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Developing Instructional Leadership in Tanzania: Impact of a British Council Initiative

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Abstract

Instructional leadership is widely recognized as important for school improvement and a significant tool for creating an effective teaching and learning environment. The British Council is committed to promoting and developing instructional leadership and is offering programmes to develop it in several African countries, including Tanzania. These programmes focus on developing and improving instructional leadership in schools. The programme is provided by British Council facilitators to school leaders and is delivered over a period of six to nine months, including time for a school-based project. Previous research shows that leadership in many sub-Saharan African countries, including Tanzania, is primarily administrative and that instructional leadership is often neglected. Data were collected with 20 participants of the British Council programme, all primary school leaders, chosen through volunteer and purposive sampling. The findings show many reported gains from participation, notably greater understanding of key concepts such as vision and missions distributed leadership, and instructional leadership processes, notably classroom observation.

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Introduction

Instructional leadership is widely recognized as important for school improvement (Robinson et al, 2008), and a significant tool for creating an effective teaching and learning environment (Hallinger and Walker, 2014). The British Council is committed to promoting and developing instructional leadership and is offering programmes to develop it in several African countries, including Tanzania. These programmes focus on developing and improving instructional leadership in schools. The programme is provided by British Council facilitators to school leaders and is delivered over a period of six to nine months, including time for a school-based project. Previous research (e.g., Bush, Fadare, et al., 2021) shows that leadership in many sub-Saharan African countries, including Tanzania, is primarily administrative and that instructional leadership is often neglected.

The Tanzanian Ministry of Education and Vocational Training has a School Improvement Toolkit (MoEVT, 2013,) that documents how instructional leaders should lead the improvement of instruction. It provides guidelines on how school leaders should engage the school community, carry out continuous assessment of teachers, track teacher attendance, teacher motivation and accountability, enforce supervision and coaching of teachers, and source teaching and learning materials. Nyambo (2017) also notes that the Tanzanian government authorizes school leaders as internal supervisors to ensure

implementation of educational policy, regulations, programmes, directives and monitoring instruction, to enhance learners' achievements.

Education in Tanzania

Educational provision in Tanzania is guided by national education policies, programmes and strategic plans. These include the Tanzania Development National Vision 2025, the National Strategy for Growth and Reduction of Poverty, and the National Five Years' Development Plans of 2016/2017 to 2020/2021. The National Vision delineates the national goals, while the National Five Years' Development plans are intended to help in achieving the vision. The Educational Sector Development Plan (ESDP), 2008-2017, supplements the national policies and plans through its various sector development programmes. However, their focus is more on improving access, quality, and equity, than on seeing that learning is taking place.

Tanzania adopted decentralized governance structures and policies from the 1990s, that promoted school-based management, and increased accountability for school heads. It further promoted instructional leadership and heads were expected to improve the core functions of teaching and learning (Nguni, 2005, Maneseh, 2016).

The Education Sector Development Plan (ESDP 2017-2021) outlines expectations that school management teams will be responsible for supervising and overseeing high quality teaching and learning, including observing time on task; ensuring a conducive teaching and learning environment, implementing inspection recommendations; and tracking learning achievements with particular emphasis on student basic skills in reading, writing and arithmetic (Ministry of Education, Science and Technology, 2018).

Literature Review

There is growing evidence that high quality leadership is essential for student growth and school improvement, accounting for up to 27 per cent of variation in student outcomes (Leithwood et al 2006, 2020). Bush (2020) discusses several leadership models, noting that transformational, distributed, and instructional approaches are particularly prominent in the leadership literature.

Robinson et al.'s (2008) meta-analysis of published research indicates that instructional leadership has more powerful effects on student outcomes than other leadership models. The closer leaders are to the core business of teaching and learning, the more likely they are to make a difference to students (ibid). Shatzer et al.'s (2014) study of elementary schools in the US reached a similar conclusion that instructional leadership accounted for more of the variance in student outcomes than transformational leadership.

Bush and Glover (2014, 556) stress that 'instructional leadership, or leadership for learning, focuses primarily on the direction and purpose of leaders' influence; targeted at student learning via teachers'. Hallinger (2005) adds that the notion that principals should be instructional leaders is enduring, a passing fancy that refuses to go away. Hallinger and Lee (2014, 6) note that 'instructional leadership from the principal is essential for the improvement of teaching and learning in schools'. However, they add that 'in many parts of the world, the practice of instructional leadership remains both poorly understood and outside the main job description of the principal' (ibid). They also comment that this model has travelled well beyond its American origins to become a global phenomenon. Significantly, they stress that the context shapes the exercise of instructional leadership, for example in Thailand (Ibid).

Some cultures, for example in parts of Africa and Asia, may experience challenges in applying this model in what are very different national and school cultures.

Dimensions of effective instructional leadership

The international literature and research offer guidance on the dimensions of effective instructional leadership. Hallinger and Heck (1999) argue that instructional leaders influence learning and teaching in three ways:

1. *Directly, by personal intervention*

This may be enacted through their own teaching, or through modelling good practice.

2. *Reciprocally, by their work alongside other teachers*

This may be enacted through classroom observation and constructive feedback.

3. *Indirectly, via other staff*

This may be enacted, for example, through dialogue with teachers.

Monitoring, followed by constructive feedback, and modelling good practice, are the instructional leadership strategies most frequently reported in the literature (Bush, Fadare, et al., in press).

Monitoring

Southworth (2004) says that monitoring includes analysing and acting on students' progress and outcome data, for example assessment and test scores. The English Office for Standards in Education (Ofsted, 2003) found that there was a very strong link between good monitoring and good teaching. Southworth (ibid: 80) adds that 'monitoring classrooms is now an accepted part of leadership'.

Observation needs to be seen as a formative process, intended to raise standards of classroom practice, if it is to gain the co-operation of educators. It should also be regarded as a 'normal' aspect of school management if it is to become embedded. Bush (2013) argues that this is likely to require a paradigm shift in many schools, prompted by firm but supportive leadership.

Modelling

Where educators' pedagogic skills are weak, monitoring alone is unlikely to be effective in raising standards. Identifying aspects needing improvement is only a starting point. Good feedback is essential but this may need to be supported by professional development. While workshops may help to improve classroom teaching, modelling of good practice by the principal, the HoD or another educator, is more likely to produce favourable outcomes (Bush 2013). Southworth (2004: 78) claims that 'modelling is all about the power of example'. Successful leaders are aware that they must set an example and use their actions to show how colleagues should behave.

Instructional leadership in sub-Saharan Africa

Bush, Maringe and Glover's (2021) systematic review of the literature on instructional leadership in Africa identified 36 sources across 15 countries, suggesting the growing importance of this model in many parts of the continent. Their report refers to four main aspects of instructional leadership. First, there is advocacy for this model because of its perceived benefits, for example in Nigeria (Bello, 2015) and Ghana (Abonyi and Sofo, 2019). Second, there are studies of how instructional leadership is practiced. For example, Onyine and Nwaanne (2018) claim that Nigerian principals define school mission, and manage instructional programmes, to a high level. Third, there is

evidence of the efficacy of instructional leadership in enhancing student learning, for example in Kenya (Mutuku, 2018). Fourth, several studies point to the challenges inhibiting principals from acting as instructional leaders. Mestry (2017) argues that South African principals 'repudiate' their role in managing teaching and learning. Tedla (2012) says that the time of Eritrean principals is not focused on instructional leadership while Allieu (2019) notes that most heads in Sierra Leone are not practicing instructional leadership. Mestry et al's (2013) comment that South African principals need to balance their administrative and instructional roles appears relevant to leaders across the continent, including those in Tanzania.

Bush, Fadare, et al.'s (2021) overview of instructional leadership in six African countries (Nigeria, Sierra Leone, Sudan, Tanzania, Zambia and Zimbabwe) is based on a synthesis of 55 interviews, linked to a systematic review of the academic and official literature. They conclude that education ministries should articulate that the role of the school principal is primarily that of a professional leader, focused on developing teaching and learning. They add that, at the school level, principals should introduce clear strategies for instructional leadership, including monitoring, notably through classroom observation, with constructive feedback designed to encourage beneficial change rather than to damage teacher confidence.

Instructional leadership in Tanzania

Bush, Fadare et al. (2021), and Maneseh (2016), show that, in Tanzania, the head teacher is considered to be an instructional leader, for example by the Ministry of Education. They are recognized as internal instructional supervisors and their core function is to ensure that the curriculum is implemented according to the rules and regulations, through monitoring, the preparation and use of teaching

professional documents such as syllabi, schemes of work, lesson plans, subject logbooks and lesson notes, as well as through classroom instruction provided by teachers to pupils. Manaseh (2016) describes the school head as an instructional leader for playing roles such as personnel administrator, instructional programming administrator, and supporting administrative functions. Similarly, Musumi and Mkulu (2020) claim that heads' instructional roles include ensuring effective communication, ensuring teaching and learning resources, and conducting collaborative teaching and learning. However, Nyambo, (2017) notes that, due to pressure from their multiple roles, some instructional leaders find alternative ways of leading, such as delegating some of their responsibilities to their subordinates, including deputy head teachers, to accomplish institutional objectives.

In a study to assess the understanding and improvement of instructional leadership practices in primary schools in the Karatu District of Tanzania, Kaai (2016) found that school leaders communicate and drive instructional goals but were not able to explain the vision and mission of their schools. Similarly, Nyambo's (2017) Tanzanian study found that head teachers were not much engaged in classroom observation and were not aware that they are supposed to provide feedback to teachers after classroom observation. Their other work inhibited them from conducting instructional supervision. Nyambo (2017) also notes that some head teachers delegate their responsibilities to other leaders, especially deputy heads and middle leaders, a mode of allocative distribution. However, Bush, Fadare et al (2021) report that Tanzanian school leaders perceive that they are not responsible for classroom observation, or for giving feedback to teachers after observations, and for checking lesson plans and schemes of work.

Emiru's (2020) study of the instructional leadership practices of the heads of six urban secondary schools in Iringa, shows that the participants are not familiar with the concept of instructional leadership. The instructional programme was not managed effectively, as heads of departments were not involved in curriculum coordination, syllabi were not covered on time, and heads did not undertake classroom observations or review curriculum materials. Similarly, Siamoo's (2013) research shows that there is little or no oversight of classroom instruction in most Tanzanian secondary schools. This limited but growing body of research provides the backdrop for the present authors' evaluation of the British Council's instructional leadership programme in Tanzania.

Methodology

The purpose of the research was to evaluate the British Council's Instructional Leadership programme in Tanzania. The specific aims were to explore awareness about instructional leadership among participants and to establish whether, how, and to what extent it is practiced in a sample of schools in Tanzania, including perceptions about its impact. These aims led to several research questions:

1. What is the level of awareness about instructional leadership among participants in the British Council training programme?
2. Why did participants choose to take part in the British Council programme?
3. What is the balance between instructional and administrative aspects of principal leadership?

4. How, and to what extent, are instructional leadership responsibilities distributed or delegated to other senior and middle leaders?
5. What are teachers' perceptions about the nature and impact of instructional leadership?
6. What evidence, if any, is there of a link between instructional leadership behaviours and student learning outcomes?

Interviews were conducted with 20 participants, selected by volunteer and purposive sampling, from school leaders taking part in the British Council Instructional Leadership programme. The 20 participants comprised 16 heads, two deputy heads, and two teachers. All the participants lead primary schools. The majority (11) of the schools are in rural areas whilst nine are urban. This small sample means that findings should be regarded as indicative rather than conclusive.

Data analysis was undertaken by scrutinizing interview transcripts to develop themes, some of which arose from the interview guide while some were emergent from the participants' comments. Validity was addressed through participant triangulation where responses were compared to establish the 'weight' of evidence and to note similarities and differences. The data were collected in English and Swahili. The Swahili data were translated by the researcher who is fluent in both languages. The next section presents these thematic research findings.

Findings

The findings are presented thematically, as shown below.

Motivation for participation

It appears that 'word-of-mouth' was a significant influence on programme participation, as most participants (16) mentioned being motivated by a colleague in a different school (see table 1). A recommendation from the district office was also an important factor for five participants.

Table 1.

Motivation for joining the British Council programme

Motivation	Frequency
Motivated by a colleague in a different school	16
Motivated by the District Education Office	5
To develop my school	4
Other schools were developing	2
To learn English	2
To participate in distance learning opportunities	2
Existing UK-Tanzania partnerships in the country	1
A different course I attended	1
To develop digital skills	1
Continuous learning and professional development	1
Motivated by adverts on vehicles	1

Colleagues who previously attended the British Council programme are the biggest influence on new entrants to the programme, as illustrated below:

> *First, we were not in the programme, but later the way our colleagues were talking about it, we became inspired (ZL).*
>
> *I heard from fellow teachers from a neighbouring school (OL).*
>
> *I knew British Council from HTs who were already British Council participants (MM).*

Other participants were nominated by district officers, giving the impression that they were required to attend, rather than arising from personal motivation:

> *We got a letter from the District Education Officer informing us to attend the training (OL).*
>
> *I was just informed of the training that I had to attend [by] the Ward Education Officer who also was informed by the district education office (JM).*
>
> *We were nominated by the district education office (HA).*

The desire for school improvement provides a substantial motive for participants to join the British Council programme, as shown below:

> *Motivated because I wanted to develop my school (PN).*
>
> *I joined so that I can help the school and students (SM).*

AK was motivated by comments from colleagues who attended the programme:

The big issue that motivated me was due to my experience from teachers who I had known that they were in British Council programmes. They were benefiting from British Council, for example, about teaching and learning. They told me they learnt a lot (AK).

Overall, a mix of personal and professional considerations influenced leaders' participation in the British Council programme. They wanted to experience high quality professional development leading to enhanced student learning and school improvement.

Professional development approaches

The participants were asked to comment on their professional learning through the British Council programme, and their responses were mostly positive (see table 2).

Table 2.

Participants' positive programme experience

Positive programme experience	Frequency
Activity based	6
Ways of cascading learning to the school	2
Programme raised my motivation	2
Excellent use of teaching aids and visuals	2
Use of practical examples such as developing a school garden	3
How to engage pupils and parents in problem solving	3
Learning about problem solving and thinking out of the box	3

The use of technology and power-point	2
Learning about school and programme planning and management	2
Delegation of power and responsibilities	2

Table 2 shows that participants enjoyed several aspects of the British Council programme. They mostly liked that the training was activity based with numerous opportunities for discussion and sharing with each other:

> *All the topics were provided in the best ways e.g., modules were provided with activities. closely involving tutors, taught how to live with teachers, community and how to plan, act and evaluate (1RS).*

> *Generally, it's a good programme the British Council staff have initiated… It makes teachers active, it raises motivation, without it, things would be haphazard (NN).*

Other key positive experiences on the programme relate to the opportunities to experience problem solving first-hand, and how to work with both students and parents to address knowledge deficits and disinterest.

> *We have learnt how to face pupils' problems, how to involve parents e.g., before training we had no production of vegetables, where pupils learn even how to grow, sell, and manage the use of money gained from selling vegetables (SM).*

This example also captures an important dimension of rallying the school around a unifying project such as the school garden. This energises people around a common purpose in pursuit of a mutually beneficial undertaking.

Impact of the Instructional Leadership programme

Personal development

Table 3 summarises programme learning reported by participants.

Table 3.

Programme learning and understanding

Understanding of instructional leadership	Frequency
Distributed leadership roles	10
Creating vision, mission, and goals	8
Focus on improving quality of teaching	4
How to work with pupils	4
How to work with communities to enhance learner outcomes	3
How to work with teachers to improve outcomes	3
How to improve performance	3
Leading by example	2
Enhancing school management processes	2
Enhancing digital learning and problem-solving skills	2

The most frequently reported understanding of Instructional Leadership by these participants was linked to notions of distributed leadership. While this could be interpreted as representing conceptual blurring between these two models, it appears that participants understood instructional leadership as a process that cannot be led effectively by the principal or any single person.

> *I understand that instructional leadership involves distributing leadership roles, everything goes on even if I am not there... [For]*

monitoring teaching and learning, we created a team of quality assurance (QA) out of the academic master's team, each with its distinct roles. The QA are responsibility to see that teachers go with their objectives. we were given a seminar to oversee quality of each teacher while academic team is more general to see teachers teach as per the curriculum (RS).

The key issue is on how to work with teachers, community members, and pupils; to see how to resolve challenges, e.g., children can be better helped how to achieve goals, Generally, if a school follows instructional leadership, it is easy to set mission and to meet objectives (PN).

A strong view was expressed about how instructional leadership is linked to the idea of school vision. Participants expressed generic comments about the nature of vision, similar to those found in international literature, but some were also able to show how it applies in their schools:

We developed a school vision and now we use it, we distribute responsibilities to teachers (1 RS).

We managed to update our school vision. The specific benefit is that I can do proper supervision in my roles (4 SM).

On the school vision, it was outdated, we never updated it. We thought, if it is instituted, it cannot be changed (14 DM).

We had no school vision, [but] through BC we are now in the process of making it, in collaboration with teachers, the school committee and parents, monitoring positively by discussing and participating on what should be done, instead of just providing order (6 RP).

Arguably, vision is a generic component of leadership, rather than being specific to the instructional model, but it is clearly a

significant element of the British Council programme judging by the number of participants mentioning its impact on their professional development.

Eight participants mentioned the importance of monitoring, as defined by two of them:

> *Monitoring starts from the head teacher; ...is the teacher preparing for the lessons? Scheme of work? Does he give students enough exercises? Or is there a need to help them find extra time to study? The academic master ensures that teaching aids and notes are prepared, and whether exercises are provided and marked (15 YM).*

> *Monitoring is a way of controlling the teaching and learning-how it goes on in the classroom throughout the lesson plan stages. It focuses on how the teacher is teaching. Follow up need to check whether the scheme of work, lesson plan and teaching aids go together (12 AJ).*

Some responses suggest a top-down approach to monitoring, making it sound like an aspect of control:

> *Monitoring means controlling or managing staff roles. For example, the school management ensures that lessons are going on as planned with everyone performing the roles assigned accordingly (13 JM).*

> *It is a way to keep track of how things are going. It is a way of making follow-up on how things are going, supervising to see whether things are going as expected (16 MB).*

> *Monitoring is an act of making follow-ups of implementation of plans… We make follow-ups on courses offered, schemes of work, lesson plans, we do it weekly- The teacher is evaluated… based on objectives to see whether learning objectives reflect the syllabus (1 RK).*

It is a practice to enable teachers to improve their teaching. Yes, monitoring can be classroom observation, which involves evaluating the teaching and learning actions. In our school it is done by the head teacher, the academic master and the QA teacher (9 AJ).

An alternative view, expressed by several leaders, is that it is a participatory practice to enhance teaching and learning:

Monitoring is supervision made to ensure the plans are implemented. We have set ourselves the task that every morning we check the lesson plans and lesson notes. The QA committee members make sure that the responsibilities are carried out. I ensure that every morning my lesson plan is on the table (17 AI).

We make follow-up on teachers in every week. We distribute ourselves in units. We check lesson plans, class work, and attendance in classes. So, we do this cooperatively together, we have a specific form to report academic progress. In the department we share ideas; we invite one another as guest speaker for our classes (3 LC).

These comments indicate that participants are aware of the importance of monitoring, for effective learning to take place.

School development

The participants outlined several ways in which the British Council programme impacted on their schools (see Table 4).

Table 4.

Impact of the British Council programme in schools

Impact on the school	Frequency
Developed school vision	10
Created inter-school partnerships with British Council support	10
Set up a monitoring and evaluation team	6
Greater parental involvement and engagement	6
Developed strategies for increasing pass rates	6
Enhanced school activity levels and energy / enthusiasm / motivation	5
Raised school pass rates and quality of passes	5
Teachers teaching more effectively	4
Distributed shared responsibilities	3
Lesson evaluation is more frequent	2
Developed leadership confidence	2
Enhanced teaching quality	2
Opened minds to creative problem solving and greater independence	2
Created a competitive culture amongst learners	2
Got equipment from government and British Council	1

The British Council participants claim wide-ranging impact in their schools, although such self-reports should be interpreted cautiously. Most significant was the influence on developing or redeveloping school visions, mentioned by ten participants. However, the responses lacked specificity about how such visions were revised

or developed to have a more direct impact on teaching and learning. One participant mentioned the challenges involved in developing and planning the school mission:

> *We face difficulties when we have set mission and planned for resource, for example, to raise pass rate is a process that require teachers and parents' commitment; for pupils to remain at school for extra hours. Parents are the ones to work at home, they hinder the mission (RS).*

Ten interviewees noted how the British Council programme impacted on the creation of new knowledge partnerships with other schools, for example:

> *We have managed to develop exchange partnerships, who are doing their things collaboratively, e.g. conferences, primary and secondary school visits made them come with their children (AH).*

> *We have links, we exchange contacts, if we have challenges, we share so that we get solutions, e.g. if a pupil has a problem (LM).*

Six participants stressed the importance of raising pass rates in public examinations, for example:

> *We have developed strategies to increase 'As' to improve performance (PN).*

> *We have policies on improving academic performance. We want to reduce 'Cs' in Class 7. We have succeeded, last year we had 2Cs only (ZL).*

Three participants reported how their instructional leadership learning was cascaded in their schools, a form of distributed leadership. At LM's school, for example, participants, and those who had not participated in the British Council programme, were assigned

to a common learning group where the new ideas were shared and disseminated:

> *We formed a committee composed of teachers who participated in the British Council training and those who did not. To build capacity among students on confidence for self-expression (LM).*

Other important benefits reported by participants include perceived enhancement of what some called leadership confidence, enhanced competitiveness for top grades among learners, and the creation of monitoring and evaluation teams to measure progress. The British Council programme appears to have created a basis for continuous professional development in schools and for scaling up standards in the sector.

Inhibitors to British Council Programme Learning

The participants identified two distinct inhibitors. These were challenges to their leadership learning (see table 5) and challenges in implementing their learning in schools (see table 6).

Table 5.

Learning challenges

Challenges of learning	Frequency
Lack of resources in schools	7
Lack of computers	4
Time for school-based training	4
Parental disengagement	3

The comments below illustrate the challenges to programme learning identified by participants. These mostly relate to environmental factors and resources:

> *The environmental programme at school did not materialise due to lack of resources and draughtiness, e.g., lack of resources limited the implementation of academic programmes to improve performance (ZL).*
>
> *The big issue is on science and technology -ur community cannot contribute for school facilities, mainly it is facilities for ICT that is still a challenge. Also, on the part of pupil teacher ratio, timetable, and the way to lead clubs, f you want to extend time for pupils, parents will raise up that you are making their children late to madras (AK).*
>
> *For a vision to be implemented requires cooperation between staff and the community. It becomes challenging due to a low response (FS).*

Table 6.

Challenges of implementation in schools

Challenges of implementation in schools	Frequency
Resource inadequacies in schools	6
Parents not always cooperative	2
Improving school pass rates, a long-drawn process	2
Family poverty especially among coastal communities	1
Predominantly new staff in the school	1

The comments below illustrate the challenges of implementing programme learning in their schools:

> *We face difficulties when we have set a mission and planned for resources, e.g., to raise pass rate is a process that require teachers and parents' commitment- For pupils to remain at school for extra hours. Parents are the ones to work at home, they hinder mission accomplishment (RS).*

> *It was intervened by a lot of timetable activities; students census for classes with national exams this year, e.g., we were invited to another seminar (during the BC training period). you participate but you must attend to other leadership matters (AK).*

> *Most of what we learn are digital, we don't have facilities such as computers and recorders, we fail to put them in practice (EK).*

> *We fail to prepare materials e.g., those that require electricity, ICT is hard to implement, records are manually kept thus prone to being lost (EK).*

Another comment relates to the feasibility of implementing instructional leadership in practice:

> *We found it hard to apply the BC methods in the actual timetable for teachers in large sized classrooms of about 120 pupils (MM).*

These comments suggest the need for British Council facilitators to review their pedagogy to make it less dependent on technology, so that the benefits of participant learning are not inhibited by the realities of the infrastructure and facilities available in schools, especially those in rural contexts.

Improving the Instructional Leadership Programme

The participants offered several suggestions to improve the British Council programme in respect of enhanced learning and enhanced impact (see tables 7 and 8).

Table 7.

Suggested improvements to enhance learning

Suggested improvements to enhance learning	Frequency
Lengthen the time for training	5
Increase the number of participants from each school	3
Need for school-based activities to be responsive to context	3
More regular training	3
More sessions on teacher leadership	2
Need for materials in soft copy	2
The language of communication	1

Table 7 shows that increasing the training time, increasing the number of participants from each school, and having more school-based training, are among the most frequent suggestions, illustrated by the comments below:

> *On the part of school-based activities, it could be better if they could come to schools and share the ideas. e.g., creating confidence, we have English club-it builds pupils' self-confidence, and competition with other schools (LM)*

> *The number of workshops should be increased as well as the number of participants (AH).*

Materials, everything is in soft copy, we would like to have pamphlets for our reference to revise when we have time (FS).

