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COMMUNITY DEVELOPMENT REVIEW

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ABUSE TOWARDS ELDERLY PARENTS BY ADULT CHILDREN: A SOCIOLOGICAL REFLECTIONS FROM BANGLADESH SOCIETY

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Abstract: *With the advent of social transformation from traditional to modern to neoliberal, social norms, values, kinship ties, and family bonding are getting weaker. Increasing abuse and negligence towards parents bear testimony to a changing social milieu where elderly parents are often being victimized by their children. Although religion and cultural norms dominate Bangladeshi society to some extent, analogous patterns of abuse toward parents are also rampant and there is a dearth of empirical evidence on the problem in Bangladesh. As such, this research attempts to explore the trends, nature, causes, and aftermath of elderly parental abuse in Bangladesh. Using a content analysis strategy, it captures news of elderly parental abuse published in online newspaper portals in Bangladesh. Twenty cases were identified and analyzed both quantitatively and qualitatively. Abuses are mostly concentrated in the Dhaka division, fathers are the most common victims, and sons are the common perpetrators. Physical harm, parricide, and delayed burial are the most grievous forms of abuse. Property and wealth issue are the most triggering factors of abuse towards parents. Considering the grievous nature of the abuse, formal agencies and local people intervened in the incidents. Several measures are suggested to save and support the elderly, including properly implementing relevant policies. The results of the analysis may be used for future policy directions not only in Bangladesh but also in many South Asian societies.*

Keywords: *Abuse, Elderly Parents, Adult Children, Bangladesh.*

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Introduction and Background of the Research

Elder abuse is not a new phenomenon; it has existed for centuries across cultures and societal structures, even in communities that traditionally uphold reverence, respect and care for older adults (Shankardass, 2020a). Such abuse is now globally recognized as a serious problem requiring urgent interventions by the health care systems, social welfare agencies, policymakers and the general public (Pillemer et al. 2016). The term elder abuse is generally used to describe certain types of harm to older adults and is commonly referred to as ‘elder mistreatment,’ ‘senior abuse,’ ‘abuse in later life,’ ‘abuse of older adults,’ ‘abuse of older women,’ and ‘abuse of older men’ (Sharma, 2012). It is precisely conceptualized as misbehavior towards the elderly by people whom they trust most or who are in a position or have the power to care for the elderly (Gholipour, Khalili & Abasian, 2020). However elderly abuse is a particularly complex issue and seemingly more multifarious and complicated than many other types of abuse as it takes on many varieties (Mikton et al. 2022). The World Health Organization (WHO, n.d.) broadly defines elder (aged 60 years and older) abuse as “a single or repeated act, or lack of appropriate action, occurring within any relationship where there is an expectation of trust, which causes harm or distress to an older person. This type of violence constitutes a violation of human rights and includes physical, sexual, psychological, and emotional abuse; financial and material exploitation; abandonment; neglect; and significant loss of dignity and respect.” It is estimated that one in six older persons is subjected to some form of abuse worldwide each year. Abuse of elder persons can bring dire consequences in matters of health and well-being including death, serious physical and mental health problems, financial and resource problems and social dislocations (Mikton et al. 2022). Abuse towards the elderly can happen anywhere including in the community, the home of the elderly, the home of a family member, in an assisted living facility, or at a caring home. The perpetrator may include family members, strangers, health care providers, caregivers, or friends (National Institute on Aging, 2023). However, one of the most critical forms of elder abuse is ‘parental abuse’ within family settings. Abuse by adult children is particularly problematic in situations where caregiving for parents is involved (Schiamberg & Gans, 1999). In matters of abuse towards elderly parents, it is their adult children who are the most common perpetrators (Klun, Bučar Ručman, & Frangež, 2024). Unfortunately, people often overlook the abuse of (elderly) parents by their adult children

and put in place more emphasis on other categories of family violence such as child abuse and wife abuse (Daskalopoulos & Borrelli, 2006).

The definition of elderly varies on various grounds. In the context of Bangladesh, people who are 60 years old and above are usually considered the elderly. It is a period when the elderly become physically and financially weak (Karim, 2021). In Bangladesh, elder abuse and neglect have become increasingly common, transitioning from isolated instances of family violence to recognized violations of human and civil rights as well as a serious public health concern (Farid, 2017; Begum, 2020). The country is also experiencing rapid growth in its elderly population due to declining birth and infant mortality rates and increasing life expectancy. Between 2000 and 2030, the elderly population in Bangladesh is projected to grow by more than 200%, with approximately 17 million citizens over the age of 60 by 2030. Currently, over 15 million people in Bangladesh are aged 60 or older, and this figure is expected to rise to about 36 million, constituting 22% of the total population by 2050 (Hossain, 2022; Karim, 2020; Rahman, 2020; Khan, 2015a; Taher, 2015).

Despite this demographic shift, elderly individuals in Bangladesh are increasingly losing their traditional social status, respect and influence. Changes to social institutions driven by modernization and urbanization have significantly altered the positionality of the elderly (Islam, 2015). Historically, older adults held esteemed positions within extended families, commanding respect from all family members. However, the rise of nuclear families and the decline of joint family systems in the neoliberal system have marginalized and isolated the elderly. Today, they face greater health challenges, financial instability, and social neglect compared to younger populations. Alarming, there has been a significant rise in elder abuse and neglect across Bangladesh (Ahmed, 2019; Taher, 2015; Khan, 2015a; Hussain, 2024). Even though, there is a lack of empirical studies and statistical evidence on elderly abuse perpetrated by adult children in Bangladesh (Begum, 2020). Available sources confirm that the elderly in Bangladesh confront various psychological, emotional, physical, sexual and financial abuses. Abuse towards the elderly also includes neglect and other forms of exploitation and maltreatment. Abuse and neglect of the elderly in Bangladesh is no longer an isolated family violence, but rather a human and civil rights violation and a serious public health concern that inflicts them disproportionately (Khan, 2003; Farid, 2017; Begum, 2020).

