.000	1.766					
CVS14	2021	2.27	0.55				2.48	.54					2.64	.48					2.64	.48									
	2022	2.95	0.89	10.194	405.943	.000	0.851	.73	15.832	473.783	.000	1.277	3.60	.56	24.642	702.321	.000	1.840	3.60	.56	24.642	702.321	.000	1.840					
CVS15	2021	2.32	0.48				2.56	.51					2.50	.52					2.50	.52									
	2022	3.10	0.74	13.839	415.906	.000	1.250	.69	16.850	473.693	.000	1.384	3.46	.60	23.082	704.544	.000	1.603	3.46	.60	23.082	704.544	.000	1.603					
CVS16	2021	2.13	0.58				2.25	.58					2.41	.59					2.41	.59									
	2022	2.71	0.95	8.219	402.090	.000	0.724	.90	10.910	437.455	.000	0.858	3.29	.80	16.750	658.689	.000	1.123	3.29	.80	16.750	658.689	.000	1.123					
CVS17	2021	2.21	0.48				2.39	.54					2.65	.49					2.65	.49									
	2022	2.85	0.82	10.673	394.270	.000	0.878	.71	16.364	479.483	.000	1.442	3.60	.61	22.959	689.844	.000	1.717	3.60	.61	22.959	689.844	.000	1.717					
CVS18	2021	1.98	0.51				2.23	.56					2.34	.52					2.34	.52									
	2022	2.44	0.87	7.204	393.206	.000	0.615	.88	10.591	437.335	.000	0.908	3.16	.77	16.822	633.692	.000	1.156	3.16	.77	16.822	633.692	.000	1.156					
CVS19	2021	1.77	0.63				2.04	.68					1.93	.51					1.93	.51									
	2022	2.13	0.99	4.786	412.197	.000	0.397	1.08	6.383	433.111	.000	0.509	2.43	.88	9.263	576.895	.000	0.650	2.43	.88	9.263	576.895	.000	0.650					
CVS110	2021	2.22	0.50				2.52	.55					2.68	.48					2.68	.48									
	2022	2.89	0.84	10.737	399.615	.000	0.839	.69	17.076	488.834	.000	1.410	3.66	.54	25.847	709.430	.000	1.800	3.66	.54	25.847	709.430	.000	1.800					

DISCUSSION AND CONCLUSION

The present study set out to empirically examine the impact of the NAMA Foundation's BRIGHT program on students' sense of efficacy across Indonesia, Kyrgyzstan, and Tanzania. By adopting a longitudinal, multi-country approach and focusing on both pre- and post-intervention assessments, this research addresses several methodological limitations highlighted in earlier studies—including the scarcity of longitudinal data and lack of intervention-based evidence in low- and middle-income contexts (Korpershoek et al., 2019; Ssekamanya & Mahmood, 2024).

The findings reveal a significant improvement in students' sense of efficacy in all three country contexts, with large effect sizes for most domains of self-efficacy. These results strongly echo global research demonstrating the pivotal role of self-efficacy in supporting academic achievement, well-being, and resilience (Bandura, 1997; Mahyuddin et al., 2006; Telef & Ergün, 2013). In particular, the study's robust evidence for increased self-efficacy across diverse settings aligns with meta-analytic findings by Korpershoek et al. (2019), who reported moderate-to-strong associations between self-efficacy and both academic and socio-emotional outcomes among secondary students.

The improvements observed in Indonesia corroborate a well-established body of national research demonstrating that academic self-efficacy predicts not only academic success but also psychological and subjective well-being (Firmanila & Sawitri, 2015; Rahmawati et al., 2017; Mudzkiyyah et al., 2022). Similar patterns were observed in Kyrgyzstan, where effect sizes for most efficacy domains were large, reflecting international findings from Russia and Turkey that underscore the importance of student confidence and perceived agency in academic and life satisfaction (Kholodkova & Parfenova, 2023; Telef & Ergün, 2013).

In Tanzania, while the effect sizes were generally lower than in Indonesia or Kyrgyzstan, the statistically significant improvements represent a meaningful step forward given the country's historical focus on structural rather than psychosocial outcomes (Kyaruzi, 2019). This advancement signals the value of holistic, structured interventions in contexts where research on student efficacy has been relatively limited and where school environments often lack the resources needed to cultivate student agency (Adeyemo, 2005).

Despite the overall positive impact, some nuances emerged. For example, the smallest effect sizes were observed in domains related to advocacy and assertiveness, particularly in Tanzania. This may reflect deeply embedded cultural and systemic factors—such as hierarchical school cultures, limited opportunities for student voice, and traditional attitudes toward authority—that have been cited in the literature as barriers to the development of self-efficacy, especially advocacy-related behaviors (Kyaruzi, 2021; Ssekamanya & Mahmood, 2024). In contrast, Indonesian students showed greater gains in these

domains, perhaps due to stronger traditions of student leadership and community participation reported in earlier studies (Laghung, 2023; Wahyudi et al., 2023).

A further point of differentiation lies in the degree of contextual adaptation and implementation fidelity. Literature from both Kyrgyzstan and Tanzania has highlighted challenges related to leadership turnover, lack of teacher training, and resource limitations (Korpershoek et al., 2020; Ssekamanya & Mahmood, 2024). The current findings suggest that where school leadership and staff stability were higher, the BRIGHT program's effects were amplified—supporting the assertion that institutional context is a key moderator of program impact.

Contributions and Implications

Importantly, this study contributes robust empirical evidence to a domain where cross-national intervention studies remain rare. It extends existing research by demonstrating that well-designed, context-sensitive interventions can significantly enhance self-efficacy even in under-resourced and culturally diverse settings. By foregrounding psychosocial dimensions alongside academic outcomes, the findings encourage policymakers and practitioners to prioritize student confidence, agency, and well-being as key pillars of school improvement—especially in the Global South.

In summary, while the results generally affirm the patterns identified in the literature, they also highlight the importance of context in shaping intervention outcomes. The BRIGHT program's success underscores the transformative potential of holistic, multi-dimensional educational strategies for student development across varying socio-cultural environments.

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