Most of these suggestions indicate satisfaction with the programme in that participants seem to want more training time for more participants. This is unlikely to be feasible unless a Train the Trainer programme is introduced to facilitate cascading to more leaders and teachers. Some comments, however, notably these asking for 'responsiveness to context', and for soft copies of materials, imply criticism, and may encourage the British Council to review these aspects of the programme.

Table 8.

Suggested improvements to enhance impact

Suggested Improvements to enhance impact	Frequency
Training to become more regular	7
More school-based training and visits	3
All teachers must get a chance to participate	2
Obtain feedback before next training	2
Reduce content coverage in individual sessions	2
Create opportunities for inter-district training and collaboration	1
Inform teachers in advance	1

The comments below illustrate the suggestions made by participants to increase the impact of programme learning in their schools:

> *There should be frequent training, there should be feedback before they go for the next phase of training to see whether they (trainees) were implementing or not, and to know the step reached and generally to know what is going on (PN).*
>
> *The training should continue for all teachers to get a chance to participate (SM).*
>
> *I suggest training should be regular as they build us, too long a lapse [1nd] we forget. Also, teachers should be informed a month in advance before the training. We left our phone numbers for sharing ideas through WhatsApp groups (AK).*
>
> *These BC tutors should visit these schools that participate in the programmes so that participants become motivated to implement knowing that they (tutors) will come to check (AK).*
>
> *I would like the course to be offered every year, e.g., at the end of the semester, because learning is continuous (RP).*
>
> *Since they are training to build the capacity of teachers, and they bring a large content to be covered within a short time. I suggest that the time should be extended (EK).*

These comments mostly indicate a wish to extend the training, through more frequent sessions, involving more participants, and with a school-based dimension. While these ideas are understandable, resource constraints are likely to mean that they are not achievable. Extending programmes to scale is the major challenge for all professional development providers. Cascade models of learning,

with a 'train the trainers' dimension, would be helpful but may lead to 'dilution' (Bush, Ng et al., 2021), as second and third generation facilitators lead the programme. An alternative is to further develop the virtual elements of the programme but, as noted above, this may be inhibited by limited infrastructure and resources, especially in rural settings.

Discussion

This rationale for the programme is well supported by international research and literature that show the importance of instructional leadership for school improvement and student outcomes (Bush 2013, 2020, Robinson et al 2008). Similar findings are evident from research in Africa (Bush, Maringe, & Glover, 2021, Musumi & Mkulu, 2020). Leithwood et al. (2006, 2020) show that school leadership is second only to classroom practice in its influence on student learning. Instructional leadership differs from other leadership models in offering a direct link between leadership and classroom teaching and learning (Bush 2020).

Answering the research questions

This section shows how these research questions have been addressed through the enquiry, linking the data with previous research and literature.

1. What is the level of awareness about instructional leadership among participants in the British Council training programme?

The data show that participants have a good understanding of instructional leadership concepts and practice, notably vision and mission, understanding teaching and learning, distributed leadership, and monitoring, including classroom observation. However, there is

much less awareness of other instructional leadership ideas, such as modelling, mentoring, and professional development. This imbalance suggests a stronger focus on 'control' aspects of instructional leadership than those leading to teacher empowerment. In terms of the Hallinger and Heck (1999) model, reported above, there is a stronger emphasis on reciprocal learning, through classroom observation and feedback, than direct or indirect approaches, such as modelling or dialogue with teachers.

2. Why did participants choose to take part in the British Council programme?

Programme participants reported powerful intrinsic motivators, such as wishing to develop their instructional leadership knowledge and understanding as a stepping-stone to school improvement. 'Word-of-mouth' recommendations from satisfied participants appear to have been particularly significant, showing the importance of personal connections in enhancing motivation. There are also significant external motivators, such as nomination by the Ministry of Education. These indicate Government support for the programme but may also lead principals and other leaders to consider that participation is an expectation rather than a personal choice. Previous research (e.g. Bush et al, 2021) shows that professional development is more effective when it is 'owned' by participants rather than being an obligation imposed by the formal hierarchy.

3. What is the balance between instructional and administrative aspects of principal leadership?

It was not possible to assess this issue confidently, as schools were closed due to the COVID-19 pandemic, and researchers could not observe school leadership practice. However, some participants

commented that their administrative work made it difficult for them to give sufficient time to their instructional responsibilities. Elsewhere in Africa, as noted above, principals are not focused on instructional leadership, leading Mestry et al (2013) to conclude that principals need to balance their administrative and instructional roles.

4. How, and to what extent, are instructional leadership responsibilities distributed or delegated to other senior and middle leaders?

The British Council programme has greatly increased the awareness of participants about the importance of distributed leadership, and half of them (ten) referred to this model when commenting on their gains from the programme, more than any other perceived benefit. Some participants commented that they had developed team approaches to classroom observation, for example through introducing quality assurance teams, while many appeared to understand instructional leadership as a process that cannot be led effectively by the principal or any single person. However, this may be partly a pragmatic response to the need to balance administrative and instructional requirements, as also noted in Tanzania, by Nyambo (2017).

5. What are teachers' perceptions about the nature and impact of instructional leadership?

It was not possible to engage with teachers beyond those taking the British Council programme, most of whom were principals. The participants mostly developed a clear understanding of the nature of instructional leadership and were also able to report on the impact of the programme on their personal development and leadership practice. The data indicate that many participants claimed to have embedded key aspects of instructional leadership in their schools,

notably vision, distributed leadership and monitoring, including classroom observation. This confirms Mushi and Ye's (2021) finding that instructional leadership in Tanzania impacts on leadership processes, including setting vision and mission, sharing school goals, and supervising and monitoring instruction. However, care must be taken in interpreting both sets of claims as they could not be triangulated through teacher interviews or school visits.

6. What evidence, if any, is there of a link between instructional leadership behaviours and student learning outcomes?

There is very little direct evidence of a link between instructional leadership learning and behaviours on student outcomes, although some participants mentioned the positive effects of the British Council programme on school development. There are two main reasons why a substantive link cannot be established. First, schools were deeply affected by the COVID-19 pandemic and many participants referred to the impact this had on their ability to implement programme learning. Second, there is evidence (e.g., Bush & Glover 2012) of the long-term nature of the impact of interventions on student outcomes. Their study of the impact of a principal development programme on student learning in South Africa showed that it was two years before it had a positive effect on student outcomes as judged by school leaving examination results. The long-term nature of impact on student outcomes in Tanzania was also noted by Mushi and Ye (2021).

Conclusion

International and African research and literature (e.g., Leithwood et al., 2006, Bush & Glover, 2012, Nyambo, 2017, Mushi & Ye, 2021) attest to the importance of high quality leadership for school

improvement and student outcomes. Robinson et al.'s (2008) meta-analysis shows that instructional leadership has a greater impact on student learning than any other leadership model. The British Council's recognition of the importance of instructional leadership, encapsulated in its Connecting Classrooms programme, is a major step towards school improvement and enhanced student outcomes in the many countries where the programme is offered. The present research shows that school leaders in Tanzania reported many gains from their participation in this programme. These included greater understanding of key concepts such as vision and mission, teaching and learning, distributed leadership, and monitoring, including classroom observation. There are also claims, that could not be corroborated, that such practices were becoming embedded in participants' schools.

The research findings also have implications for programme development, for the British Council and other providers. First, taking development initiatives to scale is a major challenge. The Tanzanian participants, enthused by the programme, suggested expanding the programme to more schools, and to a wider range of leaders beyond the principals who are the main target of the current programme. Some of the contributors also suggested expanding the programme to all teachers. These ideas are a compliment to the programme but also reflect a perceived lack of other suitable professional development opportunities. Expanding current provision in this way is not feasible but the programme could be taken to scale through a 'cascade' model to enable graduates of the programme to develop other professionals in their own schools and beyond. This is likely to require a 'train the trainers' initiative. A linked issue is to determine an appropriate balance between virtual and in-person learning in a post-pandemic

context. Virtual learning enables easier access for participants who are remote from the learning centre and may also help to take the programme to scale, but such colleagues are also more likely to have weak connectivity, with implications for equity.

Second, there are sustainability issues for externally-generated professional development that may be dependent on short-term NGO or donor funding. Such initiatives, however successful, often do not continue after the withdrawal of funding. This indicates a need for African ministries of education and universities to develop their own professional and leadership development programmes, so that they are embedded within national education systems. Third, there is a need for greater knowledge production on school leadership by Africa scholars, to provide a stronger indigenous element for professional development and to reduce dependence on international research and literature that may not be appropriate for school leadership in African contexts. The British Council instructional leadership initiative is a positive development but sustainability, scale, and developing context-specific curricula, are major challenges.

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Empowerment as a Mediator between Instructional Leadership and Teachers' Organizational Citizenship Behavior

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Abstract

The study explores the mediating effect of teacher's empowerment on the relationship between instructional leadership (IL) to teacher's organizational citizenship behavior (OCB) toward student, team-members, and school. 395 Israeli teachers completed PIMRS, SPES, OCB, and demographic questionnaire. Path analysis showed a good fit of the data to the theoretical model. Teacher's empowerment is a partial mediator for OCB toward student and school; and a full mediator for OCB toward team-members. Teacher's OCB is crucial for schools' effectivity, therefore identifying empowerment as a full mediator for OCB toward team-members may assist improving teamwork, especially through IL.

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Introduction

Organizational Citizenship Behavior (OCB) in schools addresses teachers' voluntary extra-role behaviors which contribute to students, team-members, and school. Teachers' OCB toward students promotes academic achievements and emotional and social well-being. Teachers' OCB toward team-members, is expressed by sharing teaching materials, experience, and support. Teachers' OCB toward school, contains organizing projects and helping school enterprises (Somech & Drach-Zahavy, 2000). Teachers' OCB is essential to schools' performance and improvement, as seen in past research regarding students' academic achievements (Rezaaveisi, 2018; Liu et al., 2022), teaching innovation (Khan et al., 2020), teachers' turnover intentions (Bukhari & Kamal, 2019) job satisfaction (Singh & Singh, 2019), organizational effectiveness (Kumari & Thapliyal, 2017) as well as teachers' instructional quality (Bellibaş et al., 2021). These behaviors are motivated by personal and situational factors as well as school leadership (Abu Nasra, 2019).

The Theory of Planned Behavior (TPB) (Ajzen & Fishbein, 2005) propose that the individual social perceptions effect his attitudes which lead him to behave in specific manner. In line with this theory the current study suggests that teacher's perception of principal's IL will elevate teacher's attitudes of empowerment which in turn will lead to teacher's OCB. While some research addressed OCB regarding

individual and organization levels (Somech, 2016; Somech & Drach-Zahavy, 2004), little attention was given to the three dimensions model that include students, team-members, and the organization (Somech & Drach-Zahavy, 2000). The current study analyzes each of the dimensions separately.

Teacher's perception of school principals' leadership has a dominant influence of teachers' OCB. The academic literature gives much attention to the relationships between OCB and transformational (Jha, 2014; Khalili, 2017), transactional (Shapira-Lishchinsky & Raftar-Ozery, 2018), participative (Bogler & Somech, 2005), servant (Van der Hoven et al., 2021) and authentic leadership styles (Joo & Jo, 2017). Little attention was given to the relationship between IL and OCB (Dutta & Sahney, 2022). IL is unique to school environment and focuses on pedagogical issues regarding school's mission; handling the instructional programme; and facilitating positive school-learning climate (Hallinger & Murphy, 1985). IL promote students' academic achievements (Alam & Ahmad, 2017); teachers' self-efficacy (Zheng et al., 2019), job satisfaction (Liu et al., 2021), and reduce the intent to leave their profession (Qadach et al., 2020). It also promotes school processes such as professional learning community (Zheng et al., 2019), supportive school culture, teacher's collaboration (Liu et al., 2021), communal teacher efficacy, and schools' united vision (Qadach et al., 2020).

Studies have also looked for mediating mechanism of the relationships between schools' leadership and OCB, focusing on teachers' empowerment as an important mediating factor (Lee et al., 2018; Newman et al., 2017). Teachers' empowerment consists of participation in decision making, autonomy, opportunities for professional growth, impact, status, and self-efficacy (Short & Rinehart, 1992). Teachers' empowerment was found to influence OCB

(Tindowen, 2019), and to be influenced by IL (Zahed-Babelan et al., 2019).

The aim of the current research is to expand the scope of research regarding the mediating effect of empowerment between IL that lies in the heart of educational deed and OCB. Moreover, the differentiation between OCB dimensions enables schools to promote students, teamwork, and the organization each, using precise suitable mechanism.

Literature Review

Teachers' OCB is an important component of school efficacy (Kumari & Thapliyal, 2017). Schools' low budgeting, teaching's low occupational status, parents' demands from teachers and 21st-century technological and sociological challenges (Nir et al., 2016) bring teachers' unpaid over-role activity regarding students, team-members, and school to be crucial for schools' success. School leadership is a main resource for schools' conduct and plays a major role in creating educational, and organizational success (Leithwood et al., 2020). One of its unique aspects is IL which put schools' pedagogical vision; coordinating, monitoring, and evaluating curriculum instruction and assessment; and promoting a learning climate in the center of school's action (Hallinger & Murphy, 1985).

Organizational Citizenship Behavior (OCB)

OCB is a concept that appeared in the 1980's and belong to the field of organizational psychology. Podsakoff et al., (2000) explains that the term OCB emerged from earlier definitions of "willingness to cooperate" and the distinction between behaviors that are based on role description and behaviors that are spontaneous and innovative. He further constructs the term based on comparison and

encompassing leading definitions in seven components of OCB: helping behavior, sportsmanship, organizational loyalty, organizational compliance, individual initiative, civic virtue, and self-development.

OCB is characterized as employees' helpful behaviors that assist the organization yet are not included in the worker's job definition and are not directly or literally recognized by the formal reward system (Organ, 1988). OCB is important for any organization, but it is essential for schools. Low budgets and salaries, multiple and repetitive educational reforms (Arar & Nasra, 2019), parental involvement (Shaheen et al., 2016) and social-technological changes (Kim & Gatling, 2019) bring schools to rely on teachers' OCB. Somech & Drach-Zahavy (2000) describe teachers' OCB in three levels: student level, team level, and organizational level. These levels have been examined as a united variable (Kouchi et al., 2016) and as three independent dimensions (Somech & Bogler, 2002).

OCB is connected to students' positive outcomes such as: students' learning (Sun & Leithwood, 2015), academic achievements (Khalid et al., 2010; Rezaaveisi, 2018), satisfaction (including its general definition and its aspects of student–teacher relations), feeling of accomplishment at school, appreciation of the schooling ability to contribute to future opportunity, and student's degrees of school-related psychological distress (Jimmieson et al., 2010). Teachers' OCB is connected to teachers' positive outcomes such as: teaching innovation (Khan et al., 2020), job satisfaction (Singh & Singh, 2019), and job performance (Chiang & Hsieh, 2012). Teachers' OCB is negatively connected to turnover intentions (Bukhari & Kamal, 2019). Moreover, teachers' OCB is positively connected to school outcomes such as: organizational effectiveness (Kumari & Thapliyal, 2017), team

innovation (Somech & Khotaba, 2017) and open school climate (DiPaola & Tschannen-Moran, 2001).

Due to OCB positive effects, much academic attention was given to its predictors' identification. OCB predictors include personal factors such as: self-efficacy (Choong et al., 2019), organizational commitment (Bogler & Somech, 2004), intrinsic teachers' job satisfaction (Zeinabadi, 2010) and sense of empowerment (Joo & Jo, 2017). Special attention was given to OCB's dimensions and showed that self-efficacy was positively connected to OCB toward team-members and the organization yet they were not related to OCB toward students (Somech & Drach-Zahavy, 2000). Moreover, teachers' professional commitment is related only to OCB toward students (Somech & Bogler, 2002).

OCB predictors also include organizational factors such as: ethical climate (Shapira-Lishchinsky & Raftar-Ozery, 2018), trust (Choong et al., 2019) and organizational justice (Singh & Singh, 2019). It was also connected to OCB's dimensions showing that collective teachers' efficacy was found to be connected in a positive way only to OCB toward team-members (Somech & Drach- Zahavy, 2000).

School leadership is one of the main predictors for teachers' OCB. Several leadership styles were identified as contributing to OCB. Authentic leadership predicts teachers' OCB through teachers' job empowerment (Joo & Jo, 2017) and psychological empowerment (Shapira-Lishchinsky & Tsemach, 2014) and was found to have a direct effect also on a collective perception level (Shapira-Lishchinsky & Tsemach, 2014). Transformational leadership predicts teachers' OCB through teachers' job satisfaction (Nasra & Heilbrunn, 2016) and psychological empowerment (Jha, 2014). Transactional leadership (Shapira-Lishchinsky & Raftar-Ozery, 2018) and spiritual leadership (Kaya, 2015) promote teachers' OCB. Participative leadership predicts

teachers' OCB through affective trust in the supervisor (Miao et al., 2014) and teachers' commitment (Bogler & Somech, 2005). IL was found to promote teachers' OCB through social and affective school climate, yet mediation through empowerment was not examined. In accordance with previous research this research comes to explore the role of teacher's empowerment as a mediating factor in the connection between IL and teacher's OCB.

The Relationship between Teacher's Psychological Empowerment and Their OCB

Beyond the statistical relationship between teacher's OCB to empowerment (Shapira-Lishchinsky & Tsemach, 2014; Ghalavi & Nastiezaie, 2020; Joo & Jo, 2017; Singh & Singh, 2019) it is important to understand the mechanism that foster this relationship. Psychological empowerment is an inner process that employees develop in pursue of meaning and power. Singh & Singh (2019) explain that psychological empowerment brings employees to be proactive and creative on a personal level as well as connected and involved in the organization. This mechanism direct employee's behavior to actively do more than they are required for the benefit of the organization.

The Relationship between Principal's IL and Teacher's OCB

Further theoretical look, above the statistical connection between principal's IL and teacher's OCB (Dutta & Sahney, 2022; Karyadi & Wahyu, 2022), is needed. IL is a unique kind of leadership that puts professional concerns and abilities as a central issue. Principal's professionality that is coined into the organizational processes present the principal as a role model to the teachers. This motivates teachers to increase their professionality development through extra-role behavior expressed in innovative teaching, promoting student's

learning, and making the school a better academic institute (Karyadi & Wahyu, 2022). This mechanism inspires teachers to develop professionally through operation in the classes and in school. Another possible explanation could be conceptualized by the Social Exchange Theory suggesting that principal's investment in professional resources of the teacher, bring the teacher to give back more personal resources exciding his job description (Berkovich & Bogler, 2021).

Instructional Leadership (IL)

IL is a unique leadership style that exists only in educational systems. Its importance is based on the focus it gives to pedagogy. This focus is essential for schools due to its first and foremost goal of educating students. IL has been defined by Hallinger & Murphy (1985) in the PIMRS (Principal Instructional Management Rating Scale) model as: forming the school's mission by framing measurable school's goals focusing on achievements in the academic field and communicated in a clear manner; managing the instructional program by controlling and coordinating of curriculum and instruction, managing evaluation and supervision processes of instruction, and monitoring student progress; and promoting a positive school-learning climate, by guarding instructional time, enhancing teachers' professional development, sustaining high visibility of principal, providing incentives for teachers and providing students with incentives for learning.

IL influence students, schools, and teachers. IL is positively connected to students' creative problem-solving (Mina, 2016), and academic achievements (Shatzer et al., 2014) which are boosted by IL better than by other leadership styles (Boyce & Bowers, 2018). It is also positively connected to schools' organizational health (Parlar & Cansoy, 2017), professional learning communities (Zheng et al., 2019)

collective teacher efficacy (Qadach, et al., 2020) school learning effectiveness (Bellibaş, et al., 2020) and open school climate (Boyce & Bowers, 2018). IL is reducing teacher's intentions to leave teaching (Qadach, et al., 2020). It Is also positively connected to teachers' job satisfaction, organizational and professional commitment (Alam & Ahmad, 2017; Dou et al., 2017), self-efficacy (Hallinger et al., 2018), teachers' instructional practices (Bellibaş, et al., 2020), teachers' ICT implementation (Chen, 2013), OCB (Dutta & Sahney, 2022), and empowerment (Mina, 2016; Zahed-Babelan et al., 2019).

The Relationship between Principal's IL and Teacher's Psychological Empowerment

In addition to the statistical relationship between IL and empowerment (Mina, 2016; Zahed-Babelan et al., 2019) it is necessary to explain the process that allows its occurrence. The changes in the pedagogical world due to the 21st century technological and social shift omit principals how emphasize pedagogy to involve and consult their teachers in the pedagogical vision, curriculum, and practical application. This mechanism can promote self-efficacy, meaning in the job and power to influence decisions and actions in schools (Zahed-Babelan et al., 2019).

Teachers' Empowerment

Empowerment is aimed at strengthening self-efficacy of employees through intrinsic and extrinsic actions (Shapira-Lishchinsky & Tsemach, 2014). Teachers' empowerment has been conceptualized by Short & Rinehart (1992) in a six-dimensional model including: Participation in decision making that refers to important decisions that affect teachers' work directly and indirectly. Autonomy that refers to teachers' feeling of control over different aspects of their

work. Professional growth that refers to teachers' perception of professionally developmental opportunities such as academic learning or skills expansion during schoolwork. Impact that refers to teachers' need to influence the teaching and learning process and receiving feedback from superiors. Status that refers to professional respect from team-members. Self-efficacy is the feeling of mastery, competence and believe that one has the skills to perform his job.

Techers' empowerment is associated with teachers' positive outcomes like, pursuing managerial promotion (Avidov-Ungar & Arviv-Elyashiv, 2018), job satisfaction (Amoli & Youran, 2014), organizational and professional commitment (Bogler, 2005), and OCB (Ahmad et al., 2014; Tindowen, 2019).

Teachers' empowerment is associated with principals' empowering behaviors (Lee & Nie, 2014). It mediates the relationship between a principal's leadership style and teachers' outcomes like in the case of entrepreneurial leadership and school effectiveness (Dahiru et al., 2017), transformational leadership and organizational commitment (Avolio et al., 2004) and authentic leadership and OCB (Gill et al., 2017).

Conceptual Framework

Teacher's Psychological Empowerment as a Mediator between Teacher's Perception Principal's IL and Teacher's OCB

According to the Theory of Planed Behavior (TPB) (Ajzen & Fishbein, 2005) people's behavior is a result of their intention to behave the way they do. The intention of a behavior is driven from people's attitudes toward that behavior and their perception of important others' attitudes toward that behavior. This conceptual model is used in educational context especially for explanations of teachers' behaviors (Bakari, et al., 2017).

The conceptual model dealing with specific behavior, attitudes toward it and perceptions of others toward it, was expended focusing on attitudes and perceptions that are related to the behavior under concern. Evidence to such model can be seen in the work of Shapira-Lishchinsky & Benoliel (2018) that studied the mediating effect of nurse's attitudes toward empowerment between nurse's perception of manager authentic (moral) leadership and OCB, tardiness, absenteeism, and leaving intentions. This model has been used also in educational context in the work of Buskila & Chen-Levi (2021) regarding teacher's perceptions of principals' authentic leadership promoting emotional intelligence attitudes resulting in teacher's well-being behaviors. Shapira-Lishchinsky and Tsemach (2014) also used this model to explore teacher's perceptions of principals' authentic leadership, promoting their attitudes toward empowerment resulting in teacher's OCB. In the light of TPB, teacher's positive perceptions of IL will promote positive attitudes toward empowerment that will facilitate OCB.

The proposed model describes mediating effect of teacher's empowerment on the relationship between teacher's perceptions of IL of the schools' principal and teacher's OCB. The study comes to expand the academic knowledge about IL, by exploring its connection to OCB; and to develop a wider vision of teacher's OCB regarding students, team-members, and school through processes of teacher's empowerment. Accordingly, the study hypotheses presented in Figure 1 and were:

H1: Teacher's perception of principals' IL will be positively related to teachers' sense of empowerment.

H2: Teacher's sense of empowerment will be positively related to teacher's OCB, toward students (H2a), toward team-members (H2b), and toward school (H2c).

H3: Teacher's sense of empowerment will mediate the relationship between teacher's perception of principals' IL and teacher's OCB, toward students (H3a), toward team-members (H3b), and toward school (H3c).