Elder abuse by adult children represents a hidden form of domestic abuse in Bangladesh. Many children fail to fulfill their moral obligations to care for their aged parents, often perceiving them as a burden, especially when they cannot contribute financially to the household (Karim, 2021). Children, preoccupied with their own lives and families, frequently prioritize personal interests over caring for their parents (Hussain, 2024). Elderly parental abuse remains a largely hidden issue in Bangladesh due to a lot of stigmas associated with the event (Begum, 2020). Elderly parents tend not to disclose their experience of abuse by their children as they fear that if they voice any abuses or negligence, society will stigmatize and degrade them (Hussain, 2024).

Abuse of elderly parents demands urgent social, legal and policy interventions to address and mitigate its effects. Recognizing the insidious nature of this problem and the paucity of scholarly evidence, this analysis aims to explore the dynamics of elderly abuse by adult children through newspaper content analysis in Bangladesh. Since there is no integrated mechanism to officially collect and store data about the abuse of the elderly, newspaper reports may be regarded as a vital source of information. It is hoped that findings as such will inform relevant policy measures to save the elderly from the abuse of their children.

Objectives of the study

The objectives of the study are framed as follows:

- a) To capture a general demographic overview of elderly parental abuse by their adult children in Bangladesh;
- b) To explain types, causes and aftermaths of elderly parental abuse by their adult children in Bangladesh;
- c) To suggest some specific policy directions to reduce elderly parental abuse.

Methodology

Elderly parental abuse is considered a private issue in Bangladesh. So, incidences of such abuse hardly come to light. Only the extreme cases of abuse get reported by the newspapers. For this study, we did an online

newspaper portal search using Google Search for the period between 2021 and 2023 to explore the nature, causes, and aftermath of elderly parental abuse. During this period, we identified 20 cases of elderly parental abuse by their elder children and analyzed them in line with the objectives of the study. Although different other forms of elderly abuse were noted on the news portals, we were selective to include abuse that was directed towards elderly parents only. Categorically, we selected cases of abuse directed to parents who are above 60 years and older. The search was conducted in January 2024. Our search was mostly limited to “parent abuse in Bangladesh,” “adult children-to-parent abuse in Bangladesh,” parents abused by their adult children in Bangladesh, “adult children-to-mother abuse in Bangladesh,” “adult children-to-father abuse in Bangladesh.” We included topics from both Bangla and English newspaper portals. While reporting, data were presented through percentage distribution under several broad categories. Several case examples were also reproduced to contextualize the data. Hence, our analysis follows both quantitative and qualitative aspects of social science research. Where appropriate, findings were corroborated with the existing relevant literature from both Bangladesh and beyond. As content analysis and information were available publicly, no formal ethical approval was required from any authority.

Findings

4.1 Geographical location of the Abuse

Administratively, Bangladesh is divided into divisions, districts, and sub-districts. Currently, there are 8 divisions and 64 districts. Each division comprises several districts and subdistricts. Through analyzing the cases, it has been noted that most abuse was concentrated (40%, $n=8$) in the Dhaka division followed by the Chittagong division (30%, $n=6$). Barishal, Khulna and Mymensingh divisions had the lowest concentration (5%, 1 each) of elderly parental abuse during this time. Table 1 represents the geographical concentration of elderly prenatal abuse.

The following table provides information regarding district-level concentration of elderly abuse. It is found that among the 20 cases, most cases of abuse took place in Dhaka district (20%, $n=4$), followed by Narayanganj (10%, $n=2$), Chittagong (10%, $n=2$), and Laxipur (10%, $n=2$), districts.

Table 1: Geographical location of the abuse (by division)

Division wise abuse	Number (Percentage)
Dhaka Division	08 (40%)
Chittagong Division	06(30%)
Rangpur Division	03(15%)
Barisal Division	01(5%)
Khulna Division	01(5%)
Mymensingh Division	01(5%)
Total	20 (100%)

Table 2: Geographical location of the abuse (by district)

District wise abuse	Number (Percentage)
Dhaka	04 (20%)
Narayanganj	02 (10%)
Chittagong	02 (10%)
Laxipur	02 (10%)
Chandpur	01(5%)
Feni	01(5%)
Thakurgaon	01(5%)
Dinajpur	01(5%)
Kustia	01(5%)
Barisal	01(5%)
Rajbari	01(5%)
Gazipur	01(5%)
Bagerhat	01(5%)
Mymensingh	01(5%)
Total	20 (100%)

4.2 Gender Dimensions of Victims and Perpetrators

Most victims are fathers (50%, n=10), followed by mothers (30%, n=6) and parents together (20, n=20%). On the other hand, sons appeared to perpetrate abuse to their parents mostly (65%, n=13), followed by both sons and daughters (30%, n=6). Separately, daughters are the least perpetrators of such abuse (5%, n=1). Table 3 captures information on the categories of victims and perpetrators.

4.3 Types of elderly parental abuse

Since the most insidious nature of violence was only published in the newspapers, it was possible to categorize the type of abuse broadly. In this case, types of abuse were categorized as serious physical assault, murder and delayed burial. Amongst all the identified cases, 40% (n=8) of elderly parents were murdered by their adult children, followed by experience of

serious physical assault (30%, n=6) and delayed burial (30%, n=6). Table 4 in the following presents different categories of abuse towards elderly parents.

Table 3: Gender dimensions of parental abuse

Victims	Number (Percent-age)	Perpetrators	Number (Percent-age)
Fathers	10 (50%)	Son/s	13 (65%)
Mothers	06 (30%)	Daughter/s	01 (5%)
Parents	04 (20%)	Both son(s) and daughter(s)	06 (30%)
Total	20 (100%)	Total	20 (100%)

Table 4: Types of abuse

Types of abuse	Number (Percentage)
Serious physical assault	06 (30%)
Murder	08 (40%)
Delay the burial (abuse to deceased parents)	06 (30%)
Total	20 (100%)

In addition, relevant cases are summarized in the following on three categories of abuse mentioned above.

Case 1: Serious physical assault for money

Jaynal Abedin and Honufa Begum, an elderly couple from Dhaka City were pushed out by their three sons. Despite all his sons being solvent businessmen, they used to torture their parents for money. Once the couple drove out of home, they had to rent an apartment. Meanwhile, on 28 July 2022, Jaynal sold a piece of land for Tk 31 lakh to meet daily expenses and was returning home on a motorcycle with his son-in-law with the proceeds. It is alleged that his three children collaborated with several muggers, assaulted Jaynal with an iron rod and snatched the money. Jaynal fell off the motorcycle after being hit by his sons and got serious knee and wrist injuries. On his hand, six stitches were required. A team of detectives from Dhaka Metropolitan Police detained his sons from different parts of the country and recovered Tk 31 lakh from them. Jaynal reported the incident to the Police Station, and an investigation was launched. (Source: Star Digital Report, The Daily Star, Date: 14 August 2022)

Case 2: Making delay in burial of mother

After the death of Taraful Begum, wife of late Shahjahan, due to old age complications, her children kept the body in the yard and started quarrelling over the division of the property. They prevented the burial of the body until the property was settled. Locals informed that Shahjahan was the owner of land for 9 decimals. He died before dividing the property. Following the death of Shahjahan, Taraful was living a non-human life. The boys did not keep track of Taraful. As a result, Taraful took refuge in the house of her only daughter. At one stage, Taraful registered 4 decimals (out of her 9 decimals) of land to her daughter's name. But the boys never agreed to the decision. Finally, they obstructed the burial of the dead, demanding equal distribution of the land. Faizuddin Ahmed Kalu, a concerned local government representative intervened in the matter and assured the disputants to solve it. Following that, the body was buried at night after 9 hours of death. (Source: Bartha24, Date: 15 February 2022)

Case 3: Not a robbery, but a murder plotted by the son

Abdul Halim, an elderly from Narayanganj, was killed on purpose by his son on 1st February 2023 who then tried to trick the police by setting up the crime scene to look like a robbery. Halim's body was found in his home by the police. Masud, the son of the dead, said that thieves broke in, tied him up, killed his father, and took all the money and jewelry before leaving. The police found the place ransacked, but there were no signs of someone breaking in. Later on, it was found out that Masud had hired a killer, Rubel, and that he and Rubel strangled Halim in his sleep, stole money from the cupboard, and ransacked the room. However, the Police Bureau of Investigation (PBI) solved the murder mystery. "Masud planned the murder so that he could steal the Tk 30 lakh that his father recently took out of the bank," the Police Bureau of Investigation official said Masud paid Rubel Tk 5 lakh to help him kill his father at his home. As part of his plan, Masud left the building's gate and the door to his apartment open on the night of January 31. Rubel walked into the house around 10 p.m. When Halim fell asleep around 11 p.m., the two of them went into his room. Masud used a mosquito net to hold his father down while Rubel started to strangle Halim. Halim was screaming for help, but Rubel put a pillow over his face to stop him. Masud checked his father's pulse later to make sure he was dead. (Source: The Daily Star, Date: 13 February 2023)

4.4 Causes of abuse of the elderly

Several reasons were identified for causing elderly abuse in Bangladesh. Dispute over wealth/property stood as the most heightened cause of elderly parental abuse (60, n=12), followed by mental disorders/drug addiction of adult children (20%, n=4). In this case, mentally disturbed or addicted children got involved in a dispute with their elderly parents that eventually caused abuse towards their parents. Considering parents as a burden was also a significant cause of abuse towards parents (10%, n=2). Table 5 captures information regarding various reasons for elderly abuse.

Table 5: Reasons of parental abuse by children

Reasons of abuse and negligence	Number (Percentage)
Dispute over wealth, money and property issue	12 (60%)
Disputes over father pension money	01 (5%)
Considered parents as a burden	02 (10%)
Mental disorders/Drug addiction of perpetrators	04 (20%)
Other family disputes/crisis	01 (5%)
Total	20 (100%)

In addition, relevant cases are summerized in the following to highlight the causes of abuse.

Case 4: Mentally disordered son kills mother

Monowara Begum from Chandpur was stabbed to death by her son Momin Dewan, 42. Three months ago, he got out of jail on bail and beat his mother and niece, as well as giving them death threats. On that day, he reportedly stabbed his mother with a sharp knife and ran away from home. He was captured by locals and handed over to police. Police and locals said Momin suffers from mental disorders and he had been in jail for years in another murder case. (Source: Dhaka Tribune, Date: 27 October 2021)

Case 5: Drug addict son kills mother for money

Ayesha Begum, from Narayanganj district and the wife of Rafik Mia, was murdered by her drug-addict son Sojib. Anjuman Ara, Ayesha Begum's daughter, revealed that her brother was a drug addict who regularly harassed her mother when he could not acquire money as demanded.

According to Anjuman, his brother Sojib begged his mother for money early Monday morning, and when she refused, he stabbed her to death with a sharp weapon. The Police are seeking to catch Sojib for the murder of his mother. (Source: Bangladesh Post, Date: 7 November 2022)

4.5 Aftermath (solution/support) of abuse

Several pieces of information were availed concerning the impact and aftermath of abuse. In most cases, attempts were made to settle disputes between parents and elderly children through the intervention of different formal and informal agencies such as the Police, local government bodies, local people (45%, n=10). In several cases, when formal complaints were filed in the court or police, the perpetrators were either arrested or looked for arrest by the Police (41%, n=9). In a few cases (9%, n=2) where nothing worked out, the elderly had to be shifted to the old age home. Only one incident was found where the perpetrators begged forgiveness from parents due to their mistreatment. Table 6 in the following captures information regarding the impact and aftermath of elderly abuse.

Table 6: Aftermath (solution/institutional support) of parental abuse

Aftermath (solution/institutional support)	Number (Percentage)
Shifted to an old home and hospital	02 (9%)
Offenders got arrested/looking for arrest by the Police	09 (41%)
Attempts for dispute resolution through intervention of Police/local government/local people	10 (45%)
Offenders seek forgiveness from parents	01 (5%)
Total	20 (100%)

In addition, two relevant cases are summarized in the following to highlight the aftermath of abuse.