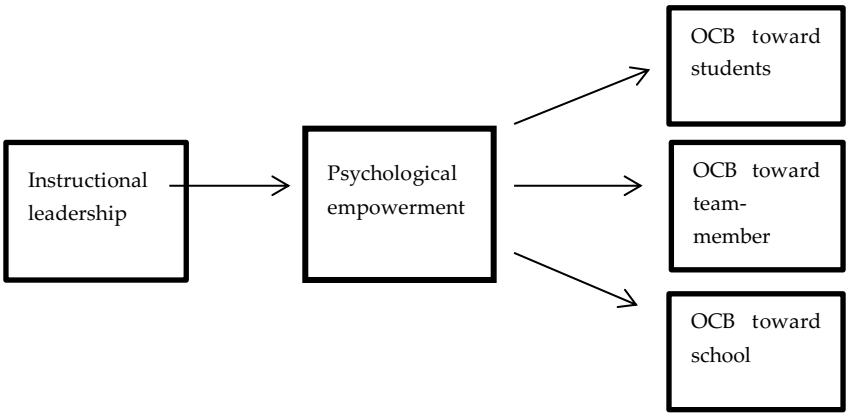

Figure 1. *Theoretical Framework*

Methodology

Research Participants

Data was collected during 2016 by a convenience sampling. The researchers explained the study's purpose to school principals and when they affirmed their school participation questionnaire were handed to teachers who agreed to participate. The research's aim was made clear to the teachers, and they were promised with full anonymousness as ethical guidelines requires. The significancy of

teachers' accurate answers were stressed. Participation was on the base of free will only, yielding response rate of 80%.

395 Jewish-Israeli teachers participated in this study, 90% were women. The high percentage of women in the research sample is proportional to their percentage in the Jewish-Israeli teacher population which reach 83% (Maagan & Zilbershlag, 2021). The teachers average age was 33.98 (SD=10.53) and average length of time in the position was 11.45 years (SD=9.09). 15% of the teachers had a teaching certification, 65% had a bachelor's degree and 20% had a master's degree. 15% of the teachers held a coordinator or leadership role, 48% held homeroom-teachers' position and 37% held disciplinary teachers' position. The average position appointment percentage was 83.57 (SD=22.72). 82% of the teachers worked in elementary schools; with average number of students of 386.61 (SD=269.19), and average number of teachers of 57.25 (SD=30.71). 56% of the schools were led by a female principal. Principals' average tenure was 11.03 years (SD=9.23).

Instruments

Participants completed four questionnaires regarding IL (PIMRS), teacher's empowerment (SEPS), teacher's OCB and a demographic questionnaire.

In order to measure instructional leadership, PIMRS – Principal Instructional Management Rating Scale (Hallinger & Murphy, 1985) was used. 31 statements of the original 58 were included and translated into Hebrew by Berger (2015). The statements are divided into three dimensions: Definition of school mission (7 items) α=.71 (e.g.: My principal frame the school's goals in terms of staff responsibilities for meeting them); Managing instructional program (11 items) α=.75 (e.g.: My principal make it clear who is responsible for coordinating the

curriculum across grade levels); and Promotion of school pedagogical climate (13 items) α=.88 (e.g.: My principal take time to talk informally with students and teachers during recess and breaks). Overall reliability was α=.91. Respondents were asked to rank their perceived frequency of the principal usage of the described behaviors on a 5-point Likert scale, from (1) Never to (5) Always.

In order to measure teachers' empowerment SEPS – School Participant Empowerment Scale (Short & Rinehart, 1992) was used. The 38-item questionnaire was translated into Hebrew by Bogler & Somech (2005) and contains six dimensions: teachers' participation in decision-making (10 items) α=.71(e.g.: I was given the responsibility to monitor school programs) ; impact (6 items) α=.74 (e.g.: I believe I have an ability to get things done); status (6 items) α=.72 (e.g.: I believe I am being respected in school) ; autonomy (4 items) α=.61(e.g.: I have the freedom to make decisions in teaching techniques) ; opportunities for professional growth (6 items) α=.64 (e.g.: I was treated like a professional) and self-efficacy (6 items) α=.65 (e.g.: I believe I can help students to be independent). Overall reliability was α=.89. Respondents were asked to rank their perception of the described behaviors on a 5-point Likert scale, from (1) strongly disagree to (5) strongly agree.

In order to measure organizational citizenship behaviors (OCB) Somech & Drach-Zahavy's (2000) OCB scale was used. The 23 items pertaining to the dimensions: extra-role behavior toward the student (8 items) α=.63 (e.g.: I arrive early for class); extra-role behavior toward the school (7 items) α=.83 (e.g.: I organize social activities for school); and extra-role behavior toward the team (8 items) α=.67 (e.g.: I volunteer for school committee). Respondents were asked to rank their perceived frequency of their use of the described behaviors on a 5-point Likert scale, from (1) very little to (5) very much.

Demographic Variables

Participants indicated their gender, age, job tenure, educational degree, and their role in school. They also provided demographic variables of the school such as school level, school size and principals' tenure and gender.

Data Analysis

For preliminary testing of demographic variables independent sample t-test and Pearson correlation were caried out using SPSS 27. The hypothesized model was examined using R environment by means of path analysis with parallel mediation using the "lavaan" package. In this multivariate theoretical assumptions, principals' instructional leadership was used as predictors, teachers' empowerment was used as mediators, and three dimensions of OCB were used as outcome variable. Path analysis modeling was performed using Maximum Likelihood (ML) as the estimator. For direct and indirect effects, significance was considered to be indicated by p values under .05. Model fit statistics included comparative fit index (CFI; .95 or above indicative of good fit), Tuker-Lewis index (TLI; .90 or above indicative of good fit), root mean square error of approximation (RMSEA; .05 or below indicative of good fit), and standardized root mean square residual (SRMR; .05 or below indicative of good fit). Research goodness of fit results are presented in Table 1.

Table 1.

Fit indices for research model

General model	CFI	TLI	RMSEA	SRMR
Model 1	1.00	1.00	.00	.00

Results

Preliminary Analysis

To control demographic variables Independent Sample t-Tests and Pearson Correlations were preformed regarding teachers' age, school level, school size (number of students) and principals' gender. Results are presented in Table 2 and Table 3.

Table 2.

Differences regarding school level and principals' gender, means, SD and t values

Variable	Mean	SD	Mean	SD	*T*
	Elementary school (N=249)		High school (N=55)		
IL	3.61	.77	3.74	.78	-1.21
Empowerment	3.70	.51	3.82	.57	-1.57
OCBS	2.74	.77	2.81	.78	-.61
OCBO	2.94	.91	3.00	.85	-.46
OCBT	3.48	.80	3.64	.67	-1.33

	Female principal (N=168)		Male principal (N=134)		
IL	3.62	.81	3.66	.72	-.51
Empowerment	3.69	.57	3.75	.46	-1.12
OCBS	2.77	.79	2.73	.76	.43
OCBO	2.93	.92	2.99	.86	-.59
OCBT	3.50	.75	3.53	.82	-.40

*p<.05

No differences were found regarding school level or principals' gender in all research variables.

Table 3.

Pearson's Correlations between research variables and school size and teachers' age

Variable	**Mean**	**SD**	**IL**	**Empowerment**	**OCBS**	**OCBO**	**OCBT**
Number of students	386.61	269.19	.01	.03	-.01	-.01	-.05
Teachers' age	33.98	10.53	-.07	.23**	.08	.10	.00

*p<.05, **p<.01

Table 3 shows that school size and teachers' age do not correlate to research variables, but there is a positive correlation between teachers' age and teachers' empowerment. Due to Independent sample t-tests and Pearson's Correlations results no control variables were added.

In order to examine whether teachers' empowerment mediates the relationship between principals' instructional leadership and teachers' OCB toward students, team-members and school, a path analysis was preformed using R software (lavaan package). The path analysis is displayed in Table 3 and in Figure 1 and demonstrates that teachers' empowerment predicts the three components of teachers' OCB, while principals' IL predicts teachers' OCB toward students and teachers' OCB toward schools but not teachers' OCB toward team-members. Moreover, principals' IL predicts teachers' empowerment. Finally, teachers' empowerment was found to mediate the relationship between principals' IL to the three components of teachers' OCB. Higher perception of IL brings to higher teachers' empowerment, and higher teachers' empowerment brings to higher teachers' OCB toward students, team-members and school. Relations between IL and OCB through teachers' empowerment are presented in Table 4 and Figure 2.

Table 4.

Relations between instructional leadership and OCB through teachers' empowerment

				Percentile 95% CI	
DV	**IV**	**B**	**SE**	**Lower**	**Upper**
OCB students	**IL**	0.134*	0.054	0.028	0.240
	E	0.517***	0.074	0.372	0.662
OCB school	**IL**	0.155**	0.055	0.047	0.262
	E	0.837***	0.075	0.690	0.985
OCB team-members	**IL**	-0.014	0.049	-0.111	0.082
	E	0.721***	0.068	0.588	0.854
E	**IL**	0.301***	0.033	0.236	0.365
IL to E to OCB students		0.155***	0.026	0.105	0.206
IL to E to OCB school		0.252***	0.034	0.186	0.318
IL to E to OCB team-members		0.217***	0.029	0.159	0.274

* p<.05 ** p<.01 *** p<.001

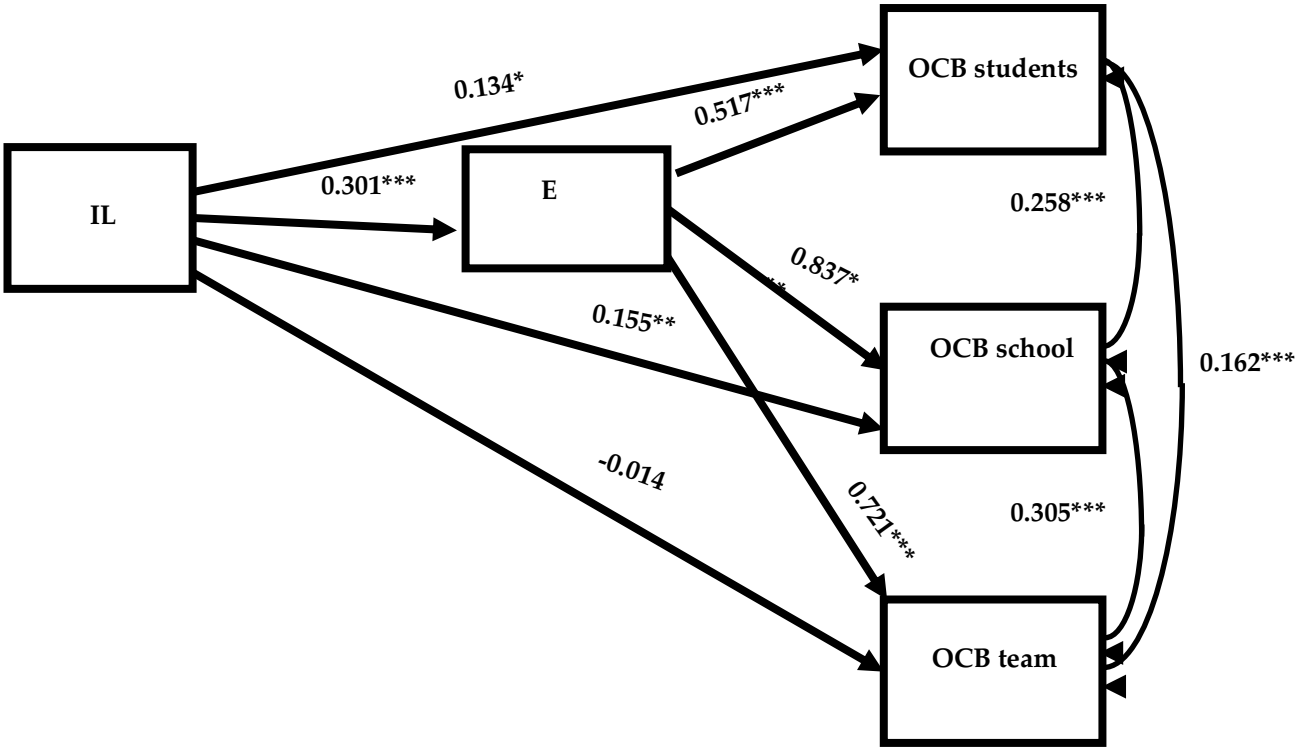

Figure 2. *Path analysis to test the relations of teachers' perception of principals' IL to teachers' OCB toward students, team-members, and school through teachers' empowerment*

As seen from Table 3 and Figure 1 teachers' empowerment partially mediated the connection between teachers' perception of principals' IL to OCB toward students and school, and fully mediate teachers' perception of principals' IL to OCB toward team-members. The explained variance of the relationship between teachers' perception of IL through teachers' empowerment (β=.30***, p<.001)

and OCB toward students (β=.51***, p<.001) was (R^2=.18). The explained variance of the relationship between teachers' perception of IL through teachers' empowerment (β=.30***, p<.001) and OCB toward team-members (β=.72***, p<.001) was (R^2=.32). The explained variance of the relationship between teachers' perception of IL through teachers' empowerment (β=.30***, p<.001) and OCB toward school (β=.83***, p<.001) was (R^2=.23). The explained variance of the relationship between teachers' perception of IL and teachers' empowerment was (R^2=.18).

Discussion

The study's purpose was to explore the mediating role of teacher's empowerment in the relation between teacher's perception of IL and teacher's OCB toward students, team-members, and school. This purpose highlights the importance of distinction of the OCB dimensions that effect school participants in different manners. As well as exploration teachers' psychological as a mediator between principals' IL and teachers' OCB, which was not studied so far.

Teachers' OCB is the voluntary, unpaid tasks, teachers take upon themselves in schools, which is important to school success, especially due school conditions of low budgeting (Shaked, 2016), educational reforms (Nir et al., 2016), competition with other schools (Klein & Shimoni-Hershkoviz, 2016), and teachers' role modeling responsibility. OCB is also important to school due to its implications on students learning and achievements (Jimmieson et al., 2010; Khalid et al., 2010; Rezaaveisi, 2018; Sun & Leithwood, 2015;), teachers' well-being (Chiang & Hsieh, 2012; Khan et al., 2020; Singh & Singh, 2019) and to school successes (DiPaola & Tschannen-Moran, 2001; Kumari & Thapliyal, 2017).

One of the mechanisms that elicit teachers' OCB is conceptualized in the TPB model (Ajzen & Fishbein, 2005), which assumes that social perceptions affect the individuals' attitudes, which shapes individuals' behavior. In the school environment, principals have the power to shape the social perceptions to influence teachers' attitudes and bring teachers to behave in a useful manner to school. This study suggests that IL, which promotes teaching and learning by principals' involvement in school pedagogy (Hallinger & Murphy, 1985) and is a powerful tool to elicit school norms of professionality will, in turn, enhance teacher's empowered attitudes toward their abilities to influence the school and promote their professionality (Bogler & Somech 2004; 2005). These attitudes will lead teachers to volunteer to fulfill school missions and goals in preforming OCB (Shapira-Lishchinsky & Tsemach, 2014).

The study's findings support its hypotheses, identifying teachers' empowerment as a mediator between principals' IL and teachers' OCB. The findings support the importance of educational leadership role in enhancing teachers' effective behavior through the mechanism of empowerment. The results regarding the mediating role of empowerment between principals' IL and teacher's OCB are in line with other leadership styles such as authentic (Gill et al., 2017) and transformational leadership (Jha, 2014).

This study's unique contribution pertains to the distinction of the different OCB dimensions. OCB toward students and toward the school were directly influenced by teacher's perception of principals' IL, but not fully mediated by empowerment, only teacher's OCB toward team-members was fully mediated by empowerment. Separation of the three levels of OCB can refine and produce working mechanisms that will allow optimal function of each level of OCB.

The study sheds light on the optimal mechanism to reach OCB toward team-members with showing full mediation. These results may be useful for school principals, who can promote teachers' OCB toward team-members by preforming IL. Berkovich & Bogler (2021) stresses the importance of positive leadership on teacher's connection to and identification with school, which can be expressed in OCB. They explain that this mechanism operates through socio-affective and psychological capital resources of the teacher, as found in the current research. In practice principals shape and communicate the school's pedagogical goals. They manage and coordinates instructional curriculum, programs, and teachers' evaluation, and promote positive school-learning climate. These behaviors enhance teachers' empowerment by creating greater involvement in schools' decisions, promoting their influence, status, self-efficacy, and autonomy, and creating routes for professional growth. This process is meaningful to schools' performance, especially regarding the need of OCB toward team-members, which enhances teachers' coordination, team-learning (Islam et al., 2016), open organizational climate (DiPaola & Tschannen-Moran, 2001) and better initiation processes. The research findings could contribute to the general scholarly body of knowledge by putting emphasis on professionality and its importance to increasing psychological capital, which in return expend the borders of teamwork and collegiality.

Conclusion

The study's purpose was to explore teacher's empowerment as a mediator between teacher's perception of principals' IL and teachers' OCB. Two issues stood at the heart of the current research. One handled the lack of knowledge concerning principals' IL connection to teachers' OCB through teachers' empowerment. The finding displays

a worthwhile mechanism that mediates the connection between IL and OCB. The second issue dealt with OCBs' dimensions. While OCB toward students can be regarded as an inherent part of a teacher's position, OCB toward the school is a harder aim for principals to obtain; even harder is promoting OCB toward team-members. The finding shows that IL, through empowerment, can bring teachers to share and elevate their work together. By addressing these two issues and combining the insights driven from them, schools can achieve better organizational and pedagogical climates.

Practical Implications

Policymakers around the world and in Israel understand the importance of IL. This understanding has brought awareness to the term itself and its assimilation into principals training programs (Shaked et al., 2020). Still, further assimilation is needed, especially among experienced principals that were not exposed to IL skills in their initial training. Expansion of IL training to the growing interim school leadership groups, could also be effective (Shaked & Benoliel, 2019). Continued research dealing with IL implication should be an important target of policymaker and researcher.

OCB should be addressed as a three-dimensional variable as opposed to one-dimensional variable. This viewpoint could help principals develop precise advance school processes. These kinds of processes can promote all levels of schools' participants, that will facilitate school improvement.

Limitations and Future Research Directions

The current research is not free of limitations. Firstly, using a convenience sampling**,** which is non-randomized sampling calls for caution with generalization of findings. Data was gathered only from

teachers; other position holders in school or educational system were not included in the sample. Taking these limitations under consideration calls for replication of this research with an attempt to overcome their influence in order to have a wider comprehension of the effect of the mediating role of teachers' empowerment in the relationship between IL and teachers' OCB. The issue of IL is shadowed by different leadership styles, regarding educational leadership. Giving a bigger emphasis to IL by exploring its' influence on teachers' behavior, such as absenteeism or lateness is an important additional research direction.

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No potential competing interest was reported by the authors.

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Brain Drain from Türkiye: Register Evidence of Non-Returning Graduates

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Abstract

Globalisation of labour has led to the migration of skilled workforce; known as 'brain drain'. To our knowledge, this paper is the first study which analyses brain drain from Türkiye through administrative register evidence of non-return bachelors' degree graduates. The analysis micro dataset in the paper is based completely upon administrative registers of public institutions of Republic of Türkiye. These public institutions including Ministry of Interior, Directorate-General for Population and Citizenship Affairs for residence abroad data, and Council of Higher Education of Türkiye (CoHE) for higher education data. The results were analysed through descriptive statistics. The results indicate that brain drain rate of bachelor's degree graduates is 3.23 per cent in the year 2020. The rate is calculated through considering 55,918 non-return graduates out of total number of 1,730,955 graduates. The most popular destinations to brain drain from Türkiye are the United States of America with 22.4 per cent, Germany with 14.3 per cent and the United Kingdom with 11.6 per cent. When it comes to gender distribution, brain drain rate of males is 3.62 per cent and it is 2.84 per cent for females. The results indicated that brain drain rate of bachelor's degree graduates increased more than 50% between the years 2011 and 2020. Therefore, future research is need to investigate the reason behind the high increase rates in brain drain from Türkiye. Residence abroad data used in this paper is based on the statements of Turkish bachelor's degree graduates reside abroad. Therefore, the actual number may even be higher than the figures here.

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Introduction

Individuals may feel the need to change their country of residence due to various economic, political, social, demographic, cultural, technologic, climatic reasons in the country where they live or the country, they are planning to reside in. These reasons may also be due to personal preferences as well, such as the desire to work or study or to spend their retirement life abroad (Aksoy, 2012). With globalisation, the barriers preventing individuals from changing the country they live in have begun to decrease. The global mobility of people phenomenon, whether temporary or permanent, could be considered a significant manifestation of the internationalisation of professions and professional labour markets (Baruch et al., 2007).

The fact that migration of highly-skilled professionals is the category of migration share of which has increased most among international migration categories in recent years. This may be due to the fact that internationalisation of labour markets and increasing demand for highly skilled professionals particularly in developed countries. These countries are in a kind of race and develop several strategies to attract highly qualified workforce. This is due to the fact that permanent migration of these professionals is considered one of the significant factors for economic growth and innovation (Bailey and Mulder, 2017). It is also a sort of free transfer of human capital from

origin countries to destination countries (Köser-Akçapar, 2006). The international transfer of human capital also refers to the term of brain drain. Brain drain mainly applies to the migration of relatively highly educated individuals from developing countries to the developed ones (Beine et al., 2001).

The non-return of tertiary students, as highly-skilled individuals, to their home countries after completing their studies abroad is one type of brain drain (Baruch et al., 2007). International tertiary students are students who leave their country of origin and move to another country for short-cycle tertiary education or bachelor's or master's or doctoral level education (OECD, European Union, UNESCO Institute for Statistics, 2015). Much literature situates international tertiary student mobility in the context of "knowledge society" (Gökbayrak, 2008), "human capital theory" (Atmaca, 2020; Güngör & Tansel, 2007; Köser-Akçapar, 2006; Özden & Schiff, 2006) or "economic theory" (Aytaç & Aydın, 2019; Docquier & Rapoport, 2012; Kahanec & Králiková, 2011) in which the positive effects of high-skilled migration on both society and economy argued. High-skilled individuals may well facilitate changes of ideas and knowledge to a greater extent compared to low-skilled migration due to their higher productive capacity gained through greater education and skills training (Kahanec and Králiková, 2011). In this regard, the human capital explanation assumes that increasing international student mobility is linked to the rising demand for high-skilled professionals with tertiary education. The rising global demand prompts many students particularly in developing countries to seek education and work opportunities abroad (Portnoi et al., 2010).

As an emerging country, there have been several number of studies about the brain drain from Türkiye (Aksoy, 2012; Atılgan, 1986; Atmaca, 2020; Aytaç and Aydın, 2019; Bakırtaş and Kandemir, 2010; Başaran, 1972; Dudu and Rojo, 2022; Elveren and Toksöz, 2019; Erkal, 1980; Gülmez, 1974; İyi, 2020; Kaya, 2019; Köser-Akçapar, 2006; Özçürümez and Yetkin Aker, 2016; Rüzgar, 2020; Tanrısevdi et al., 2019; Tansel and Güngör, 2003; Tezcan, 1971; Yılmaz, 2020). Nevertheless most of these papers are lacking empirical data and more significantly none of these papers used administrative registers to evalute brain drain from Türkiye. This paper is the first study which analyses the brain drain from Türkiye through administrative register evidence of non-return bachelor degree graduates.

As a result of this research, the brain drain rate of Türkiye by year, by gender, by countries and by departments are revealed through analysing the educational and residential micro data sets of 55,918 non-return graduates out of total number of 1,730,955 bachelor's graduates. Overall, this paper focuses mainly on four research questions:

- What makes brain drain more likely?
- What is the "brain drain" rate of Türkiye for bachelor's graduates by years?
- Which countries have the most bachelor's degree immigrants from Türkiye?
- In which educational fields, "brain drain" from Türkiye reaches the highest scores?
- Is there a gender gap in "brain drain" from Türkiye?

Brain Drain and Human Capital

The term 'brain drain' was coined firstly within a report by the Royal Society of London in 1963 in the context of emigration of British scientists to the United States and Canada in the early 1960s (Gibson and McKenzie, 2011). Brain drain refers to the international transfer of human capital and mainly applies to the migration of relatively highly educated individuals from developing countries to the developed ones (Beine et al., 2008). Brain drain can also be defined as the movement of highly qualified individuals from their home countries to more developed countries in order to have more professional opportunities, to gain further qualifications, to work in a dynamic environment, to have more income and status (Köser-Akçapar, 2006; Latukha et al., 2021). Apart from that, as opposed to the majority of migration types, brain drain is a kind of selective process. Skilled people without any necessity to migrate, do so because they perceive opportunities from abroad (Lee, 1966).