Case 6: The elderly couple has now been admitted to the hospital

Old man Amer Ali and his wife Zarina Khatun from Gangni subdistrict of Meherpur district became homeless when their sons pushed them out of their home. So, two elderly parents were admitted to the hospital. Old Amer Ali says, sadly, *“How hard I have raised them. After giving all the land in the name of four sons, we are now in the hospital bed. They snatched the plate of rice*

from the face of the old woman and threw it in front of the dog. However, today they kicked us out of the house. I got sick and was admitted to the hospital. Not even once did anyone find out about us". Amer Ali, transferred his properties to his four sons—Hekmat, Abdul, Khezmat, and Achmat—under the condition they pay him BDT 4,000 Taka monthly for his and his wife Zarina's maintenance. The sons stopped payments after the first month, and the couple alleges they also took BDT 4 lakhs from a land sale but did not return it. To protect their remaining 13 khatas of land, Amer transferred it to Zarina, but the sons wanted this land as well. The parents claim they were mistreated and eventually kicked out of the house. Despite multiple community meetings, the issue remains unresolved. (Source: banglanews24.com, 19 January 2022).

Case 7: The son abandoned his mother and told her not to come back again: Settled in old age home

A very old lady, Shakila Begum, was abandoned by her son. The son and his wife handed over a cloth bag and forcibly boarded her on a bus. At that time, he said, "Don't come back home. Go where the eyes go." The old mother asked her son for his mobile number, but he did not give it to her. After being abandoned, she has been loitering here and there and sought help from door to door. Finally, the local government came to know about the incidents after seven days and took her to the hospital as she became so weak for staying in the streets. As the son refused to take her home, the local government authority sent her to a registered old age home for her care. (Source: Kaler Kantho. 23 July 2023)

Discussion

Since there is no exclusive or specific survey or content analysis on elderly parental abuse by their adult children in Bangladesh, findings cannot be directly comparable to the current state of knowledge. Yet, where appropriate, findings can be compared with studies highlighting any kind of elderly abuse both from Bangladesh and outside Bangladesh.

Our analysis captured information on abuse that takes place in the family or at the domestic and that son(s), daughter(s), and both son(s) and daughter(s) together perpetrate violence against their parents. Our findings are

also consistent with several empirical studies in Bangladesh which found elderly abuse is mostly perpetuated by family members such as spouses, sons, daughters, grandchildren and daughters-in-law (Farid, 2017; Awal, Majumder & Haque, 2020; Islam, 2015). The relationship with the perpetrator varies according to mistreatment type and culture. In Western culture, abuse of the elderly is mostly perpetrated by their spouse/partner, but in Asian culture, the most common perpetrators are children and children-in-law (Pillemer et al., 2016). For example, it was found in India that the most perpetrators are adult children, followed by daughters-in-law, spouses, sons-in-law, grandchildren, relatives, and others (Chokkanathan, & Lee, 2005). It is also consistent with another Bangladeshi study that reveals that dependence on male children is a prominent cause of abuse (Begum, 2020). On the other hand, we found that most victims are fathers of the perpetrators. There is no conclusive understanding in international literature regarding which gender is the most risk-prone to elder abuse. In some countries, elderly men are more likely than elderly women to experience elder abuse and in other countries, abuse is mostly directed towards elderly women (Pillemer et al., 2016). Since in Bangladesh men control property and resources, there is a likelihood for elderly fathers to become victims of abuse easily by their elder children on matters of property issues.

Taking care of the elderly in Bangladesh culture is not merely a social or moral duty by the family members including adult children, but also a significant religious duty. All major religious texts have placed immense obligations for appropriate caring of the elderly (Karim, 2020). Even though religion, culture, and social sanctions discourage elder abuse, degradation of moral and religious values, changing nature of family, social structure, and socio-economic status including modernization, economic pressure are strongly associated with maltreatment and abuse of older people in Bangladesh Begum, 2020; Farid, 2017; Khan, 2015b).

Many adult children fail to meet their moral responsibility of caring for their aged parents. They consider aged parents as a burden in their family, especially when the parents are unable to financially contribute and earn an income. Moreover, children are busy with their own, leaving their elderly parents susceptible to negligence and abuse (Karim, 2021).

With our limited data, with no rural and urban distinction, about geographical concentration of older abuse, any conclusive decision can be made

in terms of developing a correlation between elderly abuse and spatial location. From our data, we have identified the Dhaka division as the most pronounced geographical risk factor. It is further to note that no previous Bangladeshi study has ever highlighted this issue. But for a future reference study or survey in Bangladesh, geographical location may be taken up as a risk factor for analyzing elderly abuse. Elsewhere, it has been found that individuals living in urban areas were at greater risk for elder abuse. Country-specific prevalence of elderly abuse is also a triggering factor for such abuse. Amongst the European countries, Greece was found with an increased risk of sexual abuse while Portugal was associated with an increased risk of financial abuse (Pillemer et al., 2016).

Several past Bangladeshi studies have identified that different kinds and practices of abuse are directed toward the elderly such as physical abuse, financial exploitation, psychological/emotional abuse, verbal abuse, sexual exploitation, neglect, abandonment, and so on (Begum, 2020; Farid, 2017; Tareque et al., 2014). Being the newspaper sources, our analysis has explored only the crude nature of abuse such as murder, delaying burial and serious physical assault. The murder of parents is termed in criminological literature as parricide which is defined as the killing of one's mother, father, or both parents/close family members (Hillbrand, Alexandre, Young, & Spitz, 1999). It is such a rare crime or domestic abuse that gravely affects the sacred values of the family and makes society so uncomfortable and revulsive (Perri, Lichtenwald & MacKenzie, 2008). It signifies the most extreme dysfunctional aspects of family relationships that typically exist between the perpetrator and the parent (Brown, Eckberg, Deborah & Dodson, 2017). One of the heinous forms of abuse is the attempt by adult children to delay the process of burial of their deceased parents. Such abuse seems to be very unique to the context of Bangladesh which used to take place due to disputes over property, family conflicts, legal complications, and religious and cultural issues surrounding inheritance and property rights. No study in Bangladesh has yet captured the nature of this form of shameful abuse in Bangladesh. The country where Islam is the dominant religious faith with more than 90% of its population being Muslims. It is generally preferable in Islam that the dead be buried as soon as possible (Sheikh, 1998). Preventing the deceased from being buried peacefully is a serious expression of human indignity since when people die, there is no longer any reason for animosity or hostility towards them (ICRC, 2020).

Not a single cause can instigate elderly abuse. In the context of Bangladesh, Rahman (2010) noted that a combination of personal, familial, and economic factors results in elder abuse. Our brief analysis also found several factors leading to elderly abuse. However, the dispute over property or wealth appears to be the most instigating factor for elderly abuse. Property dispute at the household level is a widespread phenomenon in many cultures including Bangladesh (Rahman & Hossain, 2020). In a resource-scarce country like Bangladesh, property, land, or inheritance issues trigger violence among family members randomly. A study conducted by Amjad (2020) in Dhaka city found that forcible capture of land and stealing money from the elderly are the critical triggering factors for abuse. Another study conducted in Rajshahi district by Hossain, Haque & Ullah (2022) found that most elderly persons have the right to property in several ways. Children and in-laws apply coercive techniques to take away their property. Our study also noted that mental disorders and drug addiction of the perpetrators as serious risk factors for elderly abuse. Similar to our findings, research from most advanced nations found that most family members who are the perpetrators of elderly abuse are reportedly substance users having problems with their mental health and are also often socially isolated (Teaster & Roberto, 2022). In India, studies reveal that mental health/behavioral problems and drug addiction of the perpetrators are also related to elder abuse (Shankardass, 2020b).

In matters of assessing the aftermath of abuse, it has been noted that in most cases formal/informal mechanisms have intervened in the matters with their capacities. Parricide/murder, serious physical injury, and delayed burial deserve attention for the legal and social intervention of the appropriate authority because of the pressing nature and consequences of such abuses. However, it is broadly reported that in most cases abused parents do not feel comfortable reporting the abusive behavior of their children for several reasons. They fear legal and procedural matters, and become worried about further aggravation of the situation. Their dependence on children and love for them also restrict them not to seeking help or reporting abuse. Moreover, they are also concerned about privacy and intimacy norms of the family, compromising them to suffer the abuse silently (Schiamberg & Gangs, 2000). At the same, elder people might be unable to label the treatment or behavior they receive as abuse in any sense (Ecarnot, 2022). Further noted from our data that few elderly parents were shifted to old home or hospital. Moving the elderly to a care facility where

they can enjoy nice company and maintain an active lifestyle is often an alternative. But the reality is that Bangladesh has very few high-quality care facilities and trained caregivers. Thus, in the context of Bangladesh shifting the elderly to an old age home is not a good solution (Hossain, 2022). Moreover, these shelter homes in Bangladesh are not professionally or sensitively designed to meet the needs of the abused elderly. However, in the Western societal context, emergency shelter home programs have been introduced to support and protect older people who are victims of abuse. These specialized homes provide a safe environment as well as appropriate medical services (Heck, & Gillespie, 2013; Pillemer et al., 2016).

Recommendations: Ways to minimize abuse

As in other countries, older people in Bangladesh are thus a mixed bag: some require total help for their survival, while others have resources and varying capacities that might be utilized to ensure a respectable life for them at a low cost to society. Also, the standards for reliance differ for elderly males and females (Rahman, 2020). Adopting a model law like the Elder Justice Act 2010 of the USA may be an approach to moving forward with a commitment to support the elderly in Bangladesh (Taher, 2015).

Besides this, the government should pass the Protection of Rights of the Elderly Act and create a National Council of Elders to protect the elderly (Hussain, 2024), including a full commitment to implement the Madrid International Plan of Action on Aging (MIPAA). The most important law to protect the welfare of the elderly in Bangladesh is the "Maintenance of Parents Act-2013," which makes it legally required for children to provide for their parents' and grandparents' needs and take care of them. Because of various built-in flaws, the Act is not entirely successful. Also, there is not much awareness campaign for this Act (Ferdousi, 2020; Taher, 2015). Hence, the government of Bangladesh should revisit the legal and procedural aspects of the Act, make appropriate amendments, and push forward its rigorous implementation. If needed, the government may think of enacting a law specifically targeting abuse of the elderly both at home and outside.

The National Policy on Older People was passed in 2013. While being a good idea, the policy has not yet been fully implemented. The Ministry of Social Welfare prepared the Basis for the Development of Older Person

Act (Draft) in 2017. With the passage of the Foundation for the Development of Older Persons Act, the government intends to create the "Elders Development Foundation." These initiatives are expected to promote the growth of senior citizens (Ferdousi, 2020) if implemented appropriately.

A well-rounded and comprehensive care system should be developed to assist the elderly in Bangladesh (Hossain, 2022). Notwithstanding the numerous social stigmas, ethical quandaries, and feelings of guilt associated with old age homes, Bangladesh must have a good shelter home mechanism (Hussain, 2024, Jameel, 2022; Haider, 2022; Hossain, 2022, Khan, 2015a). Besides the old age home support system, one might choose to engage personal carers to care for their elderly parents at home as an alternative to care centers. As a result, services for paid home caregivers may be developed. Even if they are viewed as popular solutions, professional caregiving services are not yet fully available in our country (Jameel, 2022; Khan, 2015a).

No society can rely solely on public services to secure the security and welfare of the elderly; thus, community involvement is immensely required. The government of Bangladesh government must motivate the neighborhood, regional and local organizations to participate in services and caring for the elderly (Rahman, 2020). A linkage should be developed between government and nongovernment agencies to protect older people's rights and ensure their safety and security at home.

Overall, maintaining close connections with society, community, family, and support groups, and utilizing appropriate technology can serve as straightforward yet impactful strategies to safeguard the elderly from abuse (Sharma, 2021).

Conclusions

The parent-child relationship, perhaps, is the most important, valuable, and long-lasting interpersonal relationship. It is the ethical, moral, and sacred responsibility of children to love, respect, honor, and care for their parents. But it is a matter of serious social dismal and a sign of moral degradation when this celestial relationship is threatened and intimidated by various kinds of abuse perpetrated by (adult) children. Abuse of elderly parents by adult children is a kind of domestic/family violence. Bangladesh, as a society, still does not seem to be as proactive and serious in

dealing with or recognizing such abuse as it does for other types of family violence (e.g., child abuse, abuse of women in the family). For many elderly parents, it is a matter of shame and disgrace to share their experiences of abuse and seek formal and informal supports as well. This content analysis is the first-ever attempt to categorically highlight the dynamics of elderly parental abuse by their adult children in Bangladesh. Although this analysis is based on very few samples and not being able to generalize in the whole context of Bangladesh, it presents some grim realities of elderly abuse in Bangladesh. Elderly parental abuse is a complicated problem, particularly in a collective society like Bangladesh where respect for the senior members of the family is still nurtured and practiced. Any toxic and regressive treatment of elderly parents may impale not only the level of family bond-age and cohesion but may also degrade the moral foundation of the family and society as whole. Finally, lessons learned from this limited, yet important analysis may be a convenient source for academics and policy interventionists in Bangladesh.