Brain drain could be classified into three dimensions: 'brain export', 'hidden brain drain' and 'virtual brain drain'. Brain export is one of the most common types of brain drain, meaning exporting skilled and well-qualified brains to another country physically. Another dimension is the hidden brain drain, implying the working of individuals in their domestic countries but for multinational enterprises. Virtual brain drain is a kind of remote working of individuals without changing their residence for a developed country (Yılmaz, 2020). This type of brain drain has gained popularity, particularly after the outburst of Covid-19 pandemic.

The non-return of international tertiary students to their home countries after completing their studies abroad is one type of brain export (Baruch et al., 2007). These immigrants may continue working in the destination country after the completion of their studies or may return to their home country. According to a joint paper released by ILO, OECD and the World Bank in 2015, the share of skilled immigrants compared to all other migrant groups has been continuously increasing and by 2011. According to the paper, 30 per cent of 15 and over years old migrants in the OECD had tertiary education corresponding to 31 million persons with an increase of 70 per cent over the past ten years (Bailey and Mulder, 2017).

'Human capital flight' has also been used by various scholars interchangeably (Atmaca, 2020; Baruch et al. 2007; Beine et al. 2001; Gökbayrak, 2008; Köser-Akçağar, 2006; Sağırlı, 2006) notwithstanding the recent popularity of the term 'brain drain'. Human capital is composed of the knowledge, skills and health that people accumulate over their lives; enabling them to realise their potential as productive members of their society (The World Bank, 2019). It can be defined as a transformation of relevant inputs; such as formal and non-formal education, and health; to a factor of production. Not only governments, but also private sector and households make substantial expenditures on education, health, social protection and so forth to accelerate the formation of human capital. According to Haque and Kim (1995), brain drain reduces the growth rate of the effective human capital remaining in the domestic economy and hence generates a permanent reduction of per capita growth for source countries. On the other hand, skilled migration is considered one of the significant factors for economic growth and innovation by destination countries

(Bailey and Mulder, 2017). As a result, the consequences of the brain drain may vary depending on which side of the migration countries are on, sender or receiver.

The Consequences of Brain Drain for Origin and Destination Countries

There has been a controversy for origin countries with regard to the consequences of brain drain and the outcomes are classified under 'optimistic' and 'pessimistic' approaches (Latukha et al., 2021). Brain drain denotes that the origin country exports its researchers, scientists and skilled labour at almost zero gain and the destination country imports this qualified population free of charge. These researchers or practitioners emigrate to more developed countries having vast opportunities due to a variety of reasons, however when they do not return to their home countries to make use of their experiences and know-how; these origin countries face serious loss of human capital (Docquier and Rapoport, 2004; Tanrısevdi et al., 2019; Bakırtaş and Kandemir, 2010).

From the perspective of the destination countries; these countries develop and implement policies to support brain gain due to generating positive effects on the country at large. The destination countries have possible positive and negative impacts of brain gain regarding science and technology, higher education systems and labour markets (Kahanec and Králiková, 2011). Research and development, and economic activities with high value-added are expected to increase in line with the advance of the highly skilled labour force within the country. Ensuring communication and reciprocal information flow, and establishing cooperation with the

origin country are other possible positive effects for destination countries. Enhancement of creativity by means of cultural diversity arising from the skilled migration (Sağırlı, 2006).

Apart from these, even though brain drain is a "drain" for the home country, it may not always be a complete "gain" for the destination country. Indeed, high-skilled immigrants have the potential to benefit the host regions through contributing to the growth in the production of goods and services. Nevertheless, economic productivity in the host country may not grow along with it (Constant, 2014). In the case of highly skilled immigrants and native workers have complementing skills, then immigration rises labour demand, which results in higher wages and employment of natives. On the other hand, if highly skilled immigrant workers have substitute skills with native workers, then immigration rises labour supply which results in lowering wages and employment level of native-born workers (Viseth, 2020). In fact, even though some immigrants have high level of educational attainment in their home countries, they predominantly find inequivalent jobs in the destination country. Thus, these highly skilled immigrants may enter low-skilled jobs that do not fully utilise their skills, hence downskilling problems may arise. Skill mismatches may result in lower employment probability of immigrants, which in turn increases the need of unemployment benefits overall. Institutional barriers such as poor or complicated recognition of degrees, insufficient knowledge of the host country language (Barbone, Kahanec, Kureková, & Zimmermann, 2013) or discriminatory hiring practices for immigrants (Lerner, 1994) are some of the reasons for downskilling.

The term 'brain drain' is still widespread, nevertheless the phenomenon of 'brain circulation' has also become popular within the framework of human capital flows. Since the last two decades, a growing brain circulation literature argue that negative effects of outflow of high skilled individuals may lead to positive outcomes in the case of returning these migrants to their home countries. Therefore, it is significant for the origin country governments to build and utilise the policies to supplement return migration policies and practices. While brain drain causes a difference between origin and destination countries in terms of growth, brain circulation is argued to minimize the difference. When qualified programmes that encourage return are achieved, benefits of the brain circulation come to the forefront in terms of the origin country (Güngör and Tansel, 2007; İnce, 2020). Negative impacts of brain drain to the origin country may be eliminated through transfers of knowledge, technology and investment in case of building diasporas in the destination countries if a short-term and continuous brain circulation could be ensured (Docquier and Rapoport, 2004; Gökbayrak, 2008).

Country Strategies to Attract Highly Qualified Human Resources

Industrialised countries are in a kind of global race to introduce policies with the purpose of facilitating the recruitment of highly skilled individuals from abroad. Meanwhile, attracting highly skilled migrants means more than facilitating work permits. Countries with widely spoken languages or organisations using an international language and offer high wages are more likely to attract migrants compared to the countries with its own unique language and moderate wages (Chaloff & Lemaître, 2009).

The main strategies to attract highly skilled migrants are as follows; (a) employer-oriented selection strategy, (b) sector-based selection strategy, and (c) individual human capital scoring strategy. In the employer-oriented strategy, recruitment processes such as preparing the documents for obtaining visas, work and residence permits on the behalf of migrants are carried out by employers. The H-1B visa type applied in the USA is one of the examples of employer-oriented selection strategy. In the sector-based selection strategy, priority sectors that need qualified workforce are determined by countries. Employment incentives are arranged by governments to facilitate the recruitment of highly skilled migrants in the identified sectors. The German Green Card application, which was prepared for the information technologies sector in Germany in the early 2000s, can be given as an example. In the individual human capital scoring strategy, governments use several ranking systems to assess skills, education, language ability, work experiences and other profiles of candidate foreign migrants. This method is applied mainly by Canada, the United Kingdom and the Czech Republic (Sarcan, 2022).

Apart from these, the reasons of changing the country of residence of professional labours may depend on various reasons in the origin or destination country. In the coming section these factors are explained through push and pull factor approach.

Push and Pull Factors

Lee (1966) suggests that the factors in the act of migration is determined by factors associated with the area of origin and destination, intervening obstacles, and personal factors. In this sense, 'the push-pull model' covers a wide range of factors that play a role in

the decision making process to migrate with numerous advantages and disadvantages (Kaya, 2019).

Better living conditions, higher wages, merit-based working environments, career development opportunities, and facilities for research and development can be considered as pull factors (Martiskova, 2013). One of the most significant pull factor is the abundance of research opportunities within developed countries when compared to origin country of the researchers. Research and development expenditures may be a relevant indicator so as to observe this statement. Israel (5%), Republic of Korea (4.8%), Sweden (3.3%), Austria (3.2%), Germany (3.1%) and the United States of America (2.8%) are the countries spending almost three or more percentages of their gross domestic products (GDP) on research and development (The World Bank, 2021). Thus, these countries are more likely to attract researches from other countries.

Pull factors are those of the receiving country providing incentives for individuals to settle down in the receiving country; while push factors are the circumstances or conditions that prompt them to emigrate (Güngör and Tansel, 2007). Unemployment in home country, skill or educational mismatches, lack of career opportunities, limited research or working facilities, political and legal uncertainties and prevalence of nepotism/cronyism within labour market can be regarded as push factors for emigration of qualified labour force. Pull and push factors can be summarised in Figure 1 as follows.

Factors Groups	Push factors	Pull factors
Economic	Economic crises	Developed industries
	Insufficient jobs/ unemployment	Better career prospects
	Poor living conditions	Better living conditions
	Low wages	Better income opportunities
Demographic and socio-cultural	Poor medical care	Better medical care
	Bullying	Life experience abroad
	Inequalities of education opportunities	Better education opportunities
	Feeling of worthlessness	Social networks and friendship links
	Safety concerns	
Political	Political crises or instability	Political or religious freedom
	Military coups	Security
	Corruption, nepotism / cronyism	Meritocracy
Technological	Lack of facilities and necessary equipment to carry out research	Better research opportunities

Figure 1. *Push & Pull Factors*

Furthermore, immigration itself is a costly process for migrants. Therefore, highly skilled immigrants should have several qualifiers such as financial capital, human capital, social capital and physical capital to migrate. Immigrants, for instance, must be able to cover all expenses to change their home country such visa (if necessary), agent's fee (if necessary), transportation, health checks, contract expenses, insurance cost and other related information expenses. Moreover, learning the language in the destination country, having recognised degrees and professional certificates can be considered among these qualifications. Besides these, social networks, the norm of reciprocity

and the sense of trust they establish are some of the facilitating effects on migration (Sirkeci, Utku, & Yüceşahin, 2019).

Apart from these, according to the study of Docquier et al. (2007) which is based on a data set originating from census and register data for OECD countries, the strongest association for brain drain is the population size of the country: countries with less population have a higher proportion of brain drain. In addition, brain drain rates are higher between countries having colonial links and geographic proximity to major OECD countries, and countries with religious fractionalisation and political instability, and with low levels of human capital (Docquier *et al*., 2007). In the coming section the push and pull factors of Türkiye are addressed through evaluating current and historical conditions.

Brain Drain from Türkiye

Brain drain has been considered a significant problem in Türkiye since the last half century and the issue has been discussed in academic literature throughout these years. Tezcan (1971), Başaran (1972), Gülmez (1974), Erkal (1980) and Atılgan (1986) were some of the first examples regarding the literature on the brain drain studies in Türkiye. According to Tansel and Güngör (2003) 'brain drain' of Turkish emigrants began in the 1960s firstly with medical doctors and engineers. Following the military coup in 1960, political instability and crisis are believed to have triggered the migration of these highly skilled professionals.

Tezcan (1971) and Başaran (1972) mainly follow similar methodologies and give brief country examples and main reasons

regarding brain drain. The paper covers statistical figures on brain drain of medical doctors, engineers and academic staff with details of gender, graduation years, emigrated country and reasons. In the same years, Gülmez (1974) evaluates particularly the legislative side of the emigration of educated and skilled individuals from Türkiye. The paper focuses mainly on the problems on the implementation of *the Law on the Students to be Sent to Foreign Countries* and measures in the development plans regarding the employment of these students. A further study on brain drain from Türkiye carried out by Erkal (1980). The author put emphasis mainly the human capital side of the brain drain problem for the least developed and developing countries. According to the paper, these countries do invest in the persons, particularly in terms of education; however, developed countries benefit from this qualified manpower without any investment. Therefore, developed countries can transfer savings to research and development expenditures. Apart from these, Atılgan (1986) focuses on the emigration of academic staff in details of educational fields and academic titles. The paper examines main reasons and measures to be taken in terms of brain drain by scrutinising five-year development plans from 1963 to 1989. As a consequence of the 2001 economic crisis, young university graduates intended to pursue their careers abroad. Studying postgraduate studies abroad was considered as a first step prior to fulfil this goal (Tansel and Güngör, 2003). Current developments regarding to brain drain from Türkiye are discussed in the following paragraphs.

When considering the number of recent studies regarding to the push factors for Türkiye, some of these studies focused mostly on economic factors such as economic crises, insufficient jobs,

unemployment, poor living conditions and low wages (Aytaç and Aydın, 2019; İyi, 2020; Kaya, 2021; Yılmaz, 2019). Furthermore, recent studies regarding to push factors for Türkiye mainly mentioned about demographic and socio-cultural factors such as bullying, inequalities of education opportunities, feeling of worthlessness and safety concerns (Atmaca, 2020; Tanrısevdi et al., 2019). Apart from these, other studies underlined the significance of political push factors such as political crisis or instability, military coups, corruption, nepotism/cronyism (Dudu and Rojo, 2022; Elveren and Toksöz, 2019; Özçürümez and Yetkin Aker, 2016). Lastly, Atmaca (2020), Rüzgar (2020) and Tanrısevdi et al. (2019) also mentioned the role of technological push factors such as lack of facilities and necessary equipment to carry out researches.

When it comes to the pull factors for Türkiye, Aytaç and Aydın (2019), Tanrısevdi et al. (2019) and Yılmaz (2019) argued that economic factors such as developed industries, better carrier prospects, better living conditions and better income opportunities influences decisions of highly-skilled Turkish citizens to migrate. Moreover, Rüzgar (2020) and Tanrısevdi et al. (2019) mainly underline the significance of demographic and socio-cultural factors as pull factors for Türkiye. Apart from that, Dudu and Rojo (2022), Elveren and Toksöz (2019), Özçürümez and Yetkin Aker (2016) and Rüzgar (2020) mainly mentioned about political factors as pull factors for Türkiye such as political or religious freedom, security and meritocracy. Lastly, Rüzgar (2020) and Tanrısevdi et al. (2019) mentioned the significance of technological pull factors such as better research opportunities.

Apart from these, observing the official statistics in the following Figure 2, almost 17 per cent of GDP in Türkiye has been comprised of the public education and social protection expenditures to enhance human capital of the country since the year 2011. Since, young and possibly well-educated individuals are prone to emigrate from Türkiye, some part of GPD expenditure on human capital formation goes to the destination countries.

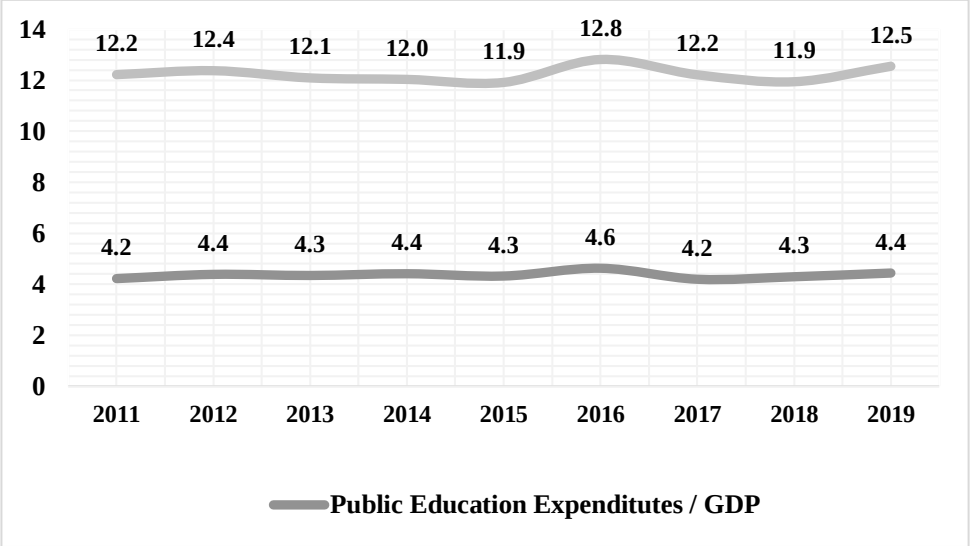

Figure 2. *Public Education and Social Protection Expenditures* (2011-2019, % of GDP)

*Source: TurkStat, Education Expenditure Statistics, 2021 and Social Protection Statistics, 2021

Considering the education expenditure statistics, expenditures per student has been highest for the last eight years in the tertiary education in Türkiye (Please see Figure 3. Education Expenditures

(2011-2019, Per Student, US Dollars). It is also noteworthy that public expenditures per capita in tertiary education have decreased each year since 2012.

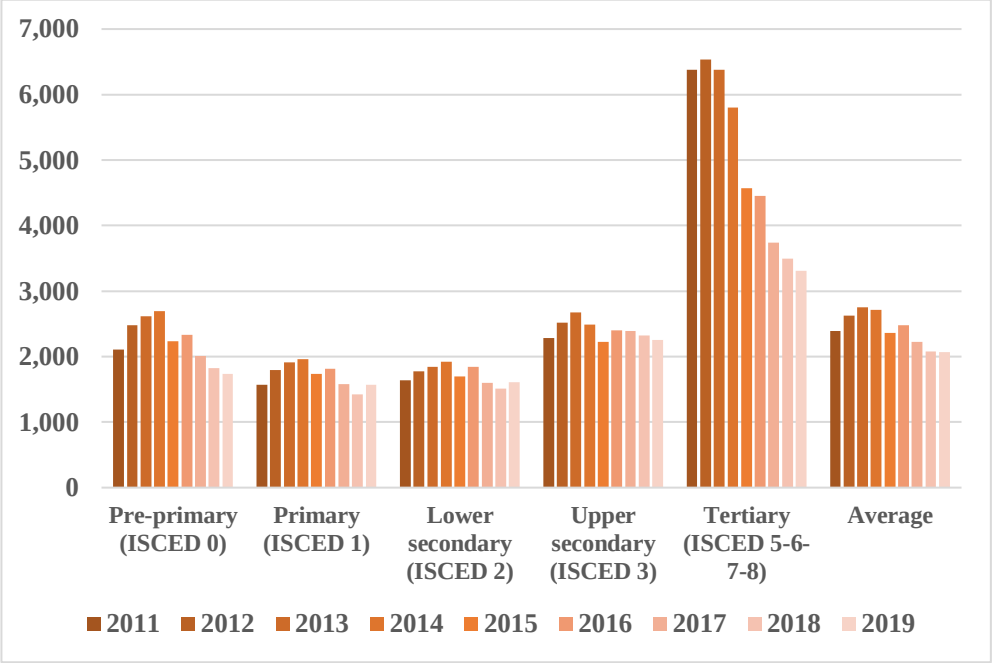

Figure 3. *Education Expenditures (2011-2019, Per Student, US Dollars)*
*Source: TurkStat, Education Expenditure Statistics (2021)

Overall, countries with emigrants from a young and possibly well-educated cohort, is indispensably in tendency to lose its human capital permanently at no cost to more developed countries unless there is a satisfying level of brain circulation established between the source and destination countries. In this regard, first of all brain drain rates from the origin country should be scientifically proven by several dimensions such as by years, by destination country, by educational

fields, by departments and by gender. In the methodology section of this paper, data collection, classification and analysing methods are applied to calculate brain drain rates of Türkiye are explained in details.

Methodology

The analysis dataset in the paper was based completely upon administrative registers of public institutions of Republic of Türkiye. These public institutions including Ministry of Interior, Directorate-General for Population and Citizenship Affairs for residence abroad data, and Council of Higher Education of Türkiye (CoHE) for higher education data. The target group for the analyses are individuals those registered in the Registration System of Turkish Citizens Abroad, a database system under Central Population Administration System (MERNIS).

Both the higher education data and residence abroad data of Turkish citizens are available as two different databases in the Turkish Statistical Institute. In order to carry out this research, firstly, necessary permissions were obtained from the Turkish Statistical Institute for the use of the microdata sets. Secondly, the two databases were integrated through matching the anonymized national personal identification numbers of Turkish citizens on individual basis. Consequently, the final integrated dataset contained the graduation departments and dates of Turkish bachelor's degree graduates, as well as the time periods in which countries they resided in.

The classification of levels of education is based on the International Standard Classification of Education (ISCED), an

instrument to compile and present education statistics. ISCED 2011 has nine hierarchical education levels, from level 0 to level 8. For instance, ISCED 0 stands for early childhood education, ISCED 1 stands for primary education, ISCED 2: lower secondary education, ISCED 3: Upper secondary education, ISCED 4: Post-secondary non-tertiary education, ISCED 5: Short-cycle tertiary education, ISCED 6: Bachelor's or equivalent level, ISCED 7: Master's or equivalent level and ISCED 8: Doctoral or equivalent level education (Eurostat, 2021).

For the year 2020, the denominator for the analyses are number of 1,730,955 bachelor's graduates (ISCED level 6) of universities under the responsibility of CoHE within the years 2004-2013, except open and distant education graduates for the calculation of brain drain rates of the year 2020. These higher education institutions cover all universities in Türkiye. The denominator for each year is calculated through taking back the interval back one year. For instance, the brain drain rate for the year 2019, is calculated through considering 52,872 bachelor's degree graduates living abroad in 2019 among 1,605,111 individuals who graduated between 2003-2012.

Turkish bachelor's degree graduates abroad who have not returned to Türkiye after seven years from their graduation are subjected to 'brain drain' in this paper. The assumption of seven years is made according to ISCED 2011 Typical (Most Common) Durations of Education Levels. As shown at Table 1, master's or equivalent level studies typically completed between 1-4 years following ISCED level 6, that is bachelor's degree. Doctoral or equivalent level studies take between 4-7 years when directly following a bachelor's degree (OECD, 2017). Thus, the assumption of seven years covers the duration of both

master's and doctoral level studies. The limit of seven years has been determined as an assumption in order to separate the individuals who have just graduated from the university and those who have returned after receiving a master's or/and doctorate education abroad. It was assumed that a significant part of those who were abroad for a short period of time could be eliminated through the assumption of seven years. Consequently, students who still reside abroad after seven years of bachelor's graduation date are accepted as non-return graduates in this research.

Table 1.

ISCED 2011 Typical (Most Common) Durations of Education Levels

ISCED 2011 Levels		**Typical (Most Common) Duration**
6	Bachelor's or equivalent level	3-4 years directly following ISCED level 3
7	Master's or equivalent level	1-4 years following ISCED level 6
8	Doctoral or equivalent level	4-7 years directly following ISCED level 6

*Source: OECD (2017)

Apart from classifications of educational levels, the classification of fields of education and training was assembled according to the International Standard Classification of Education: Fields of Education and Training 2013 (ISCED-F). ISCED-F 2013 is an international framework for organising education programmes and related qualifications by fields.

First and foremost, constraint in the database is that the Registration System of Turkish Citizens Abroad is based upon the

voluntary application of Turkish citizens living abroad (Supreme Election Council of Türkiye, 2022). The citizens are not necessarily obliged to register in the system through Turkish embassies and consulates, nevertheless they do apply to be registered in the system so as to maintain citizenship affairs, such as compulsory military service for male citizens, voting for the parliamentary and presidential elections, marriage and divorce transactions etc.

Results

Brain Drain by Years

Total number of 1,730,955 individuals have received their bachelor's degrees from Turkish universities within the years 2004-2013. As mentioned under the methodology section of this paper, number of graduates abroad who have not returned to Türkiye after seven years from their graduation are subjected to 'brain drain' in this paper. In this regard, through considering 55,918 bachelor's degree graduates abroad after seven years from their graduation brain drain rate of Türkiye is calculated as 3.23 per cent in the year 2020. When calculating the brain drain rate for each year, the interval was taken back one year. For instance, the brain drain rate for the year 2019, which is 3.29, is calculated through considering 52,872 bachelor's degree graduates living abroad among those who graduated between 2003-2012 (Please see Table 2 and Figure 4. *Brain Drain Rates for Türkiye for the years 2009-2020* below for further details).

Table 2.