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CHILDHOOD BULLYING: AN INVESTIGATION OF FAMILIAL LEVEL PREDICTORS

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Abstract: *The existence of bullying in childhood has received national attention. Often, this bullying occurs at school, where many peer-to-peer social relationships are formed. However, familial-level variables may also play a role in children experiencing bullying. This study investigates the role of these familial level variables, specifically how they correlate with childhood bullying. 5th grade data from the United States Early Head Start Longitudinal Research Study was utilized for this manuscript. Familial level variables studied were externalizing behaviors, parental drinking, parental monitoring, and father-child relationship reported by the child. The outcome variable of this study was the amount of bullying 5th graders experienced. Results suggested that familial-level variables such as parental monitoring and the father-child relationship play a significant role in decreasing the likelihood of a child experiencing bullying in elementary school. Implications for practitioners such as social workers and opportunities for future research are discussed.*

Keywords: *Bullying; Father-Child Relationship; Family Relationship*

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Importance of Parent-Child Relationship

Research suggests that parents play a significant role in the psychological well-being of their children (Papadaki & Giovazolias, 2013; Khaleque, 2013). The more warmth and affection a child receives from his or her parents, the more likely the child is to have an optimistic worldview and increased levels of independence, self-esteem, self-adequacy, emotional stability, and emotional responsiveness (Khaleque, 2013; Moran et al., 2018). Emerging research also suggests that fathers, in particular, play an essential role in their children's behavior. Papadaki and Giovazolias (2013) suggest that a father can positively impact their child's behaviors. The father may work as a protective factor even if the child perceives the other parent's behavior as rejecting. While this supports the link between high-quality parent-child relationships and positive outcomes in children, the inverse is also evident in the research base, which suggests that low-quality parent-child relationships yield adverse outcomes (i.e., low self-esteem, self-adequacy, emotional instability, and low emotional responsiveness; Alternburger & Schoppe-Sullivan, 2020; Marcone et al., 2020).

Parent-Child Relationship and Aggression

Humans expect to receive positive responses and acceptance. Children can develop behaviors that reflect psychological maladjustment when that need is not fulfilled through the parent-child relationship (Papadaki & Giovazolias, 2013; Trumello, 2021). In relationships where parents provide little warmth and affection to their children, the children tend to show aggression and hostility (Khaleque, 2013; Trumello, 2021). In a study of nine to ten-year-old children, researchers identified that a father's affection and parent-child interaction are associated with aggressive tendencies in children (Dewi et al., 2015). This influence can carry on through late adolescence, as demonstrated by a study of 144 undergraduate students who reported high levels of attachment anxiety with their fathers, correlating with an increased engagement in relational aggression (Williams & Kennedy, 2012).

Psychological control also has a significant role in a child's development. A study by Murray and colleagues (2014) suggested that psychological control is indicative of parenting, which may hinder the normal development

of a child's autonomy. Children who experience high levels of psychological control from one parent while having a low-quality relationship with the other tend to exhibit more aggressive behaviors (Bai et al., 2020; Murray et al., 2014). More plainly put, the fashion in which a parent interacts with a child influences their development. In addition to parental interaction, caretaking techniques may influence the child's development.

A vital part of the parent-child relationship is the effect parental monitoring plays on development. Parental monitoring can be thought of as a parent or guardian knowing when, where, and with whom their child is spending time (Stattin & Kerr, 2000). Specifically, research suggests that parental monitoring can lead to fewer negative peer relationships and fewer externalizing behaviors (Bortolo, 2022; Li, Fiefelman, & Stanton, 2000; Low & Espelage, 2014). However, the literature base is split on the role that parental monitoring plays in children who bully and experience bullying (Espelage et al., 2012; Low & Espelage, 2014; Veenstra et al., 2005). The current study was conducted to explain better the interplay of parental monitoring and how it affects children's bullying behavior.

Parent-Child Relationship and Bullying

The degree to which a parent is involved in their child's life has been inversely correlated with the likelihood of their child participating in bullying activity (Georgiou & Fanti, 2010; McClain, 2020). Connors-Burrow and colleagues (2009) classify bullies as children who are aggressive, dominant, and impulsive. Theoretically, it is possible that the aggressive behavior produced by a father having a poor relationship with their child can be associated with an increase in bullying behavior. Christie-Mizell and colleagues (2011) suggest that children who perceive that they have spent adequate time with their parents are less likely to be at risk for behavioral problems. When children felt as if they did not spend enough time with their fathers because of their work hours, they were more at risk for bullying behavior (Christie-Mizell et al., 2011). Studies have also demonstrated that the more parent-child conflict is present in the home, the more children are likely to engage in bullying behavior (Georgiou & Stavrinides, 2013; Hinduja & Patchin, 2022).

There is a negative correlation between child disclosure and bullying. When a child chooses to disclose more information about school with a

parent, this disclosure acts as a protective factor against peer aggression (Georgiou & Stavrinides, 2013). The more positive the relationship a child has with their parents, the greater the likelihood they will talk with their parents about what is going on at school. This positive relationship likely decreases the risk of the child engaging in bullying (Georgiou & Stavrinides, 2013; Pinquart, 2017).

Parent Alcohol Problems and Bullying

A myriad of factors can create a parent-child relationship that fosters bullying behaviors during child development. Previous research has suggested a relationship between parent alcoholism and bullying by their offspring (Cheng & Lo, 2023; Eiden et al., 2010). A study conducted by Eiden and colleagues (2010) consisted of 162 families, both with and without alcohol problems. Results suggested a direct relationship between the presence of a father's alcoholism and heightened levels of peer bullying in their offspring. Researchers have also identified the risk for aggression and bullying in children who have parents with alcohol problems. These negative impacts of parental alcohol problems begin as early as the toddler years (ages 2-3) and continue to rise through elementary, middle, and high school (Edwards et al., 2006). Since the risk for aggression and bullying starts at such a young age, introducing moderating factors like forming a healthy relationship with other strong male figures in their lives can reduce the identified risks.

Parent-Child Relationship, Depression, and Bullying

Research suggests that the parent-child relationship can positively and negatively impact bullying experienced by children (Cheng & Lo, 2023; Moran et al., 2018; Papadaki & Giovazolias, 2013). In a questionnaire completed by 201 5th and 6th-grade students, researchers found that maternal rejection was related to bullying others and victimization of self through the mediating effect of emerging symptoms of depression (Papadaki & Giovazolias, 2013). If the student reported high paternal acceptance, the negative effect that their mother's rejection had on them was moderated, suggesting that the parent-child relationships can serve as a buffer to negative life occurrences. Parental acceptance was correlated with a decrease in the student's depressive symptoms and the likelihood

of bullying others (Papadaki & Giovazolias, 2013). This idea furthers the notion of how crucial the positive impacts of a father-child relationship are regarding the child's behavior and emotional stability.

Purpose of Present Study

Bullying in schools is an issue that is receiving increased attention from the public. Children's behaviors in school are often initially learned in the home. However, minimal research exists to identify the interplay of familial-level variables and how they relate to bullying. This study will look to answer the following research question: *How do familial level variables relate to the likelihood of a child experiencing bullying in elementary school?*

Methods

National Early Head Start Research and Evaluation Project

This study used data collected from the United States Early Head Start Research and Evaluation Project (EHSRE), funded by the Administration on Children, Youth, and Families (ACYF). The EHSRE project is a cross-site national study with the primary objective to investigate and assess the impacts of Early Head Start (EHS) on family and child outcomes. Families participating in the Early Head Start Research and Evaluation Project were recruited from July 1996 through September 1998. Families who applied for Early Head Start services were screened to determine if they qualified for the program. Each Early Head Start site throughout the United States was allowed to determine its criteria, with income (using the federal poverty guidelines) as the primary factor in determining eligibility. A total of 3,001 families were initially recruited for the study (Administration for Children, Youth, and Families, 2002). Data for the current study were collected when the child entered the 5th grade.

Participants

Children who had data at the 5th-grade level for all measures utilized for this analysis were included in this study ($n=598$). Of these children, 53.8% were female and 46.2% were male. These children were from the following ethnic groups: 36.7% white or Caucasian, 34.3% African American, 22.2% Hispanic, and 6.9% listed as "other." The mean age of caregivers in this study (typically mothers) was 34.4 years old (see Table 1 for more information).

Table 1: Demographic Variables of Families Participating in Study

Variable	5 th Grade Total(%)
Child	598
Gender	
Male	322 (53.8)
Female	276 (46.2)
Ethnicity	
White	219 (36.7)
African Am.	205 (34.3)
Hispanic	133 (22.2)
Other	41 (6.9)
Caregiver	
Age of Caregiver	
Mean age	34.4 years
Range of ages	23 to 58 years

Source: own compilation

Measures

Peer Bullying Scale. The outcome variable for the study was the Peer Bullying Scale (PBS; Loeber et al., 1989). The PBS consists of four items asking children how often they have experienced bullying. Children respond to questions on a 1-4 scale where 1 = Never, 2 = Once or twice, 3 = A few times, and 4 = Many times. The four questions for this assessment ask how often the child has been picked on, hit by peers, had things taken, or purposely been left out at school or in their neighborhood. For this analysis, items were summed to indicate an overall bullying experience. Overall scores range from 4 – never experiencing bullying, to 16 – experiencing bullying many times. Authors reported internal consistency for this scale is $\alpha = .62$. This scale was completed by each reporting child.

Parental Monitoring Subscale. Children were asked about the extent to which their parents monitor their behavior utilizing items from Kerr and Stattin’s (2000) assessment. This assessment uses a 4-point Likert scale where 4 = Always or almost always, 3 = A lot of the time, 2 = Some of the time, and 1 = Almost never or never. Three questions were utilized to

assess how much parents monitor their child's behaviors: "Do your parents know what you do during your free time", "Do your parents know who you have as friends during your free time", and "Do your parents know what you spend your money on?" Scores were summed to gauge overall parental monitoring and ranged from 12 – parents highly monitor their child, to 3 – parents minimally monitor their child.

Child Reported Relationship with Father. An assessment of the child's relationships with their father figure was created from the larger EHRSE study. This assessment was created using a Likert scale from "4 – very true" "1 – not true at all." In addition, children could respond with "Don't know" or not answer at all. A total of 8 questions were included in this scale and were answered by the child. A child who answered all of the questions scores could range from 32 (meaning a positive relationship with their father) to 8 (signifying a less positive relationship with their father; (Administration for Children and Families, 2009).

Parental Alcohol Use. The primary parent was asked three questions about their alcohol use. These questions were derived from the World Health Organization's Composite International Diagnostic Interview (Kessler et al., 1998). In the initial questions the term, "alcoholic drink" is defined as "a bottle of beer, a wine cooler, glass of wine, shot of liquor, or a mixed drink". Participants were then asked the largest number of drinks they had consumed in any single day over the past year. The next question the participants were asked was if their drinking had caused work or relationship problems and if a family member or loved one had requested the primary parent decrease their drinking. Higher scores on this measure were indicative of problem drinking.

Child Externalizing Behaviors. The Child Behavior Checklist – Externalizing Scale (CBCL) was utilized to identify externalizing behaviors (Achenbach, 1991). The CBCL/4-18 was normed on a nationally representative sample of 2,368 children. Test-retest reliability was reported between $r = .95$ to $r = .9$ (Achenbach, 1991). Cronbach's alpha for internal consistency has been reported between $r = .72$ to $r = .96$. Support for the construct validity was also supported in the CBCL by correlating its corresponding scales with already established measures (Achenbach, 1991). Correlations between the scales of each measure ranged from $r = .59$ to $r = .89$ (Achenbach, 1991). Possible externalizing behavior scores ranged from 0-22. The child's primary parent filled out this questionnaire.