Aggregated Data Set by Years

Graduation Periods	Reference Year	Number of Graduates	Number of Abroad	Brain Drain Rate (%)
1993-2002	2009	503,762	11,624	**2.31**
1994-2003	2010	597,680	13,161	**2.20**
1995-2004	2011	697,873	15,071	**2.16**
1996-2005	2012	801,230	19,464	**2.43**
1997-2006	2013	908,535	22,534	**2.48**
1998-2007	2014	1,019,448	26,552	**2.60**
1999-2008	2015	1,137,166	31,966	**2.81**
2000-2009	2016	1,263,670	34,741	**2.75**
2001-2010	2017	1,376,227	40,667	**2.95**
2002-2011	2018	1,480,340	47,629	**3.22**
2003-2012	2019	1,605,111	52,872	**3.29**
2004-2013	2020	1,730,955	55,918	**3.23**

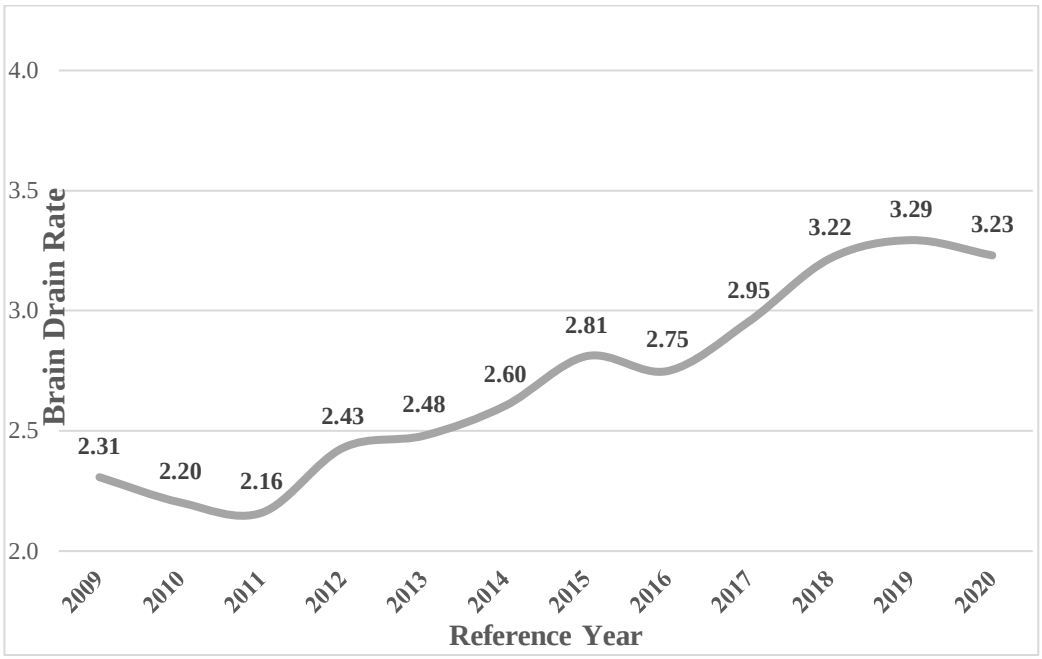

Figure 4. *Brain Drain Rates for Türkiye for the years 2009-2020*

Brain Drain by Countries

Table 1 gives an overview of brain drain rates of Turkish bachelor's graduates by country in the year 2020. It is observed that almost fifty per cent of non-return Turkish graduates prefer to reside in the United States of America (22,4%), Germany (14.3%) and the United Kingdom (11.6 %).

Table 1.

Brain Drain by Countries, Top 20 Countries by Frequency and Percentage

Country	Number of non-return graduates	Percentage of non-return graduates among all
United States of America	12,548	22.4
Germany	7,993	14.3
United Kingdom	6,494	11.6
Netherlands	3,675	6.6
Canada	2,232	4.0
United Arab Emirates	1,484	2.7
France	1,479	2.6
Australia	1,441	2.6
Switzerland	1,205	2.2
Belgium	1,119	2.0
Sweden	938	1.7
Austria	828	1.5
Russian Federation	805	1.4
Italy	744	1.3
Spain	742	1.3
Ireland	618	1.1
Poland	602	1.1
Qatar	524	0.9
Czech Republic	373	0.7
Saudi Arabia	346	0.6
All others	9,728	17.4
Total	55,918	100.0

Most of the top twenty destinations are from European countries, the USA and Canada. The United Arab Emirates (2.7%), Russia Federation (1.4%), Qatar (0.9%) and Saudi Arabia (0.6%) are the other target destinations for Turkish bachelor's degree graduates.

Lastly, 17.4 per cent of Turkish graduates prefer to reside in the other countries which are not listed in Table 1.

Aksoy (2012) argues that an individual's acquaintance or eagerness to adapt to the culture of the destination county is an accelerator factor to move to or to settle down in the country. Additionally, geographical distances, and historical, cultural, lingual or alphabetical, religious differences or similarities may influence the country preferences of new graduates.

Brain Drain by Departments

When number of non-returned graduates is examined in Table 2, it is observed that the departments where the brain drain is occurred most are that business administration, computer engineering, mechanical engineering, economics, industrial engineering, and electrical and electronic engineering respectively in the year 2020. Moreover, the number of engineering departments also are considerably high.

Table 2.

Brain Drain by Departments, Top 20 Departments by Frequency

Department	Number of non-return graduates
Business administration	3,395
Computer engineering	3,186
Mechanical engineering	2,719
Economics	2,649
Industrial engineering	2,172

Electrical and electronic engineering	2,127
Civil engineering	1,751
International relations	1,356
Mathematics	1,195
Chemistry	1,089
Law	1,000
Biology	979
Physics	969
Chemical engineering	942
English language teaching	780
Medicine	773
Architecture	759
Molecular biology and genetics	634
Turkish language and literature	631
Classroom teaching	587
All others	26,225
Total	55,918

When the percentage of non-returned graduates is examined in Table 3, the multiplicity of engineering departments draws attention as in Table 3. Apart from this, brain drain rates of molecular biology and genetics department reached enormous levels of 32.5 per cent. It means, approximately one out of every three graduates of this department goes abroad. Similarly, one out of every five to seven graduates of (a) information systems engineering, (b) business informatics and (c) mechatronics engineering and (d) software engineering also migrates.

Table 3.

Brain Drain by Departments, Top 20 Departments by Rate (n > 200)

Department	Brain Drain Rate (%)
Molecular biology and genetics	32.5
Information systems engineering	21.5
Business informatics	16.6
Mechatronics engineering	15.7
Software engineering	14.8
Bioengineering	14.5
Industrial design	13.4
Computer engineering	13.2
Computer technologies and information systems	11.6
Economics	11.2
Physics engineering	11.2
Electronics engineering	10.9
Political science	9.9
Spanish language and literature	9.5
Electrical engineering	9.4
Naval architecture and marine engineering	9.4
Political science and international relations	9.3
Electronics and communication engineering	9.2
Management information systems	9.2
Industrial engineering	9.1

Brain Drain by Educational Fields

Considering the field of study according to ISCED-F classification, 55,918 Turkish bachelor's degree graduates reside abroad and 6,897 of them have graduated from electronic and automation field. This field is followed by (a) teacher training with

subject specialisation with 4,762 graduates, (b) management and administration with 4,302 graduates, (c) mechanics and metal trades with 3,296 graduates and (d) economics with 3,277 graduates (Please see Table 4 for more details).

Table 4.

Brain Drain by Educational Fields (ISCED-F 2013), Top 20 Fields by Frequency

Educational Fields	**Number of non-return graduates**
Electronics and automation	6,897
Teacher training with subject specialisation	4,762
Management and administration	4,302
Mechanics and metal trades	3,296
Economics	3,277
Inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction	2,945
Political sciences and civics	2,305
Literature and linguistics	2,047
Building and civil engineering	1,751
Biology	1,629
Mathematics	1,517
Physics	1,224
Chemistry	1,089
Audio-visual techniques and media production	1,080
Architecture and town planning	1,059
Law	1,000
Chemical engineering and processes	983
Medicine	773
Earth sciences	720
History and archaeology	660

All others	12,602
Total	55,918

Table 5.

Brain Drain by Educational Fields (ISCED-F 2013), Top 20 Fields by Rate (n > 100)

Educational Fields	**Brain Drain Rate (%)**
Engineering and engineering trades not elsewhere classified	35.4
Inter-disciplinary programmes and qualifications involving information and communication technologies	16.6
Biochemistry	16.5
Database and network design and administration	12.7
Software and applications development and analysis	11.5
Electronics and automation	11.4
Electricity and energy	9.5
Inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction	8.8
Language acquisition	8.2
Chemical engineering and processes	7.5
Mechanics and metal trades	6.7
Political sciences and civics	6.7
Motor vehicles, ships and aircraft	6.5
Hotel, restaurants and catering	5.6
Audio-visual techniques and media production	5.4
Building and civil engineering	5.4
Fashion, interior and industrial design	5.2
Architecture and town planning	4.9
Psychology	4.8
Travel, tourism and leisure	4.8

Brain Drain by Countries and Departments

Considering the brain drain from Türkiye by country and department, computer engineering, business administration and mechanical engineering are generally in the top four among the most popular countries listed in Table 6. While the United States of America and the United Kingdom come to the fore with computer engineering and business administration, Germany is the most popular destination for mechanical engineering graduates from Türkiye.

Table 6.

Brain Drain by Countries and Departments, Top 20 Matches by Frequency

Country	Department	Number of non-return graduates
United States of America	Computer engineering	758
United States of America	Business administration	751
United States of America	Electrical and electronic engineering	682
United States of America	Economics	547
United States of America	Industrial engineering	542
United States of America	Mechanical engineering	520
United States of America	Mathematics	395
United States of America	Medicine	303
United States of America	Chemistry	301
United States of America	Civil engineering	290
United States of America	Physics	287
United Kingdom	Business administration	460
United Kingdom	Computer engineering	442

United Kingdom	Economics	375
United Kingdom	Mechanical engineering	301
Germany	Mechanical engineering	558
Germany	Computer engineering	469
Germany	Business administration	396
Germany	Economics	303
Netherlands	Computer engineering	417

Brain Drain by Countries and Educational Fields

Considering the brain drain from Türkiye by country and educational fields; electronics and automation fields is at the top with a high margin in all countries in Table 7. The fields of both management and administration and teacher training with subject specialisation are also among the areas where brain drain is intense in the United States, Germany and the United Kingdom.

Table 7.

Brain Drain by Countries and Educational Fields (ISCED-F 2013), Top 20 Matches by Frequency

Country	**Educational Fields**	**Number of non-return graduates**
United States of America	Electronics and automation	1,860
United States of America	Teacher training with subject specialisation	1,027
United States of America	Management and administration	937
United States of America	Inter-disciplinary programmes and qualifications involving	697

	engineering, manufacturing and construction	
United States of America	Economics	682
United States of America	Mechanics and metal trades	646
United States of America	Biology	502
United States of America	Political sciences and civics	461
United States of America	Mathematics	440
United States of America	Literature and linguistics	364
Germany	Electronics and automation	1,027
Germany	Teacher training with subject specialisation	798
Germany	Mechanics and metal trades	671
Germany	Management and administration	527
Germany	Economics	368
United Kingdom	Electronics and automation	798
United Kingdom	Management and administration	576
United Kingdom	Economics	472
United Kingdom	Teacher training with subject specialisation	450
Netherlands	Electronics and automation	770

Brain Drain by Gender

The findings of Elveren and Toksöz (2019) revealed that female Turkish citizens abroad have higher tendency to migrate or not return compared to males. However, the findings of this paper proved that while brain drain rate of male is 3.62%, it is 2.84% for females. A further study conducted by Tansel and Güngör (2003) also highlighted the gender gap among Turkish students having education in abroad. According to their questionnaire study, nearly 90 per cent of Turkish

postgraduate students were males in the year 2003. Nevertheless, the result of this register evidence paper shows that the gender gap was not that much great in the year 2020, as 43 per cent of non-return graduates consist of females. One of the reasons for diminishing the gender gap may be that the difference between men and women in the total number of higher education graduates has disappeared over the years. Furthermore, the rate of brain drain from Türkiye is calculated as 3.23% for the year 2020 according to the administrative registers of public institutions of Türkiye (Please see **Table 8.** Brain Drain Rate by *Gender* for the details).

Table 8.

Brain Drain Rate by Gender

Gender	Total number of graduates	Total number of non-return graduates	Brain Drain Rate (%)
Male	882,348	31,954	3.62
Female	843,287	23,964	2.84
Total*	1,730,955	55,918	3.23

* Total number of graduates is not equal to the sum of male and female graduates due to absence of info based on gender of 5320 persons in the administrative registers.

Discussion & Conclusion

The findings of this brain drain research is completely based on administrative registers of different governmental institutions of Türkiye. The findings of combined dataset provide the details of the

Turkish bachelor's degree graduates by destination country, departments, age, gender and the year. To our knowledge, this paper is the first study which analyses brain drain from Türkiye through administrative register evidence of non-return bachelors' degree graduates. Therefore, the results of this paper are believed to make a significant contribution to the higher education policies, labour market policies, highly skilled migration policies, reverse brain policies and aforementioned programmes in Türkiye.

The results indicate that brain drain rate of Turkish bachelor's graduates has gradually increased from 2.31 per cent to 3.29 per cent between the years 2009 and 2019 in Türkiye. It is noteworthy that the rate of brain drain, which was 2.16 in 2011, increased almost every year after this year and reached 3.29% in 2019. The rate of brain drain from Türkiye dramatically increased by more than 50% between 2011 and 2019. Meanwhile, the partial decrease in the rate of brain drain in 2020 is likely to be due to the Covid-19 pandemic.

Apart from that, the brain drain rates reach more than 10 per cent in the information and communication technologies and the electronic fields that appear as a significant issue in Türkiye due to its private and social costs to Turkish society. There are several obstacles that need to be addressed while shaping a sustainable future of work in Türkiye including (a) skills mismatching issues including over mismatching, (b) double-digit unemployment figures as high as 25% among the young population aged 15-24, (c) depreciation of up to 350% in Turkish Liras between January 2017 and January 2022, (d) decreasing tertiary level education expenditures per student from around six thousand dollars to around three thousand dollars, and (e) unsatisfying merit-

based working and promotion conditions. Additionally, a further push factor is the lack of career opportunities in several educational fields. For instance, graduates of departments regarding 'Genetics', such as 'Molecular Biology and Genetics' or 'Genetics and Bioengineering', are more inclined than most of other departments with more than 40 per cent brain drain rates due to insufficient working areas in the sector within Türkiye. In this regard, precautions could be taken such as supporting related industries to create technology driven jobs where highly skilled brain drain rates are high. For these reasons, education policies should be well harmonised with labour market policies by policymakers to increase human capital indicators of the country.

The results of this research could be used as a guide by Presidency of the Republic of Türkiye Human Resources Office, the Higher Education Council, the Ministry of National Education, the Ministry of Labour and Social Security, and other relevant institutions to develop policies that cover the needs of youth after graduation regarding to living and labour market conditions. Meanwhile, the private and social rates of return to investments in education and training should be closely monitored through regularly updating and analysing these brain drain datasets with the purpose of increasing the learning capacity of both citizens and organisations (OECD, 1996). In this context, it is essential to take steps such as increasing cooperation between universities and employers, providing private sector incentives to create employment, using qualified workforce in qualified jobs, and university quota planning, especially for the identified departments where the brain drain rate is occurred the most such as molecular biology and genetics (32.5%), information systems engineering (21.5%), business informatics (16.6%), mechatronics

engineering (15.7%), software engineering (14.8%) and bioengineering (14.5%).

Another step is to improve merit-based working and promotion conditions within the country both in public and private sectors. Additionally, opening new research centres in Türkiye to generate more satisfying environments for researchers could be a further way of limiting brain drain rates of the country (OECD, 1996). Last but not the least, the knowledge and experiences of highly skilled Turkish citizens living in the diaspora could be transferred to Türkiye through establishing networks among them. The scientific diaspora studies of Türkiye could focus on the countries where the brain drain rates from Türkiye is higher such as the United States of America (22.4%), Germany (14.3%), the United Kingdom (11.6%), the Netherlands (6.6%), Canada (4.0%) and the United Arab Emirates (2.7%). In this regard, the findings of this paper could be beneficial for several institutions of Türkiye including the Presidency for Turks Abroad and Related Communities and Republic of Türkiye Ministry of Foreign Affairs. Lastly, the results of this research can also contribute to the 'TUBITAK International Leading Researchers Support Program', which has been carried out by the Ministry of Industry and Technology in order to ensure reverse brain drain since 2018.

Lastly, the brain drain rate of male is 3.62%, it is 2.84% for females in the year 2020. The study of Tansel and Güngör (2003) regarding to brain drain from Türkiye indicated that nearly 10 per cent of Turkish bachelor's degree graduates were females. The result of this study showed that the gender gap largely disappeared in the year 2020. Moreover, a very recent study on Turkish brain drain and gender

conducted by Elveren and Toksöz (2019) also revealed that more female Turkish citizens abroad prefer to migrate compared to the males. However, the findings of this paper showed that brain drain rates of women significantly less than men for Turkish citizens. This may be because of that the immigrants generally have to work in less qualified jobs than their own skills; this situation may become even worse for female immigrants. In addition, women's longing for family, relatives and friends may be higher than men. In addition to these, the difficulties of starting a family and raising children abroad may have been more influential in women's decisions to reside abroad compared to the males.

Limitations and Future Directions

Administrative registers of non-return bachelor's graduates used in this paper are based on the statements of Turkish bachelor's degree graduates residing abroad. The calculations are limited to only Turkish bachelor's degree holders from Turkish universities. There is no information about whether the immigrants included in the calculations have received master's or doctorate level education in Türkiye or in the countries where they reside. Therefore, the data on Turkish high skilled workers who migrated abroad are at least as much as the statistics given in this study, the actual number may be higher than the figures here. The results indicated that brain drain rate of bachelor's degree graduates increased more than 50% between the years 2011 and 2020. Therefore, future research is need to investigate the reason behind the high increase rates in brain drain from Türkiye. Statistics on the sociological causes of brain drain can be obtained by conducting surveys on people who have migrated abroad. A

prospective paper on reverse brain drain could be a worthwhile further study, nevertheless longer time series should be available in order to observe the possible return migration movements of highly skilled graduates.

Ethical Text

In this article, the spelling rules, research and publication ethics, publication principles and ethical rules stated in the journal were followed. All violations arising from this article are under the responsibility of the author(s). Additionally, the comments regarding the findings obtained within the scope of this research belong only to the researchers and do not bind the Turkish Statistical Institute.

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Data Availability Statement

Due to statistical confidentiality reasons, authors of this study do not agree for their data to be shared publicly, so supporting data is not available.

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Investigation of Human Capital Index Value and Income Distrubution in European and Central Asian Countries: The Case of Turkey

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Abstract

Educational indicators offer a straightforward means of gauging a country's education. Besides, evaluation based on these indicators is of great significance and value. Nonetheless, education does not take place in a vacuum, and thus these indicators are results of the conditions in a country. Particularly, time and money spent on education, the family's share in economic distribution play a role in determining the current state of education. So, this study aims to evaluate the current state of education in Turkey by examining human capital indices and income distribution in countries in the Europe and Central Asia (ECA) region. For this purpose, the study uses data from the World Bank. The results of the study indicate that children born in developed countries can access near 80% of their potential upon reaching their productive age, compared to only 65% in Turkey. Additionally, Turkey has the greatest degree of income inequality, as indicated by its GINI coefficients, among other countries in the ECA region. Moreover, there are vast disparities between the income of the top 20% and the bottom 20% of Turkey's population.

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Introduction

Education can address many different issues, such as learning experiences, the curriculum and its content, teaching methods, examination systems, teacher training and employment policies, and educational planning. All these issues influence the phenomenon of education. Moreover, education is related to many disciplines such as sociology, psychology, philosophy, history, law, and economics and interacts with the issues or variables that fall within the scope of these disciplines. In this context, educational indicators offer a straightforward means of gauging a country's education. Therefore, evaluation depending on these indicators is of great significance and value. Nonetheless, education does not take place in a vacuum, and thus these indicators are results of the conditions in a country.

On the other hand, in Development as Freedom (Sen, 2000), freedoms are accepted as the main ingredient of development, both as an ultimate end and as a primary means. This is because without well-functioning social, economic, political, and legal institutions, as well as the benefits of industrialization, technological progress, and social modernization, it is almost impossible to speak of freedoms and development. Moreover, political freedoms, economic and social

opportunities, and protective security can be recognized as rights and opportunities to improve one's capabilities. For example, political freedom paves the way for economic security, while social opportunities such as school attendance can improve economic participation. In short, the several types of freedom support each other.

First, examining the factors linked to and influencing education, one can gain insight from a broad range of perspectives. Additionally, it is essential to consider other freedoms and opportunities when accurately gauging education in a country. In the light of these forecasts, this research investigates the present situation of education in Turkey, by evaluating the values of the Human Capital Index and the income distribution among European and Central Asian (ECA) countries. This section of the study provides an overview of human capital, critiques of its theory, the Human Capital Index, the association between education and earnings, and the impact of income disparities on human capital. Moreover, related research examines the links between these variables.

Since Adam Smith in the late 18th century, it has been acknowledged that human capital affects workers' wages (Sahota, 1978). However, the "human capital revolution" began in the second half of the twentieth century when the Chicago School paved the way with economists such as Schultz, Mincer, and Friedman (Becker, 1993). Human capital emerges as a result of investments in individual resources that can affect a person's future earnings (Becker, 1962). In a similar vein, human capital investments can encompass all forms of health care which may influence an individual's life expectancy, any kind of educational practices, for example, apprenticeships available from any structured school levels, adult work programs, and migration to capitalize on variations in job openings (Schultz, 1961). Educational investments —

specifically in human capital — are often the most important of the various investments available (Checchi, 2006; Sahota, 1978). The money and time invested in education create human capital instead of physical capital (Psacharopoulus and Patrinos, 2004). In simpler terms, education is a form of investing in a person which produces returns in the form of human capital (Schultz, 1960). Iliman Puskulluoglu and Ekinci (2018) refer to an individual's education and its contribution to economic growth as human capital. Advocates of human capital suggest that educational experience enhances a person's skills, thus resulting in a higher productivity and wages (Tan, 2014). Workers with higher levels of education earn more, and in developing countries, the gap between workers with high and low levels of education is even greater (Becker, 1993). Moreover, research has established that a greater educational level among workers produces not only enhanced quality of workers but also a greater national income (Denison, 1962). Moreover, according to a World Bank report published in 2018, human capital accounts for 64% of national wealth (cited in Patrinos & Angrist, 2018).

Nevertheless, many scholars have criticized the human capital theory from its beginning. For instance, Schultz (1961) highlights its inability to adequately recognize humans as capital, and Mincer (1974) notes the lack of correlation between income and school attendance. Given the country's individual history and institutional systems, formulating predictions pertaining to it may prove to be a challenging task. The same year of school attendance may yield different results because of these peculiarities (Tan, 2014). In addition, human capital explains only a small portion of income inequality. Besides, human capital is hard to define and therefore not measurable. Even it is precisely defined and measured, education accounts for only a small percentage of income

(Fix, 2018). Conversely, Nussbaum and Sen (1993) suggest that relying only on basic data or calculations which reveal merely surface-level information is an inadequate method to gauge the wealth of a nation, as true valuation of its wealth or quality of life requires an adequate understanding of its population and their living conditions. Tan (2014) asked why international organizations still strongly support the concept of human capital despite its flaws. He argued that they recognize the issues associated with human capital theory but appreciate the essential role of uncontrollable variables. Subsequently, they consider all critics of human capital theory to have merit. Nevertheless, since there is no other comprehensive theory of income distribution to substitute for human capital theory, they accept its validity.

Despite criticism of human capital theory, wide recognition of human capital's individual utility and its ability to contribute to national income and social welfare has led to increased investment from countries. Due to the high returns to human capital, numerous studies have investigated this issue (Barro, 2001; Becker, Murphy, and Tamura, 1990; Hanushek, 2013; Mincer, 1984). Likewise, the World Bank's Human Capital Index, established in 2018, aims to predict the future productiveness of workers by analyzing their accumulation of human capital (Pennings, 2020). This Index endeavors to expose how existing health and educational conditions shape workforce productiveness in future generations (D'Souza et al., 2019). The Human Capital Index calculates the human capital a newborn would possess when aged 18, factoring in the health and educational conditions within their country. This evaluation incorporates data from both healthcare and education sections. Healthcare parameters considered are the likelihood of survival, issues which reduce growth and the average life expectancy of adults.

Education includes the number of years a child is likely to attend school and results on international tests (World Bank, 2020). Human Capital Index (ranging from 0 to 1) assumes that an individual has completed their schooling and is in good health. A human capital index of X means that a child born today at age 18 could be at most 100 times as productive as X if he or she had full access to education and health care. This reinforces just how essential human capital investments are to ensure future generations of enhanced productivity (Kraay, 2018).

Furthermore, employees' salaries differ in accordance with their productivity. Several studies (Checchi, 2006; Gumus and Sisman, 2014; Stevens and Weale, 2004) demonstrate that a correlation between higher educational attainment and higher incomes. These significative factors make income distribution an issue since Ricardo's age, which was during the Classical Economics Era. Functional income distribution, the concept linking income to payments to the factors of production in classical economics, is a major focus of income distribution research (Atkinson, 1997). However, current research takes into consideration the individual income distribution that correlates to the entire population's income accumulated within a certain period (Oz, 2019). Acknowledging the evolving nature of human capital is necessary to properly understand the various explanations for income distribution, which include talent, fate, personal decisions, educational discrepancies, inheritance, life cycle, public funds, and redistribution (Sahota, 1978). One can examine the organic link between human capital and income distribution by looking at these circumstances.

Furthermore, education, a crucial component of human capital, is a service from which all individuals should benefit equally. Nevertheless, not everyone benefits equally, due to factors such as intelligence or skills

related to coming from a better family, as well as the economic situation of the family, which is also related to financial markets (Checchi, 2006). No matter the origin, variations in income can have a direct effect on the allocation of resources towards human capital. Because of socioeconomic disparities, human capital is not equitably dispersed, making it tough to acquire financing and invest in human capital. Therefore, the inability to make investments in human capital today will affect the amount of human capital available to future generations.

Nevertheless, Welch (1975) encourages the use of human capital theory as an analytical tool to understand intricate matters but cautions against worshipping it as a religion or placing it on a pedestal. Education and human capital are intricately connected because education equips people with the appropriate aptitudes and talents to engage in economic activities. Those with higher levels of education have improved health, a reduced risk of unemployment, heightened engagement in social and political life (Stiglitz, Sen, & Fitoussi, 2009a; 2009b). Education and skill demonstrate a direct correlation, with increased educational attainment leading to a higher social position (Rodríguez-Pose & Tselios, 2009). Despite the interconnections between education, the Human Capital Index, and income distribution, the relationship between them is complex. Although they are all related, the literature reveals indirect correlations or linkages in pairs. The research below investigates them further.

First, recent research has examined the values of the Human Capital Index of different countries. Emirkadi (2020) investigated Turkey's development journey and its performance in terms of human capital. Moreover, Friderichs et al. (2021) calculated a socioeconomically segregated Human Capital Index for South Africa. Lastly, Lim et al. (2018)

measured the human capital of 195 countries and territories for the years between 1990 and 2016.

Second, research also presents studies on income distribution. Karaman and Ozcalik (2007), for example, explored the inequality of income distribution in Turkey and the resulting child labor. On the other hand, Moyo et al. (2022) studied the development of human capital, poverty, and income disparity in the Eastern Cape province. Oz (2019) employed the Gini coefficient and the P80/20 ratio to display income inequality in Turkey. Moreover, Topuz and Sekmen (2020) analyzed the factors that determine income inequality throughout several regions in Turkey. Lastly, Uyanik and Yesilkaya (2021) explored the links between education levels of women, job opportunities, and income inequity.

Third, this paper investigates the indirect relationships between education, income inequality, human capital, and economic growth. To gain insight into the connection between education and income disparity, Coady and Dizioli (2018) and Rodríguez-Pose and Tselios (2009) have conducted research. Campbell and Ungor (2020), Castelló-Climent and Doménech (2021), and Lee and Lee (2018) further explored the bond between human capital and income inequality. Suhendra et al. (2020) investigated the impacts of human capital, income disparity and economic aspects in Indonesia over a period of six years (2013-2019). Gennaioli et al. (2013) scrutinized the correlation between human capital and regional development, while Vaitkevičius et al. (2015) evaluated the typology of human capital development in European Union countries. Park (2006) centered on the connection between human capital and economic development. However, there is a lack of investigation into the income distribution and index values of human capital in ECA countries,

which is worthy of discussion. This study presents an alternative outlook on the issue.

On the other hand, Galor and Zeira (1993) noted that the long-term disparity of wealth in a society is determined by the initial income distribution. Moreover, Stiglitz (2013) suggests that access to education is the greatest factor in deciding an individual's prospects. In other words, economic wealth is a prerequisite for educational opportunities, and education is a path to higher income. Conversely, access to chances is determined by education, and educational access is contingent on economic circumstances. Taking that into account, this paper seeks to analyze the state of education in Turkey via a comparison of the Human Capital Index and income distribution of ECA countries. The purpose of this study is to answer the following questions:

(1) Why do the Human Capital Index values of ECA countries differ?

(2) What is the income distribution in the ECA countries?

(3) How are the socioeconomically disaggregated Human Capital Index values in Turkey?

Methodology

This paper is a review of the Human Capital Index values and income distribution of 48 countries in the Europe and Central Asia (ECA) region, based on literature documents and World Bank data. It then provides policy conclusions regarding education in Turkey. The following section first outlines the logic for the selection of the ECA countries, followed by an explanation of the methodology used to address each sub-problem of this research.

The World Bank (2020) calculates the Human Capital Index (HCI) using data from 157 countries. The scope of the study is limited to Europe and Central Asia, chosen from the World Bank's 2020 Human Capital Index (HCI) database. This paper examines 47 countries and Turkey. There are a few reasons for this selection. First, The World Bank calculated the Human Capital Index using the Program for International Student Assessment (PISA) results which draw attention to educational poverty (Aedo and Sosa, 2017), a learning crisis (Patrinos, 2022) and skills shortage (Murthi and Sondergaard, 2010) in ECA countries. For this reason, it is beneficial to assess the Human Capital Index and income inequality of ECA countries more in-depth. Second, human capital, as measured by schooling, explains 54% of the income gap between advanced economies and only 2% in ECA countries; accounting for learning, human capital contributes 86% of the difference in incomes across advanced economies and 11% in ECA countries, according to Angrist et al. (2021). This means that human capital explains only a small share of cross-country income differences in ECA countries compared to advanced economies.

It is therefore beneficial to take a closer look at human capital indices and income inequality in ECA countries in detail. Third, the 48 ECA countries selected for the study have varied income categories (29 high, 14 upper-middle, 4 lower-middle, and 1 low), thus making it a crucial factor to consider. For instance, research has found that students' socioeconomic backgrounds account for 12% of the variation in mathematics scores between ECA and European Union countries (Aedo and Sosa, 2017). This discrepancy underscores the need to clarify the income distribution of these countries. Additionally, Turkey ranks 53rd in the Human Capital Index, which measures 157 countries (D'Souza et al., 2019). Turkey ranks 34th among the 48 countries in the ECA group,

which calls for further investigation. Moreover, given its geographic location as a bridge between Europe and Asia, Turkey possesses a unique position. Acemoglu and Robinson (2012) explain that even if there were initially minor disparities between societies, such distinctions can snowball into much more expansive institutional discrepancies. This decision aims to explore how countries with comparable geographic circumstances to Turkey - that start out with minimal disparities - can evolve differently in areas of economics, development, and education. Consequently, to understand Turkey's condition, the Human Capital Index and income inequality values of 48 countries in the ECA region are examined.

The aim of the first sub-problem of the study is to discover the reasons behind the varying Human Capital Index values[1] across countries in the ECA region. In addition, education value[2] and the duration of learning-based schooling[3] are closely reviewed. The second sub-problem of the study focuses on the income distributions of ECA countries, since inequality of income distribution has an influence on human capital investment and, subsequently, the share of income individuals acquire.

[1]The World Bank (2020) calculates the Human Capital Index values by multiplying the values of survival rate, education, and health.

[2]The education value is an integral part of the Human Capital Index. This value is deduced from the expected years of schooling (ranging between 0 and 14) and corresponding international test scores. The international test scores are determined through internationally accredited tests, like the TIMMS and PISA, and are accounted for within a scale of 300 to 625 (Patrinos and Angrist, 2018).

[3] Calculation of the learning-based schooling indicator requires consideration of both the length of time a student has spent in school, and the quality of the school, as discussed by Filmer et al. (2018).

The Gini coefficient[4] and different percentile shares[5] are used in the analysis. The third sub-problem investigates the socioeconomically disaggregated human capital index value[6] of Turkey. This part presents the outcomes of the richest and poorest segments in Turkey, as well as the influence of income inequality on the Human Capital Index.

[4] Income inequality is a complex issue that can be quantified by the Gini coefficient, a ratio that expresses the difference between the Lorenz curve and the diagonal (Morgan, 1962). The Gini coefficient, which has a range of 0 to 1, indicates how far the actual income distribution of a population deviates from perfect equality. If the Gini index is zero, this means that the population's income and population is distributed proportionally, with the lowest 10% of the population receiving 10% of the total income. However, if the Gini coefficient is one, this indicates that income and population are distributed disproportionately, with all income going to one person - a perfect example of inequality (Stiglitz, 2013). The larger the area between the Lorenz curve and the line of perfect equality (the diagonal), the greater the Gini index and the greater the inequality in the distribution of income (Kurul, 2012). The Gini coefficient is said to be zero when there is equal distribution of income and population, where the lowest 10% receives 10% of the total income, indicating a lack of inequality in society. On the contrary, in the case of perfect inequality, the coefficient attains a value of one when all income is obtained by one single person (Stiglitz, 2013).

[5] The P90/10 and P80/20 ratios are utilized to analyze income distribution inequality, with the P90/10 ratio comparing the income of the wealthiest 10% and the least affluent 10% of population, while the P80/20 displays how much the wealthiest 20% acquire in comparison to the poorest 20% (Organization for Economic Co-operation and Development (OECD), Income Inequality, n.d.). In a society which has no income inequality, these ratios should return a value of one. Moreover, Unal and Dogan (2021) suggest that an increase in these ratios is evidence of an increase in income inequality.

[6] The socioeconomically disaggregated Human Capital Index (HCI) value provides the capability to compare the HCI within a given country. Acknowledging the fact that it utilizes similar data to the HCI, D'Souza et al. (2019) find that slight adjustments in the calculation brings forth remarkable differences in the HCI scores, results from a country, and the global standards.

Results

The primary aim of this study is to evaluate the relationships between Human Capital Index values and income distribution in ECA countries, with a particular emphasis on Turkey; moreover, to assess the implication of these associations on education. This part discusses the answers to the sub-objectives of the study in its individual sections.

Table 1 shows the Human Capital Index values of the ECA countries, and the education-related data used to calculate this value. Finland (0.80), Sweden (0.80), the Netherlands (0.79), Ireland (0.79) and Estonia (0.78) all have the highest Human Capital Index values, accompanied by the United Kingdom (UK) with 0.78. In terms of the average expected schooling, Sweden, the Netherlands, Ireland, and the UK lead with 13.9 years; Finland with 13.7 and Estonia with 13.5 being second and third, respectively. With regards to learning-based schooling, Finland and Estonia have 11.7 years, while Sweden and Ireland have 11.6 years; followed by the Netherlands and the UK with 11.5.

Estonia boasts the highest international test scores amongst these countries with 543 points, followed by Finland with 534, Ireland with 521, the Netherlands and the United Kingdom both earning 520 and Sweden taking 519 points. This success indicates that, in Finland, Sweden, the Netherlands, Ireland, Estonia, and the United Kingdom, a child born today would reach close to 80% of their full potential come the age of 18 due to the 11.5 years of learning-based schooling that these countries provide. Romania is the only exception to the fact that high-income countries have higher human capital indices relative to other income groups.

On average, the expected schooling years in ECA countries is 13.0 years, with an average international test score of 479 and a learning-based

schooling period of 10.0 years. Turkey, on the other hand, has a slightly lower value compared to the international averages at 478 and 12.1 years, respectively. Moreover, it has a learning-based schooling time of 9.2 years. Consequently, the Human Capital Index for Turkey is 0.65, which is lower than the ECA average of 0.68. This indicates that a child born today will only reach 65% of his or her potential by the age of 18. Therefore, the conditions in the countries have an impact on the variables, creating discrepancies between the countries. This explains the reason for the discrepancies in the ECA countries' Human Capital Index values.

Table 1.

Human Capital Index in ECA Countries

Country	Expected schooling duration	International Test Scores	Learning-Based Schooling Duration	Human Capital Index Value of 2020
Albania (2)	12.9	434	9.0	**0.63**
Armenia (2)	11.3	443	8.0	**0.58**
Austria (1)	13.4	508	10.9	**0.75**
Azerbaijan (2)	12.4	416	8.3	**0.58**
Belarus (2)	13.8	488	10.8	**0.70**
Belgium (1)	13.5	517	11.2	**0.76**
Bosnia-Herzeg. (2)	11.7	416	7.8	**0.58**
Bulgaria (2)	12.3	441	8.7	**0.61**

Croatia (1)	13.4	488	10.4	**0.71**
Cyprus (1)	13.6	502	10.9	**0.76**
Czech Republic (1)	13.6	512	11.1	**0.75**
Denmark (1)	13.4	518	11.1	**0.76**
Estonia (1)	13.5	543	11.7	**0.78**
Finland (1)	13.7	534	11.7	**0.80**
France (1)	13.8	510	11.3	**0.76**
Georgia (2)	12.9	400	8.3	**0.57**
Germany (1)	13.3	517	11.0	**0.75**
Greece (1)	13.3	469	10.0	**0.69**
Hungary (1)	13.0	495	10.3	**0.68**
Iceland (1)	13.5	498	10.7	**0.75**
Ireland (1)	13.9	521	11.6	**0.79**
Italy (1)	13.3	493	10.5	**0.73**
Kazakhstan (2)	13.7	416	9.1	**0.63**
Kosovo (2)	13.2	374	7.9	**0.57**
Kyrgyzstan (3)	12.9	420	8.7	**0.60**
Latvia (1)	13.6	504	11.0	**0.71**
Lithuania (1)	13.8	496	11.0	**0.71**
Luxembourg (1)	12.4	493	9.8	**0.69**
Moldova (3)	11.8	439	8.3	**0.58**
Montenegro (2)	12.8	436	8.9	**0.63**

Netherlands (1)	13.9	520	11.5	**0.79**
North Macedonia (2)	11.0	414	7.3	**0.56**
Norway (1)	13.7	514	11.2	**0.77**
Poland (1)	13.4	530	11.4	**0.75**
Portugal (1)	13.9	509	11.3	**0.77**
Romania (1)	11.8	442	8.4	**0.58**
Russian Fed. (2)	13.7	498	10.9	**0.68**
Serbia (2)	13.3	457	9.8	**0.68**
Slovak Rep. (1)	12.6	485	9.8	**0.66**
Slovenia (1)	13.6	521	11.4	**0.77**
Spain (1)	13.0	507	10.5	**0.73**
Sweden (1)	13.9	519	11.6	**0.80**
Switzerland (1)	13.3	515	10.9	**0.76**
Tajikistan (4)	10.9	391	6.8	**0.50**
Turkey (2)	12.1	478	9.2	**0.65**
Ukraine (3)	12.9	478	9.9	**0.63**
United Kingdom (1)	13.9	520	11.5	**0.78**
Uzbekistan (3)	12.0	474	9.1	**0.62**

* It was created using data from the World Bank (2020, 2021).

** The figures next to each country represent an income classification system consisting of the following four categories: 1) High, 2) Upper middle, 3) Lower middle, and 4) Low-income.

Table 2.

Gini Coefficients in ECA Countries

Country	The year of report	Gini coefficient	The year of report	Gini coefficient	The year of report	Gini coefficient
Albania	2015	0.329	2016	0.337	2017	0.332
Armenia	2017	0.336	2018	0.344	2019	0.299
Austria	2016	0.308	2017	0.297	2018	0.308
Azerbaijan	2003	0.268	2004	0.266	2005	0.266
Belarus	2017	0.254	2018	0.252	2019	0.253
Belgium	2016	0.276	2017	0.274	2018	0.272
Bos. -Herg.	2004	0.340	2007	0.331	2011	0.330
Bulgaria	2016	0.406	2017	0.404	2018	0.413
Croatia	2016	0.309	2017	0.304	2018	0.297
Cyprus	2016	0.329	2017	0.314	2018	0.327
Czech Rep.	2016	0.254	2017	0.249	2018	0.250
Denmark	2016	0.282	2017	0.287	2018	0.282
Estonia	2016	0.312	2017	0.304	2018	0.303
Finland	2016	0.271	2017	0.274	2018	0.273
France	2016	0.319	2017	0.316	2018	0.324
Georgia	2017	0.379	2018	0.364	2019	0.359
Germany	2014	0.309	2015	0.317	2016	0.319

Greece	2016	0.350	2017	0.344	2018	0.329
Hungary	2016	0.303	2017	0.306	2018	0.296
Iceland	2015	0.268	2016	0.272	2017	0.261
Ireland	2015	0.318	2016	0.328	2017	0.314
Italy	2015	0.354	2016	0.352	2017	0.359
Kazakhstan	2016	0.272	2017	0.275	2018	0.278
Kosovo	2015	0.265	2016	0.267	2017	0.290
Kyrgyzstan	2017	0.273	2018	0.277	2019	0.297
Latvia	2016	0.343	2017	0.356	2018	0.351
Lithuania	2016	0.384	2017	0.373	2018	0.357
Luxemburg	2016	0.317	2017	0.345	2018	0.354
Moldova	2016	0.263	2017	0.259	2018	0.257
Montenegro	2014	0.388	2015	0.390	2016	0.385
Netherlands	2016	0.282	2017	0.285	2018	0.281
North Mace.	2016	0.345	2017	0.342	2018	0.330
Norway	2016	0.285	2017	0.270	2018	0.276
Poland	2016	0.312	2017	0.297	2018	0.302
Portugal	2016	0.352	2017	0.338	2018	0.335
Romania	2016	0.344	2017	0.360	2018	0.358
Russian Fe.	2016	0.368	2017	0.372	2018	0.375
Serbia	2015	0.405	2016	0.388	2017	0.362
Slovak Rep.	2015	0.265	2016	0.252	2018	0.250

Slovenia	2016	0.248	2017	0.242	2018	0.246
Spain	2016	0.358	2017	0.347	2018	0.347
Sweden	2016	0.296	2017	0.288	2018	0.300
Switzerland	2016	0.330	2017	0.327	2018	0.331
Tajikistan	2007	0.322	2009	0.308	2015	0.340
Turkey	2017	0.414	2018	0.419	2019	0.419
Ukraine	2017	0.260	2018	0.261	2019	0.266
Unit. King.	2015	0.332	2016	0.348	2017	0.351
Uzbekistan	2000	0.361	2002	0.330	2003	0.353

* It was created using data from the World Bank (n.d. Gini Index).

Table 2 indicates the use of the Gini coefficient in the second sub-objective of this study for assessing the income distribution of the countries in the Europe and Central Asia (ECA) region. This study assesses the last three Gini coefficients reported by ECA countries, providing the year of the report and corresponding figures. Turkey exhibits the strongest of income inequality (2019/0.419), followed by Bulgaria (2018/0.413) and Montenegro (2016/0.385) when considering the Gini coefficients reported by the countries in the most recent year. In the second reporting year, Turkey retained its highest Gini coefficient value (2018/0.419), followed by Bulgaria (2017/0.404) and Montenegro (2015/0.390). In the third year of reporting, the pattern is consistent, with Turkey attaining the highest Gini coefficient (2017/0.414), with Bulgaria coming second (2016/0.406) and Serbia third (2015/0.405). Consequently, the ECA nations with the most pronounced income inequality are Turkey, Bulgaria, Serbia, and Montenegro.

Averaging the Gini coefficient without considering the discrepant reporting years may not be entirely accurate. Nevertheless, the first reported value was 0.315, while the Gini for the subsequent reporting years were 0.317 and 0.315, respectively. Turkey possesses a higher coefficient than the average for the rest of the ECA countries, demonstrating the most extravagant level of income inequality.

As represented in Table 3, an analysis of the distribution of national income by percentiles and percentage share, is used to examine country income inequality. In the ECA region, Serbia, Romania, Bulgaria, and Turkey are the countries where the lowest 10% of the population receive the least amount of national income, with percentages of 1.4%, 1.6%, 1.9% and 2.0% respectively. Therefore, in this region, the 10% with the least earnings experience the sharpest disparity in wealth. People within the top 10% of the population in Bulgaria, Turkey, and Russia, which are part of the ECA region, receive one-third of the total national income. Population percentiles display 32.6%, 31.6%, and 29.9% respectively.

Table 3.

Distribution of National Income by Percentile and Percent Share Analysis in ECA Countries

Country name	The year of calcula.	The lowest 10%	The highest 10%	The lowest 20%	The highest 20%	P90/10 Ratio	P80/20 Ratio
Albania	2017	3.1	24.8	7.5	40.7	8.0	5.4
Armenia	2019	3.8	25.1	9.0	39.1	6.6	4.3
Austria	2018	2.9	23.9	7.9	38.7	8.2	4.8

Azerbaijan	2005	4.8	24.2	10.8	37.8	5.0	3.5
Belarus	2019	4.2	21.3	10.0	35.4	5.0	3.5
Belgium	2018	3.5	22.2	8.9	36.4	6.3	4.0
Bos. &Herg.	2011	2.9	25.1	7.5	40.7	8.6	5.4
Bulgaria	2018	1.9	32.6	5.7	47.6	17.1	8.3
Croatia	2018	2.9	23.2	7.8	37.7	8.0	4.8
Cyprus	2018	3.5	27.2	8.4	41.4	7.7	4.9
Czech Rep.	2018	4.2	21.5	10.2	35.5	5.1	3.4
Denmark	2018	3.7	23.5	9.3	37.7	6.3	4.0
Estonia	2018	3.0	22.4	8.1	38.3	7.4	4.7
Finland	2018	3.8	22.6	9.3	36.8	5.9	3.9
France	2018	3.2	26.7	8.0	40.8	8.3	5.1
Georgia	2019	2.6	27.6	6.8	43.0	10.6	6.3
Germany	2016	2.9	24.6	7.6	39.6	8.4	5.2
Greece	2018	2.7	24.9	7.2	40.1	9.2	5.5
Hungary	2018	3.1	23.2	8.2	37.8	7.4	4.6
Iceland	2017	4.0	22.1	9.7	35.9	5.5	3.7
Ireland	2017	3.4	25.4	8.4	40.0	7.4	4.7
Italy	2017	1.9	26.7	6.0	42.1	14.0	7.0
Kazakhstan	2018	4.3	23.5	9.8	37.9	5.4	3.8
Kosovo	2017	3.8	24.6	9.2	38.6	6.4	4.1
Kyrgyzstan	2019	4.1	25.8	9.6	39.5	6.2	4.1
Latvia	2018	2.5	26.9	7.0	42.3	10.7	6.0
Lithuania	2018	2.3	27.1	6.6	42.8	11.7	6.4

Luxemburg	2018	2.5	26.9	6.6	42.2	10.7	6.3
Moldova	2018	4.4	22.0	10.2	36.0	5.0	3.5
Montenegro	2016	1.7	27.8	5.2	43.9	16.3	8.4
Netherlands	2018	3.5	23.0	8.9	37.2	6.5	4.1
North Mace.	2018	2.0	22.9	6.1	38.8	11.4	6.3
Norway	2018	3.4	22.2	8.9	36.6	6.5	4.1
Poland	2018	3.2	24.0	8.2	38.6	7.5	4.7
Portugal	2018	2.8	26.6	7.4	41.4	9.5	5.5
Romania	2018	1.6	24.9	5.4	41.2	15.5	7.6
Russia	2018	2.9	29.9	7.1	45.1	10.3	6.3
Serbia	2017	1.4	25.6	5.2	41.5	18.2	7.9
Slovak Rep.	2018	3.2	19.5	8.8	33.8	6.0	3.8
Slovenia	2018	4.2	21.0	10.1	34.9	5.0	3.4
Spain	2018	2.1	25.3	6.2	41.0	12.0	6.6
Sweden	2018	2.7	22.9	7.7	37.8	8.4	4.9
Switzerland	2018	2.9	25.8	7.5	40.8	8.8	5.4
Tajikistan	2015	3.0	26.4	7.4	41.7	8.8	5.6
Turkey	2019	2.0	31.6	5.4	48.0	15.8	8.8
Ukraine	2019	4.1	22.3	9.7	36.5	5.4	3.7
U. Kingdom	2017	2.6	26.7	6.8	42.1	10.2	6.1
Uzbekistan	2003	2.9	28.3	7.4	43.4	9.7	5.8

* It was created using data from the World Bank's (n.d.) World Development Index.

Examining the population by percentiles, Serbia (5.2%), Romania (5.4%), and Turkey (5.4%) allocate the smallest portion of national income to the lowest 20% of the population. To clarify, only 5% of the national income is allocated to the 20% of the population with the least economic income in these countries. On the other hand, the leading 20% of the population in Turkey (48.0%), Bulgaria (47.6%), and Russia (45.1%) receive the highest percentage of national income. To be specific, the top 20% of the population in these countries acquire around a half of the national income.

The P90/10 and P80/20 ratios also show Turkey has high income inequality. The wealthiest 10% of the population receive a 15.8 times greater share of national income than the poorest 10%, while the wealthiest 20% get an 8.8 times higher share of national income than the poorest 20%. The next-high countries include Serbia (18.2), Bulgaria (17.1), Montenegro (16.3), and Romania (15.5) in the P90/10 ratio, and Montenegro (8.4), Bulgaria (8.3), Serbia (7.9), and Romania (7.6) in the P80/20 ratio.

Table 4.

Socioeconomically Disaggregated Human Capital Index Value

	Expected Schooling Duration		**International Test Scores**		**Human Capital Index Values of 2020**	
	The highest 20%	The lowest 20%	The highest 20%	The lowest 20%	The highest 20%	The lowest 20%
Turkey	11.1	7.9	521	426	0.77	0.49
Differ.50 cntr. *	2.4 year		55 points		0.15	

* The comparison of percentiles to the average of 50 countries reveal differences.

** It was created using data from the World Bank (World Bank (n.d.) SES-HCI).

The third sub-objective of the study examines Turkey's socioeconomically disaggregated human capital index values, as presented in Table 4. The objective is to track the percentile differences of the population. As highlighted, the human capital index value for the richest 20% of Turkey is 0.77, while the human capital index value for the poorest 20% is 0.49 – a difference of 0.28, which is greater than the average of 50 countries (which is 0.15). Additionally, the average years of schooling for the richest 20% is 11.1 and for the poorest 20% is 7.9 – a gap of 3.2 years (the average of 50 socioeconomically disaggregated human capital indices is 2.4 years). Moreover, the international test score of the richest 20% is 521 and the score of the poorest 20% is 426 – a gap of 95 points (the average of 50 socioeconomically disaggregated human capital indices is 55 points). These data suggest that income inequality in Turkey is higher than the average of the 50 countries, most of which are low-income countries, as evinced by the Gini coefficients for Turkey and the P90/10 and P80/20 ratios.

Discussion and Conclusion

This study aims to investigate and compare the human capital indices and income distributions of ECA countries, and to evaluate the background of education data in Turkey. Subsequently, the study explains its objectives in relation to the research results by referring to relevant literature documents.

As indicated in its first objective, countries in Northern Europe, including Finland, Sweden, the Netherlands, Estonia, Ireland and the UK, display some of the highest Human Capital Index scores among ECA nations. Apart from Romania, the higher income countries tend to have

greater Human Capital Index scores. Because these countries expect their students to be in school for at least 13.5 years, and because learning-related schooling lasts longer than 11.5 years, students in these countries typically score 520 or higher on international tests, with a maximum score of 625. Human capital indices are also high because of these educational investments. Children born in these countries can reach about 80% of their potential by the time they reach productive age. Lim et al.'s research (2018) corroborates this, demonstrating that Finland, Iceland, Denmark, and the Netherlands boast the highest levels of human capital.

On the other hand, the average values of Turkey's human capital indices are 3% lower than the average values of ECA countries, a finding supported by both TEDMEM (2018) and Emirkadi (2020). Consequently, in comparison to their potential, children born in Turkey will be able to reach only 65% of this potential at productive age. This calculation is based on future projections and thus speaks to the current state of the country. Sen (2000) evaluates the interconnection between education's social opportunity, a nation's politics, economy, and security. Brandolini and Rossi (1998) also reflect upon the impact of specific social structures on inequality and growth. Varied national heritages, such as religion, ethnic composition, and cultural traditions, lead to variant development rates (cited in Checchi, 2000). Thus, the reports of international organizations also support Turkey's lower human capital index score is just one result. For example, it is situated 64th out of 189 in the UNDP Human Development Index, 35th out of 38 in the OECD Better Life Index, 104th out of 167 in The Economist Democracy Index, and 107th out of 128 in the World Justice Project Rule of Law Index (Egilmez, 2022). In other words, Turkey faces with numerous shortcomings regarding development, justice, and democracy. There are numerous methods that

can be employed to improve the present state. To this, Yilmaz and Danisoglu (2017) undertook research on human capital's contribution towards the economic development of Turkey based on the Human Development Index, showing that Turkey's educational metrics must be advanced. Additionally, Uyanik and Yesilkaya (2021) stress that the recruitment of women who have acquired higher qualifications could certainly have a noteworthy effect in lowering the implications of income disparity.

Moreover, when comparing Turkish children with kids from similar nearby locations, these children start life in a disadvantageous place when considering educational data and the conditions of their environment. This conclusion correlates with the OECD Children's Well-Being Outcomes (OECD, 2021) which identifies that the results of the well-being indicators for Turkey are deficient. It is unexpected that Turkey falls behind other comparable geographic locations when measured by its four basic domains: material health, physical health, cognitive and educational skills, and social and emotional well-being.

The study's second sub-objective primarily discusses income distributions based on the Gini coefficient. Turkey, Bulgaria, Serbia, and Montenegro hold the greatest degree of inequality in comparison to other ECA countries that belong to the upper-middle income group. Turkey has the largest average Gini coefficient in the ECA region, as recognized by Stiglitz (2013), who claims that Turkey's degree of inequality has decreased since the 1980s. The findings of Karaman and Ozcalik (2007) display a drop in Turkish income inequality between 2002 and 2005. Oz (2019) also substantiates the view that the gap separating the wealthiest and the poor has been reducing since 2000, showing a corresponding decrease in inequality. Nevertheless, Turkey still maintains an above-

average level of inequality, notably in comparison to ECA countries with similar geographic characteristics. Perotti (1996) elucidates the connection between income inequality and socio-political instability, and its subsequent impact on investment via an unclear political and legal framework, together with disrupted market activities and labor relations. This encapsulates Turkey's last twenty years of governance. Therefore, it is valid to say that the inequality in the country, which had subsided after the 1980s, has grown since then. Moreover, Turkey has faced a harsh economic crisis in recent years accompanied by markedly high inflation. Similarly, Suhendra et al. (2020) emphasize that inflation likewise exacerbates the divide between the wealthiest and the most economically needy in Indonesia.

Subsequently, the researcher examines the dispersion of national income among the lowest and highest 10% and 20% of the population of the ECA countries to achieve the second sub-goal of this study. Serbia, Romania, Bulgaria, and Turkey grant the lowest percentile of national income to their lowest 10% of the inhabitants. Apart from Romania, the states mentioned constitute the upper-middle income group. Given this financial layout, the poorest 10% of population receive a quantity equivalent to or less than 2% of the country's total income. Among the population percentiles, the richest 10% get the most out of the national income in Bulgaria, Turkey, and Russia, with approximately one-third of national wealth divided among them. These results coincide with the findings of Topuz and Sekmen (2020). Sumer (2016) suggests that rising inequality could have adverse effects on economic growth, social welfare, and political stability. Lee and Lee (2018) note that this can occur due to its influence on the educational opportunities of talented but less advantaged individuals. Rodríguez-Pose and Tselios (2009) illustrate that

within the European Union from 1995 to 2000, there appeared to be a strong correlation between higher levels of educational inequality and higher economic inequality. Conversely, Coady and Dizioli (2018) suggest that increasing the length and quality of schooling can help to ease economic disparities, especially in developing countries. Hanushek (2013) asserts that improved education quality is a driving force of economic growth in developing nations. Mincer (1970) echoed this sentiment and discovered that one extra year of schooling boosts an individual's annual income by 11.5%, as reported by Kroch and Sjoblom (1994). More recently, Patrinos et al. (2022) concluded that attempts to keep children out of the classroom during the COVID-19 pandemic had a significant detrimental impact on their earning potential, resulting in a 3% loss of future income in ECA countries alone. In other words, income inequality has an impact on economic growth because those from low-income backgrounds are unable to attend school and develop talents that would otherwise be of benefit to the economy. Conversely, economic imbalance also influences educational attainment, leading to a decrease in future income. As a result, both income inequality and economic conditions result in lower future incomes.

In Serbia, Romania, and Turkey, the lowest 20% of the population people get the slightest portion of the national income, which is about 5%. On the other hand, the most richest 20% of the population in Turkey, Bulgaria, and Russia get the highest percentage share of the national income, with a figure being half of the entire national income. Stiglitz (2013) applies the analogy of a pie to illustrate inequality. When the pie is split equitably, each person receives a proportionate share. For instance, the top 1% of the population will get 1% of the pie. Nevertheless, if a country has extreme inequality, such as Turkey, the top 20% of population

might take 50% of the resources, leaving only 50% of the pie for the rest of its citizens. In this regard, Lee and Lee (2018) further emphasis the essential role of human capital in terms of income distribution.

The second sub-objective of the study explores the P90/10 and P80/20 ratios in ECA countries, finding that Serbia, Bulgaria, Montenegro, Turkey, and Romania have the highest income inequality in both ratios. In this context, Castelló-Climent and Doménech (2021) point to a direct positive effect of human capital inequality on income inequality. Similarly, Suhendra et al. (2020) observed a significantly negative relationship between human capital and income inequality in Indonesia. Gennaioli et al. (2013) suggested that education as a measure of human capital is the factor that dictates the association between regional income and productivity. Furthermore, Becker and Chiswick (1966) support this notion, claiming that the levels of human capital in an economy will affect income equality, the greater the number of people with higher levels of human capital, the smaller the gap between the rich and the poor.

The third sub-objective of the study examines the socioeconomically disaggregated human capital index values in Turkey. The richest 20% have a human capital index value of 0.77, while the lowest 20% have a value of 0.49 in Turkey. Lim et al. (2018) observed a dramatic rise in Turkey's expected human capital index from 8 to 20 between 1990 and 2016; however, a substantial difference of outcomes between the richest and poorest remains evident. This difference is equivalent to approximately three years of schooling; a child from the top 20% goes to school three years longer than a child from the bottom 20%. There is no calculated result for the length of schooling based on learning ability. However, a gap of 100 points in international test scores further increases the inequality. This disparity is worse than the average of 50 countries

whose human capital index values were calculated by socioeconomically disaggregated status. Similarly, this is the case for South Africa, which ranks 126th out of 157 countries by human capital index scores (Friedrichs et al., 2021). Moyo et al. (2022) discussed how increased human capital in South Africa further affects poverty levels due to access to inferior education, which has a damaging impact on employment opportunities. In short, this issue is present in both underdeveloped and developing countries.

Notwithstanding, Schultz (1992) has emphasized the critical significance of human capital in the pace and structure of economic growth. Similarly, Lim et al. (2018) point out that countries with more improvements in human capital are likely to experience faster economic growth. Likewise, Vaitkevičius et al. (2015) point out the crucial role of human capital in economic growth. Moreover, Park (2006) suggests that investing in human capital to support all levels of education will increase economic growth in societies with limited resources. Furthermore, Campbell and Ungor (2020) reveal that human capital explains 24-34% of differences in output per worker across countries, with this figure rising to 34.9% in ECA countries. It is evident that human capital and economic progress are intimately interconnected.

In summary, Turkey has a lower human capital index than the countries in the European and Central Asian region. Second, with respect to the GINI coefficient, Turkey is among the upper middle-income countries and has the highest level of income inequality among the ECA countries. Third, in terms of income distribution between the lowest and highest income groups of the population, Turkey is among the worst performing countries. Fourth, Turkey is one of the countries with the highest levels of income inequality, as measured by the P90/10 and P80/20

ratios. The wealthiest 10% of the population obtain 15.8 times as much national income as the least poor 10% in Turkey. Likewise, the richest 20% of the population receive 8.8 times more national income than the bottom 20%. There is an immense disparity between the top and bottom 20% of the population in Turkey, as indicated by the socioeconomically disaggregated values of the human capital index. If Turkey were to minimize income disparity, it would have a significant impact on its development, education, and wealth distribution. UNDP Human Development Reports reveal that inequality is a crucial factor affecting Turkey's development, accounting for 14.4% of the overall score. Moreover, unequal education and income distribution make up 13.6% and 23.1%, respectively, of Turkey's development (UNDP, n.d., inequality adjusted HDI). Stiglitz (2013) further supports the notion that the distribution of financial and human capital has an impact on the equality and inequality relations in society, which corresponds with Alkin's (2022) claim that improving the quality of human capital is integral to development. As a result, decreasing inequality necessitates specific solutions. In this regard, Egilmez (2022) believes it is important to promote an exploratory and analytical education system, which will minimize the reliance on rote learning. Even though the results of Driessen et al. (2016), Jeynes (2012), and Tuastad (2016) show that religious schools perform better, Driessen et al. (2016) note that this result does not hold for Islamic schools. That is, secular education is critical for Turkey.

Consequently, given the current social and political issues in countries like Turkey, it is evident that structural reforms must be comprehensive and focused on establishing a just rule of law based on universal human rights and the right to lead dignified lives (Agirdir,

2020). This goal is instrumental, as political, and political institutions determine the wealth and poverty of a country, not just economic factors (Acemoglu and Robinson, 2012). In this context, Alkin (2022) recognizes that justice, freedom, and education can change this situation. Egilmez (2022) advocates for creating justice in education, economics, and politics - the necessary components of successful change. To achieve this; a secular educational system based on democratic values, with the collective intent for the betterment of children and society, is the key for allowing gradual progress. In conclusion, necessary attention must be given to human capital now to remain competitive in the future, as investments will only yield returns eventually.

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Practices, Challenges, and Prospects of Implementing School-Based Management (SBM) System in Ethiopian Schools: Implications for Policy Makers

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Abstract

The purpose of the study was to investigate the level of practice, challenges, and prospects of SBM in Ethiopian schools. A holistic multiple-case study was utilized. In addition to document review, the researcher collected data via semi-structured interviews with maximum diversity sampling from eight participants. Thematic analysis was employed for analysing data. Results showed that implementing SBM in Amhara regional state, Ethiopia, was ineffective. The significant challenges identified were: the low administrative capacity of crucial members of the SBMs, uncertainty, overload, lack of cooperation from the school leaders, and teachers' misunderstanding of the importance of the SBM. To improve school management at the school level, Ethiopian schools should take the following prospects into account: Commission a steering committee to introduce SBM, make a pilot project to allow some schools to have greater control over their budgets, give legal authority to schools to define themselves, increase the direct relationship between district education bureaus and regional educational bureaus, provide in-service training and so forth. In addition to the theoretical implications to the literature about SBM in the Ethiopia context, this study has several practical implications for many stakeholders of education, such as the Ministry of Education and school administrators, to understand the challenges in implementing SBM and to overcome the challenges in their respective schools by considering the suggested prospects.

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Introduction

Education is one of the most vital elements in several countries' development (Rohma et al., 2020). Many countries around the globe are experiencing increased school enrolments and the situation has strained the capacity of their central governments to maintain the quality of education (UNESCO, 2020). In response to this rapid enrolment of students, new initiatives have begun emerging, such as SBM to manage and improve the quality of education and the school's effectiveness at various levels (Cheng, 2023). SBM is a type of school management that transfers power and authority to local schools over financial, personnel, and curriculum matters (Caldwell, 2005; Paul & Bonan, 1993).

Regarding its benefits, after examining several studies in different countries, the following conclusions have been made about the importance of SBM. SBM can: (1) increase students' learning outcomes (e.g., Aturupane et al., 2022; Bandur et al., 2022; Briggs & Wohlstetter, 1999; Cheng, 2023; Di Gropello, 2006; Garcia-Moreno, 2020; Yamauchi, 2014); (2) improve the teaching-learning environment (Bandur et al., 2022); (3) increase administrative efficiency and tighten professional control (Aturupane et al., 2022); (4) increase parental involvement

(Bandur, 2022); (5) enhance school commitment (Bandur, 2022), and enhanced accountability, satisfaction and performance of teachers (Arar & Abo-Rome, 2016; Rohma et al., 2020).

Over the last two decades, Ethiopia has had 85% enrollment of young generations, and half complete final primary school, Grade 8th (MOE, 2015). In response to this change, the Ethiopian Government has introduced many initiatives and associations (for instance, cost-sharing policies (MOE, 2005), Parent Teacher Student Associations (PTSAs) (MOE, 2015), and school self-evaluation and improvement planning (MOE, 2010)). The idea of SBM or decentralization has begun in Ethiopia in 1998 when the Education Sector Development Program (ESDP) I was drafted (MoE, 1998). Even if parents are an asset and a source of social and intellectual capital for schools, distributed leadership and decentralization are poorly functioning in many schools in Ethiopia (Mitchell, 2017).

The rationale for this research is based on three considerations. First, much of the SBM literature focused on transferring power to the local level (The World Bank, 2008); however, this study is delimited to the school-based governance practices, challenges and prospects. Second, the researcher found that previous studies on SBM demonstrated varied findings about SBM. For example, numerous scholars (e.g., Aturupane et al., l2022; Bandur et al., 2022; Briggs & Wohlstetter, 1999; Cheng, 2023; Di Gropello, 2006; Moradi et al., 2016) separately found that SBM practice is a tool to enhance students' performance. However, other scholars (e.g., Botha, 2006) found that SBM practices have added additional tasks to school principals and have no influence on students' performance. Contrasting findings by various scholars about SBM practices motivated

this researcher to investigate the present issue. Lastly, in Ethiopia, several studies on stakeholder involvement in school affairs have revealed that parental involvement was limited (MoE, 2017; Mitchell, 2017). Taddese and Rao (2022) and Tulu (2019) also studied the practice of school-based teachers' endless development in Ethiopia. These previous studies focused on the involvement of parents in school and school-based teachers' development. However, no studies have been found on the practices, challenges, and prospects of implementing SBM in Ethiopian schools context so far. Therefore, the main objective of this study was to investigate the practices, challenges, and prospects of SBM in the Ethiopian context. To achieve this objective, the following research questions were raised:

1. How is SBM in Ethiopia practiced?
2. What are the challenges in implementing SBM in Ethiopia?
3. What are the prospects for implementing SBM in Ethiopia?

This study will be important to several stakeholders of education. First and foremost, it will enable school administrators to understand the challenges of implementing SBM and through this encourage them to devise the means to sustain it. The findings of this study will also enable schools' principals, educational planners, and policymakers to tackle the various challenges in their respective schools by considering the suggested prospects. The findings of the study will serve as major contributions to knowledge in the area of educational leadership, management, and planning. Lastly, this study will contribute to knowledge about the Ethiopian Education Development roadmap for

2017-2030, the 1990 World Conference on Education for All, and Sustainable Development Goal 4 (SDG 4) on quality education

Theoretical Framework

This part of the study intends to explore the theory of management which is linked to SBM. SBM is based on the modern management theory called the principle of equifinality, which assumes that schools can use various methods to achieve their goals. The modern management theory recommends that schools may be managed in their ways in line with their conditions to make a big difference (Cheng, 1993). SBM is also supported by McGregor's (1960) Theory X and Theory Y assumptions of human nature in management. According to McGregor (1960), there are Theory X and Theory Y assumptions of human nature in management. From these main assumptions, SBM followed Theory Y because it suggests that human beings are complex and changeable, and every school member has various interests and skills. Hence, SBM is more crucial to satisfy teachers' and students' needs. Furthermore, SBM is also associated with the Participatory Democracy Theory that guarantees stakeholders' involvement (Booyse, 2018).

Another theory that supports SBM is Falleti's (2010) sequential theory of decentralization which identified three types of decentralization (fiscal, administrative, and political). Administrative decentralization is aimed at transferring responsibility for planning, financing, and management from the central to local levels. Political decentralization contains the creation of subnational units (region, state, provincial, district, or municipality) of the central government that are endowed with independent decision-making powers. Fiscal decentralization allows

local units to self-finance or recover costs through user charges. This theory departs from other models in that it analyzes three decentralization dimensions together, as components of the same process of decentralization. Lastly, school-based management is also linked to Riker's theory of federalism (Riker, 1964) which emphasizes the constitutional autonomy of subnational units.

Based on several aforementioned theories, the conceptual frameworks of SBM vary in several forms in different countries (Garcia-Moreno, 2020). SBM's main domains are resource management, leadership, and governance, curriculum, and learning, continuous improvement, and accountability (Martin, 2019). Rosyida and Purwanto (2022) identified six critical stages for practicing SBM: the socialization stage, formulation of the school's goals, arranging educational resources, carrying out SWOT analysis, preparing plans or programs for quality improvement, and (f) the evaluation of plans or programs implementation. Cheung and Cheng (1997) developed three main stages of practicing SBM: unfreezing (holding various meetings and conducting environmental analysis), changing and reinforcing

This study followed an electric approach, which is selecting what appears to be best from all the aforementioned theories. This paper's main contribution to the education management literature on SBM is in line with modern management theory (principle of equifinality) (Cheng, 1993), sequential theory of decentralization (Falleti, 2010), Theory Y (McGregor, 1960), Participatory Democracy Theory (Booyse, 2018), and Riker's theory of federalism (Riker, 1964). All these theories emphasize the decentralization of government structure and are crucial for SBM practice. In line with the ideas of the above theorists, Ethiopia also runs a

federal type of government, giving the government constitutional autonomy over regional states. Furthermore, to review SBM developments, good practices, challenges, and results of several countries and to support the present findings, Stufflebeam's (2003) model of Context, Input, and Process (CIP) was used.

Literature Review

SBM has been adopted by several countries with the same or different names to increase school autonomy and to share decision-making with teachers, students, parents, and community members. For instance, in New Zealand, SBM is named 'Tomorrow's Schools,' and in Hong Kong, it is named 'School-Management Initiative' (Abu-Duhou, 1999; Soga, 2004). The following five countries were selected due to their high level of practice of SBM (World Bank, 2008). All of them are categorized from moderate to strong or almost complete control of schools by councils, parents, or school administrators (World Bank, 2008). Hence, in this part of the study, using Stufflebeam's model of Context, Input, and Process (CIP), detailed accounts of SBM developments, good practices, challenges, and results of several countries are detailed reviewed.

Netherlands experience- In the Netherlands, the experiments began with financial autonomy, appointing teachers, and purchasing material resources such as books and equipment. Accepting these autonomies by parents led other schools to demand these independences (Abu-Duhou, 1999). In the Netherlands, parents have full choice and control over all educational (Abu-Duhou, 1999; World Bank, 2008).

USA experience- Chicago's schools and Charter Schools - USA's SBM initiative in Charter Schools was implemented in the 1970s and 1980s to escalate efficiency and enhance teachers' empowerment and involvement of the community in schools (World Bank, 2008). In the USA, various districts, particularly Los Angeles and Montgomery, implemented SBM in a few schools on a trial basis. Additional schools were added gradually to the piloted schools (Paul & Bonan, 1993). The most evident challenge that Montgomery County and Los Angeles faced was hard to persuade teachers and principals (Paul & Bonan, 1993).

In 1987, Chicago's schools were the worst in America; then Chicago; Illinois Legislature introduced SBM in 1988. Initially, the legislature was authorized to form the school council, which contains 13 members from the principal, teachers, parents, students, administrative staff, and community (Department of Chicago Public Schools 2016). Initially, despite some limitations such as a lack of cooperation and participation from the teachers' side, many states in the USA took many good practices from Chicago's SBM efforts (Fitzpatrick, 2012). In addition to Chicago, other cities in the U.S., such as Houston, Cincinnati, Seattle, and Oakland, have tremendously grown SBM structures (Fitzpatrick, 2012). Weiss's (1992) experimental study in twelve schools (6-had implemented SBM, and the other six were run traditionally) in 11 states in the USA. Upon these, scholars identified the strategic implications, strategies, and related issues for implementing SBM (Fullan & Watson, 2000).

Israel experience- In 1997, Israel as a country started implementing SBM reforms to improve the public school system and school management (World Bank, 2008). Before implementing SBM, the Minister

of Education commissioned a steering committee to introduce SBM in schools and offered 1-year training program for principals (Adam, 2002; MoE, 1993). Schools in Israel initially needed more resources to effectively implement SBM reform (Arar & Abo-Rome, 2016). In 2020, 560 primary school administrations were demarcated as SBM (Arar & Nasra, 2020). Despite its success in some aspects, the Israeli educational system inhibits, to some extent, the freedom granted to schools (Arar & Nasra, 2020).

New Zealand experience- Tomorrow's Schools reforms- New Zealand started the implementation of SBM reforms in 1990, intending to increase community autonomy and efficiency (World Bank, 2008). Initially, schools faced great rush, ambiguity, and mixed messages that contributed to distrust of government agencies. Thus, in the second phase, the support also focused on capacity building in teaching and learning rather than administration (Sleegers & Wesselingh, 1993).

Nicaragua experience- In Nicaragua, in 1990, the Autonomous Schools Program became a target of the government to increase community participation and efficiency (Rivarola & Fuller, 1999). Schools faced opposition from unions at the beginning of autonomy (Arcia & Belli, 1999). Nicaraguan schools legitimately sustained SBM in autonomous schools through frequent contact with school stakeholders in various workshops and training (Pettigrew et al., 2021). From the aforementioned various countries' lessons, it is clear that SBM is experimenting and implementing in different ways with varying objectives (Matthew, 2020). Furthermore, a systematic review of various empirical studies showed that, in all situations, critical challenges for the failure of SBM were retaining authority at the regional and central levels and failure to carry out day-to-day activities for school improvement at

the school level (Fullan & Watson, 2000).

Africa Context

Several educational reforms occur in Africa. However, improving school effectiveness through SBM remains a challenge (Aturupane et al., 2022; Gamage et al., 1991; Iyengar, 2021; Rosyida & Purwanto, 2022). The practices of SBM were challenged due to the principals' lack of commitment and transparency and low support from stakeholders (Iyengar, 2021). In Sri Lanka, the impact of the SBM program took more than five years to reform the management culture in SBM (Aturupane et al., 2022). Gamage et al. (1991) found that poor resource utilization was a significant challenge faced by school leaders in running SBM effectively and impacting the student's success. School autonomy and transparency in budget management are challenges faced by Negeri school principals in implementing SBM (Rosyida & Purwanto, 2022). According to Mwinjuma et al. (2015), Tanzania is a model of education decentralization devolved to the local level. They found that Tanzania's schools mostly manage their resources through school committees which are elected democratically. They added that it is the principals' role to act as a guide to the school committee, report the utilization of school resources, and keep the financial records up to date.

In addition, the South African government adopted SBM to endorse quality education by restructuring schools. However, most schools remain ineffective (Booyse, 2018; Setoaba, 2020). The study revealed that the poor quality management system was attributed to poor SBM performance since the quality management system was associated with managerialism, rejecting stakeholders' autonomy of self-management and decision-making.

The Ethiopian Context

This part of the paper analyses how Ethiopian education policy enables schools to make decisions and what the actual implication looks like on the ground, in terms of some empirical studies. Even if the introduction of the modern school system in Ethiopia by missionaries during the 19th century, additional schools were built by the subsequent regimes (Nekatibeb, 2012). The rise of various regimes in the country was complemented by various educational reforms and policies. After the rise of power, the current Federal Democratic Republic of Ethiopia issued two main policies namely 'Education and Training Policy' and 'Education Sector Strategy' in 1994. Initially, these policies emphasis on enhancing access and quality of education and then started to focus on school governance.

Later on, in 1998, ESDP I established a decentralized structure of school governance at the federal, regional, and district levels (MoE, 1998). In 2002 when ESDP II was drafted, the government comprehended the importance of decision-making at the district and school levels. This was further affirmed with ESDP III (2005) when the government determined to decentralize the main decision-making from regions to the district and school level. This decentralization aimed at making education more responsive at the school level (MoE, 2005). However, in actual practice, the district education had more powers of making decisions such as appointing teachers and managing the resources of the schools (MoE, 2005). ESDP III also underlined the unavoidability of community involvement in school decision-making and preparing annual action plans.

The Ethiopian Government realized the importance of management and decision-making at the district and school levels. This was later strengthened with ESDP III (2005) when the government decided to decentralize critical decision-making to the district and municipalities to build the capacity of District Education Offices through training in educational and financial management (MoE, 2005). The district administration was responsible for hiring teachers and managing the financial and material resources of the schools (MoE, 2005). ESDP III also noted the importance of community participation in school decision-making, financing, and preparing annual action plans (MoE, 2010). At the end of ESDP III, in practice, the lack of strong communication and relationships between regions and districts and limited capacities for planning and management are identified as challenges the government faces to decentralize schools properly and effectively. In addition, district offices in emerging regions do not have sufficient expertise to function effectively (MoE, 2010). In addition to the district councils, provinces affect the direct relationship between district education bureaus and regional educational bureaus. ESDP IV emphasized the further devolution of key decision-making to the school level by strengthening school management and parent and community partnership through capacity-building programs (MoE, 2010). Principals were also responsible for the administration of material resources in the school; however, the purchases of education materials are carried out at the district level (Abebe, 2012).

Despite the efforts of education stakeholders in Ethiopia, mainly school management needs to be better (Mitchell, 2017). These days, as Ethiopian Education Development Roadmap, 2017-30 found, delays in decision-making and lack of accountability in managing various

resources are hindering effective service delivery in schools (MoE, 2017). In Ethiopia, still there are very limited studies about school-based practice (Mitchell, 2017). Thus, this study aimed to investigate the level of practice, challenges, and prospects of SBM in Ethiopian schools.

Methodology

Research Design

This study employed a holistic multiple-case study, allowing the investigator to establish cause and effect, keep the holistic and meaningful features of actual activities, and seek insights (Yin, 2012). Case studies observe effects in real contexts by recognizing contexts as the unique, dynamic, and influential factors of causes and effects. Therefore, case studies were used in this study to examine and report the complex interfaces of activities, human relations, and other factors in an Ethiopian school's context (Cohen et al., 2007)

Participants

In qualitative research, there is no specific sample size determination formula; however, saturation is the most common regulatory principle for adequate samples (Hennink & Kaiser, 2022). In this study, eight participants were used for data collection. The participants were diverse and comprised four school leaders (principals and vice principals) from two schools (Ethio-Japan high school and Bureh Tesfa primary school), one education expert from Bahir Dar University, and one education expert from Debre Markos University and two from Debre Markos district education heads). The study was carried out in the Amhara region, Ethiopia (mainly, samples were chosen from the Debre

Markos district education bureau, two schools in Debre Markos town, Bahir Dar University, and Debre Markos University). Amhara region was selected due to several reasons. First in the last two years, due to the conflict in northern Ethiopia, several schools in this region have been completely or partially damaged and looted – a grave violation of children's rights. SBM is the best strategy for managing education-related crises at the local level. Thus, this study will contribute a lot for managing the education crises in the region by suggesting some prospects of implementing SBM for Governmental and non-governmental organizations such as UNICEF Ethiopia that launched initiatives to deliver education to children affected by crises in Ethiopia. The second reason was there was no study on the present topic in the region. Therefore, participants from Amhara region have served as sources of primary data.

Generally, all the sampled institutions were selected purposively due to the outstanding experiences they had in the education sector in Amhara Regional State (2021/22 Amhara Regional State Education Bureau office report). For instance, Bahir Dar University and Debre Markos University excelled in education. One expert was selected from each university. Experts are selected based on their experiences and areas of expertise. Selected experts have over ten years of experience and good academic knowledge or skill in education planning and management. District education heads are experts and leaders in different education positions and graduated from educational leadership and management. In addition to their outstanding experiences, two schools were selected for their excellent position in preparing their school leaders to implement SBM. These are role model schools in Amhara regional state, Ethiopia. Therefore, collecting data from diverse interviewees could provide a

relatively balanced viewpoint. Table 1 presents the demographic information of the interviewees.

Table 1.

Case profile of the Working Group.

Interviewee code	Length of service	Gender	Prev.Administrative Role in the school	Age
P1	20	Male	Yes	40
P2	17	Male	Yes	42
VP1	18	Female	Yes	42
VP2	14	Male	Yes	38
Expert 1	20	Male	Yes	43
Expert 2	18	Male	Yes	39
Head 1	24	Male	Yes	48
Head 2	26	Female	Yes	51

Ethics and Data Collection

Initially, this research was approved by the ethics committee. Then participants have been informed and become part of the study voluntarily. Interview responses were recorded anonymously. To anonymize participants, abbreviations were used, e.g., P1- Principal; VP1- Vice Principal 1.

To address all research questions of this study, semi-structured interviews and document reviews were done. For different types of interviews, a semi-structured interview form was used since it allowed the researcher to be flexible, probe, and follow various directions as information emerges from the interviewees. The interviews with each participant took about an hour and the audio were recorded by the

researcher using audio tapes. The mapping of semi-interview questions was carried out in three significant levels (Cohen et al., 2007). First, the interviewees were asked an initial question: What are your views on the practices of the SBM policy system in Ethiopia so far? What are your views on the challenges of the SBM system in Ethiopia? What are your views on the prospects of an SBM policy system in Ethiopia?

In the documents analysis, necessary education policies and reports in related to SBM practice were reviewed. In this study, document analysis is used in combination with semi-structured as a means of triangulation and substantiating interview findings (Bretschneider et al., 2017). Documents that were reviewed for systematic evaluation as part of a study contained two schools' reports, agendas, minutes of meetings, and manuals. In addition, the researcher typically reviews prior ministry education policies, and initiatives, as part of a study and incorporates that information in reports. The systematic process of document review entails searching, choosing, making sense of, and synthesizing data (Bretschneider et al., 2017).

Data Analysis

The interview data were analyzed qualitatively using a thematic approach since it enables the researcher to construct main themes and to report interpretation (Braun & Clarke, 2006). Data were also analyzed in line with three key research questions. After collecting data via audio tape, the researcher first, converted the audible data into written or text data (Data transcription). The researcher listened to those audio recordings again to ensure the correctness of the transcription. Next, the researcher labeled and organized written data to identify different words, phrases, and the relationships between them using NVIVO software (data

coding). This allowed the researcher to find common themes and concepts as a part of thematic analysis which focused on extracting themes from the text. Assigning codes to words and phrases first and identifying common themes in each response helped the researcher to better analyze and summarize the results of the entire interview findings. **Finally, direct quotes were also presented to substantiate the main themes**. To sum up, transcribing, coding, identifying themes, summarizing, and interpreting were used as a guide to analyzing qualitative data with the help of NVIVO (Cohen et al., 2007).

In the first stage of the data analysis, participants' view of the practice of SBM in Ethiopia was presented. The document review report on SBM practice was narrated qualitatively. Document analysis was intended to gain a contextual understanding of the interview findings. No themes were found at this stage. In the second step, the researcher analyzed the interview reports about challenges in implementing SBM. **In the third step,** the researcher analyzed the interview reports about prospects in implementing SBM by following the same procedure as step two. For the second and third research questions, the aforementioned analyzing qualitative data steps (transcribing, coding, identifying themes, summarizing, and interpreting) were employed.

Trustworthiness

To make sure the trustworthiness of the findings, triangulation was employed (Patton, 2014) by applying multiple data sources, including a semi-structured interview, and document analysis and multiple theoretical approaches (e.g., principle of equifinality (Cheng, 1993), sequential theory of decentralization, and Theory Y). In addition, transcript qualitative data were sent to the interviewees for verification of

the accuracy of the data. To check the reliability of interview data and to see inter agreement among experts over themes about practices and challenges of in implementing SBM. The researcher used Cohen's kappa coefficient (κ), and the agreement's value was 0.714. This value showed that the expert coding agreement or inter-reliability was very high (Holzmann, 1996). In addition, to confirm that the results of this study are derived from the narratives of participants and not from the potential personal narratives of the researcher, an audit trail was also maintained (Polit & Beck, 2018). Direct quotes were also added under the main causes, to gain a better understanding of participants' responses and ensure the trustworthiness of the study.

Results & Discussion

Practices of school-based administration system in Ethiopia so far

In addition to participants' responses, this section reviews documents on how Ethiopian education policy enables SBM to make decisions and how the implementation looks at the ground based on different studies. Documents review of schools' financial reports showed that most resources including teaching materials were purchased by the district education office (in Ethiopia called the woreda education office). In school minutes, some PTSAs members did not participate and sign their signatures.

Related to the practice of SBM in Ethiopia, a school principal reported:

> *Even if SBM is not adequately implemented, we are working with local actors on many occasions; for instance, the village (kebele) administration plays a significant role in promoting parent and community participation in school management and decision-making. Particularly in rural areas, the schools and PTAs report the lists of children who dropped out to the kebele administration since the administration is in close contact with the communities. They can influence parents to send their children to school and reduce school drop-out rates.*

The school vice principal confirmed this by reporting, "We were not consulted even on the formulation of the *school grant* policy (one practice for SBM), and we heard about it only during orientations for implementation. Thus, it takes many years to practice SBM in our context". This is consistent with other scholars (e.g., Kelil et al., 2014).

At the school level, as participants reported (district education office head 2), "The *block grant* budget is expected to cover recurrent expenditures, salaries, and running cost". However, in the study of Kelil et al. (2014), in Oromia and Somali national, regional states in Ethiopia, the salaries of the teachers were managed at the district level and in some cases the running costs as well. Thus, based on document review and interviews with concerned bodies, this study revealed that SBM was not adequately consulted and implemented in Ethiopian schools.

Challenges for implementing school-based administration in Ethiopia

While the schools operate school-based administration, the schools may face the following challenges:

Lack of time

In Ethiopia, as participants reported, the implementation of SBM faces obstacles such as a lack of time to advance education from the community, particularly women. Some of them contribute more money than the contribution of thought, like in the decision-making process, due to scarcity of time.

A high school principal stated that:

> *Even if school committee member input to the school is very high, the biggest challenge is the lack of time since most school committee members have their businesses and tasks*

This is affirmed by a study in Victoria (Gamage et al., 1991). Thus, the participants of this study strongly suggested that the government should make a clear policy to increase the participation of the community (a university expert 1). This is consistent with the study conducted by Swift-Morgan (2006) in southern Ethiopia.

Lack of capacity

As the participants reported, the implementations of the SBM face the challenges of the administrative capacity of crucial members of the SBMs, and lack of cooperation from the school managers. This result is in line with the studies of Kelil et al. (2014) who did find that some principals do not have the skills to manage school resources efficiently.

Uncertainty and overload

An expert from the university reported that overload, particularly with principals, would be a significant challenge for implementing SBM.

A district education head 2 explained the challenges in implementing SBM as "I am afraid that they will be in trouble due to workload." This is affirmed by a study in Victoria (Gamage et al., 1991) and New Zealand experience (Sleegers & Wesselingh, 1993) where the principal works more than 60 hours soared weekly.

Others

Participants also reported inadequate finances, government interference, poor attendance, teachers' misconception of SBM, non-cooperation of the school community, the lack of inappropriate knowledge of school activities, the lack of resources, low involvement of parents and community, the lack of decision-making skills, the lack of communication, and trust among stakeholders and misunderstanding about new roles and responsibilities, as challenges facing in implementing SBM. This finding thus corroborates earlier findings by Matthew (2020) in Nigeria and Victoria (Gamage et al., 1991) and Ethiopia (Mitchell, 2017).

Principal 1 described the interference of the Government as a challenge in school stated:

> *School administration and committees are susceptible to their roles and functions and ready to take accountability for what happens in our school. However, the district education office sometimes imparted many tasks to report weekly and monthly, which is seen as interference by most school members.*

Thus, the Ethiopian Government should decentralize finance toward the schools in an identical form, as the Netherlands established lump-sum funding for facilitating SBM (Karsten & Meijer, 1999).

Prospects for implementing SBM in Ethiopia

Below are some responses from participants on the prospects of implementing SBM in Ethiopia.

Commission a steering committee- The Minister of Education has decentralized activities- from federal to regions-provinces (zones)-districts (woreda). Nevertheless, the school was not successful and did not try at all. To do this successfully, most participants stated that, first, the Minister of Education should commission a steering committee to introduce SBM in schools, like the case of Israel (The Minister of Education, 1993; Caldwell, 2005).

A principal in primary school described his ideas on this issue:

> *We should formulate school-based guidelines with the sub-committees in our school and discuss all the required support information, finance, and physical and material resources to implement the SBM policy (P1)*

Vice Principal also stated: *"It seems to work in our school most efficiently and effectively if we begin with forming various task forces under the principal close supervision and direction" (VP2)*

This is also affirmed by a study in Victoria (Gamage et al., 1991), which recommended initially establishing a committee responsible for developing a clear definition of focused goals and a clear work plan to implement SBM**.**

Make pilot projects- The second thing participants reported was that Ethiopia should begin experiments or pilot projects to give some schools greater control over their budgets.

A university expert 2 stated the usefullness of the pilot as follows:

> *The experimental study should take some schools to implement SBM and other traditional schools as control variables. Then see the difference between schools with SBM and traditional schools over the issues of school effectiveness. Then all schools will follow the footprint of these schools and be granted SBM as a system*.

This present finding is consistent with studies conducted in Dade County, Houston, Cincinnati, Seattle, and Oakland, which have tremendously grown SBM structures (Fitzpatrick, 2012; Paul & Bonan, 1993; Weiss, 1992). They revealed that the pilot project helped identify implementation problems, learned from the pilot, and could adopt SBM confident of continued support. Work with international organizations such as UNESCO and UNICEF to get funds for piloting some schools, like the case of Indonesia (Caldwell, 2005). Theoretically, this finding was supported by a sequential theory of decentralization that defines decentralization as a process, not an immediate output since it takes ample time and trials for increasing the power of local management.

Give legal authority to schools to define themselves and to use block grants and school grants.

Giving legal authority to schools to define themselves is another opportunity to implement SBM in Ethiopia, as reported by principals and education experts.

One participant commented about this issue as follows:

> *As for me, the transference of decision-making, planning, and monitoring authority to school levels is very important since we will be scolded when we decide. The district education office constructed and managed school buildings and facilities years ago (P1).*

Similarly, in New Zealand, one of the first tasks for schools in the new management system was to define themselves through their charter. The present study is in line with the studies of Martin (2019) and Iyengar (2021), who suggested making decision-making at the heart of the school as a remedial measure for ineffective SBM implementation in the Philippines. This is true in Nicaragua; the role of the MoE at the school level should involve primarily supervisory (Arcia & Belli, 1999). In line with the present study, the sequential theory of decentralization (Falleti, 2010) also argues that the sequencing of different types of decentralization (fiscal, administrative, and political) is a key determinant of the evolution of the intergovernmental balance of power. In addition in a similar vein to the present study, based on Cheng's (1993) principle of equifinality, schools should define themselves and assume different ways to achieve their goals according to their conditions. Due to the complexity of present educational tasks and the big differences among schools, SBM does not deny that schools need to achieve policy goals, but there should be many different ways to achieve them by defining themselves independently (i.e. the principle of equifinality). Therefore it is necessary to let schools become a self-managing system and possess considerable autonomy to develop teaching objectives and management strategies, distribute manpower and resources, solve problems, and accomplish goals according to their

conditions. As the schools are self-managing, they are more likely to take the initiative for their responsibility.

Increase the direct relationship between schools, districts, and regional educational bureaus.

Participants reported that poor communication between the district education office and the regional bureaus yielded poor monitoring of the district's performance and supports that those in need. Some participants underlined the usefulness of improving the relationship between the school, the District Education Office, and regional education bureaus in reducing the problems related to resource management, selection of teachers' capacity building and training, and ensuring transparency. Good internet access is essential in increasing the relationship between district and regional educational bureaus. Studies by Martin (2019) and Iyengar (2021), were also supported the present study by suggesting open communication among stakeholders as a remedial measure for ineffective SBM implementation in the Philippines.

Provide in-service training for all school stakeholders

Ethiopia may provide in-service training for teachers, principals, and other school stakeholders with new central-policy measures to implement the SBM system fruitfully. Participants of this study commented about the importance of training for better implementation of SBM as follows:

A high school principal (P2) commenting about the usefulness of training stated:

> *Even if the school committee could determine the number of training and workshops, ongoing support and training workshops are required for all stakeholders about school leadership, managerial practices, SBM worldwide practices, and challenges.*

This finding aligns with the Netherlands, New Zealand, and Indonesia experiences (Adam, 2002). This was true in Sri Lanka (Aturupane et al., 2022), Nicaraguan (Pettigrew et al., 2021), and in the New Zealand social context (Sleegers & Wesselingh, 1993) emphasizing the use of in-service training for school partners for the implementation of SBM.

See teachers as a driving force in improving school management

Respondents marked the critical role of teachers in helping to increase community participation and in school management, leading the activities of PTSAs, reducing drop-out, and coordinating student clubs. All these activities are crucial for the implementation of SBM effectively and efficiently. Related to this, a university expert 1 stated:

> *By creating open communication and feedback sessions and stimulating and motivating teachers, we can make teachers actively present in the classroom and implementations of SBM.*

This is in line with the study of a school in the Philippines by Iyengar (2021). This finding was also supported by theory Y, which argues that when democratic participation is practised in the organization, humans including teachers are willing to serve for their shared goals and to look for more responsibilities to take up.

Give more voice to Village (kebele) administration, parents, and community.

To implement SBM in Ethiopia, participants reported that the Ministry of Education should give more voice to parents and the community. The present study was also supported by the study of Kelil et al. (2014). Referring to the importance of parent and community involvement, a district education expert stated:

> *Parents and the community at large have the perspective to build students' social and intellectual capital by connecting them to the real world. Although we have PTSAs, school improvement committees, and parent committees, unfortunately, these bunches of committees need to be sufficiently working.*

Another respondent (VP1) recommended, "Sharing with parents about the SBM in an informal way to reduce resistance is important."

A third participant recommended," Bringing parents of community members as guest speakers to the school or classrooms, to promote the participation and commitment of the parents and students" (a district education expert 2).

A university expert 1 commented on this issue stated:

> *For the success of SBM, walking on two legs means the school and community should work together by promoting community awareness of SBM and the schools' goals and missions. By doing so., various people around the school will be more likely to exert their efforts for the success of schools.*

This finding aligns with a study by Iyengar (2021) and Arcia & Belli (1999)., who found the significant importance of community and parent involvement in post-Covid-19 in the educational setting. The present result was also supported by Booyse's (2018) Participatory Democracy Theory which emphasizes the importance of involving stakeholders in decision-making processes. In the case of schools, Participatory Democracy Theory can be used to ensure the involvement of stakeholders such as students, teachers, parents, and community members in school governance and decision-making. Booyse (2018) argues that since the goal of a school is multiple and complicated, they need the intelligence, imagination, and effort of more people to accomplish them. In addition, since federalism supports the voice of local stakeholders, Riker's theory of federalism (Riker, 1964) also supported the present study.

Give voice to students beyond student clubs and parliaments

For better implementation of SBM, participants extended the voice of students beyond student clubs and parliaments**.** Participants confirmed this. For instance,

> *By supplying information to school members in oral and written form before any discussion, principals can get students' views in the decision-making process (a university expert 1).*

In line with the present study, students have begun to play a significant part in school decision-making about teaching and learning by participating in activities (Gamage et al., 1991, Kelil et al., 2014). In the same vein, self-managing schools link to participatory democracy theory that ensures the involvement of students in decision-making,

contrary to Managerialism which rejects stakeholders' independence in self-management and decision-making. Theory Y also supported this result by suggesting democratic participation in the school as a crucial element to motivate students.

Conclusion and Implications

This study followed theories that emphasized on decentralization of management such as modern management theory (principle of equifinality) (Cheng, 1993), sequential theory of decentralization (Falleti, 2010), Theory Y (McGregor, 1960), Participatory Democracy Theory (Booyse, 2018), and Riker's theory of federalism (Riker, 1964). This study presented evidence-based learning processes of SBM implementation in various countries. Thus, experiences learned from these countries' cases can assist Ethiopia in implementing SBM. This study found that implementing the SBM in Ethiopian schools was ineffective, leaving much to be desired because of the various challenges in implementing it properly. Low administrative capacity; uncertainty, overload, poor attendance of members at meetings, the lack of cooperation from the school managers, inadequate finance, government interference, teachers' misconception of SBM, and low involvement of parents and community were obstacles in the implementation of SBM in Ethiopia.

To improve school management at the school level, Ethiopian schools can take the following lessons or prospects into account: Commission a steering committee to introduce SBM, make a pilot project to allow some schools to have greater control over their budgets, give legal authority to schools to define themselves and control budgets,

increase the direct relationship between schools, district education bureaus and regional educational bureaus and so forth.

For SBM to succeed, all school stakeholders are required to support proper implementation of SBM activities in schools and ensure accountability in the management of SBM's funds. This study has several implications. Theoretically, the findings of this study contributed the literature by adding knowledge and clarifying the effectiveness and challenges of implementing SBM in the Ethiopian context. Practically, these findings also help educational policymakers in their attempts to plan and formulate operational policy guidelines for the effective operation of the SBMs to improve school effectiveness and students' academic performance. This study has many implications for many stakeholders of education, such as school administrators, to understand the challenges of implementing SBM and to tackle the various challenges in their respective schools by considering the suggested prospects. This study will also help school leaders to develop their framework or strategy to manage human, financial, material, and physical resources and empower schools' management boards, teachers, and communities to make informed decisions to improve the use of resources and service delivery.

Limitations and Future Research Directions

One of the limitations of the present study is the limited number of samples, which means that from a limited number of cases of experts and principals, it is difficult to statistically generalize to other schools in the country (Stake, 1995). Thus, future researchers can conduct studies about SBM's practices, challenges, prospects, and its contribution to school effectiveness and school improvement in a different context by using a

large sample and mixed research methods. Thus, this study will serve as a springboard for future researchers to study SBM, educational leadership, management, and planning.

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Ethics approval

The author declares that all information in this study has been complied with institute of education and behavioral science, Debre Markos University. Also the author informed the participants about the purpose and process of the research. Participants were informed that their names and institution names would be kept confidential and their privacy rights were protected. Participants were included in the process on a voluntary basis.

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Conflict of interest

Authors declare no conflict of interest

Availability of data and materials

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