Results

Regression

The primary purpose of this study was to investigate the role that reported familial relationship plays in bullying incidents in elementary school. In addition, we wanted to identify other variables that may contribute to the increase in children’s bullying incidents. (see Table 2). To this end, the variables included in the regression equation for this study were the child's reported levels of parental monitoring, parental alcohol use, the child’s externalizing behaviors, and the child’s reported relationship with their father. This secondary, longitudinal dataset helps address our hypotheses because the sample from which it is drawn is nationwide and has had consistent data gathered over a long period. A regression analysis was chosen as it allowed us to look at the interplay of our selected predictors and outcome variables within the context of our dataset. This model accounted for 11% of the variance in the Peer Bullying Scale and was statistically significant, $F(4, 599) = 27.463, p < .001$. Variance inflation factors (VIF) were examined to assess the likelihood of multicollinearity influence. VIF values exceeding five are considered evidence of collinearity (Montgomery et al., 2001). No values exceeded 1.2.

Table 2: Correlations for Coefficients for Predictor and Outcome Variables (N = 598)

	Bullying Scale	Externalizing Behaviors	Parental Alcohol Use	Child Reported Rel. W/ Father	Parental Monitoring Scale
Bullying Scale	--	-.20***	.11**	-.26***	-.18***
Externalizing Behaviors		--	.18***	-.22***	-.09*
Parental Alcohol Use			--	-.06	-.06
Child Reported Rel. W/ Father				--	-.31***
Parental Monitoring Scale					--

* $p < .05$; ** $p < .01$; *** $p < .001$

All variables in the study were significantly related to the Peer Bullying

Scale (PSID) at the $p < .001$ significance level (see Table 3). The only exception to this statement was “parental alcohol use”, which was significantly related to the PSID at the $p < .05$. Of note, “peer bullying” was significantly, positively related to “child externalizing behavior” ($B = .05, p < .001$) and parental alcohol use ($B = .28, p < .001$). In addition, “child reported relationship with dad” ($B = -.88, p < .001$) and “child reported parental monitoring” ($B = .51, p < .001$) were related negatively to “peer bullying.”

Table 3: Predictors of 5th Grade Bullying (N = 598)

<i>Variable</i>	<i>Unstandardized B</i>	<i>Standardized B</i>	<i>t</i>	<i>P</i>
Bullying Scale	10.86		13.809	.000
Externalizing Behaviors	.05	.13	-3.32	.001
Parental Alcohol Use	.284	.08	1.99	.047
Child Reported Relationship w/ Father	-.88	-.19	-4.50	.000
Parental Monitoring Scale	-.51	-.12	2.85	.004

Discussion

The role of this study was to investigate familial-level variables that may contribute to the likelihood that a child experiences bullying in elementary school. The results of the analysis suggest that all four variables investigated were significantly related to children reporting that they had experienced bullying at the time of reporting. Specifically, related to parent-child interaction, it was identified that a child who reported a negative relationship with their father was also more likely to report having experienced bullying. The role of the mother-child relationship in fostering positive outcomes has been consistently stated in the literature base. However, the role that fathers play has been less researched. These findings support the notion that a positive father-child relationship also has far-reaching implications for children’s development and social interactions outside the home. In addition to the father-child relationship, children who reported having a more significant amount of monitoring from their parent(s) were less likely to report experiencing bullying. Previous research has been split on the role that parental monitoring can play in bullying experiences

(Bortolo, 2022; Espelage et al., 2012; Low & Espelage, 2015; Veenstra et al., 2005). However, this study adds support to the finding that parents who monitor their child's life are likely to reduce the risk of experiencing bullying. The mechanism through which this reduction occurs is not evident, but this finding is an essential first step.

In this study, parents who reported greater alcohol use that affected their daily lives were more likely to have a child who reported a more significant amount of bullying. Research has long suggested that the parent-child relationship suffers when alcohol becomes problematic in the home (Cheng & Lo, 2023; Eiden et al., 2010). However, researchers have not attempted to investigate the role that parental alcohol use may play regarding childhood bullying when also looking at the other variables investigated in this study. Findings suggest that increased alcohol use plays its own negative role independent of lack of father-child relationship, child social-emotional development, and parental monitoring. Taken as a whole, this analysis with all four variables accounted for 11% of the variance in children's reported experiences with bullying. Though directionality cannot be implied from these results, the results do suggest that children's bullying experiences are influenced by factors that fall outside of school. More plainly put, bullying may exhibit itself in the school, but components of bullying can begin at home. These findings also suggest that parents' habits and interactions with their children relate to how children experience peer relationships. Put plainly, bullying is a multifaceted problem where multiple variables contribute to a negative child experience.

Limitations

Though we feel this paper's findings are exceptionally useful for human services workers, the study is not without its limitations. One limitation of our study was that the participants were from a large secondary dataset. As a result, we were not able to contact them to gain follow-up information. Further, due to the secondary nature of the dataset, additional information from participants was not available to us. This limited follow-up contacts for monitoring the lasting impacts on the children.

Both the Parental Monitoring Scale and the Parental Alcohol Use scales were specific to the primary caregiver. This could be the father the child

was reporting on their relationship with, or it could be another caregiver (typically the mother). It would be helpful to have individual measures of the father's monitoring behavior and alcohol use, but that data is not present in our dataset.

Implications

The results reiterate the importance of a positive relationship with fathers. As the data demonstrate, children who are in homes at risk for low parental engagement and increased alcohol use are at a greater risk of experiencing bullying at school. This contributes to research previously conducted on the subject of childhood bullying behavior and further solidifies the concept that participating in bullying is heavily related to the home environment. In addition, the results suggest an emphasis on familial importance. All of the variables investigated were significantly related to children stating that they had experienced bullying at the time of reporting. These findings also suggest that parents' habits and interactions with their children relate to how children experience peer relationships.

Sharing this information with clinicians and human service workers who interact with families will give these workers a better idea of what indicators may predict bullying for children. Clinicians can also use these findings to find protective and risk factors for the children. From an educational standpoint, acquiring the knowledge that allows clinicians to explain to parents the importance of monitoring a child's behavior will benefit the family as a whole. Clinicians can also use these findings to explain how engaging in a positive father-child relationship will likely decrease the impact of bullying. In addition, workers who encounter parents with alcohol abuse issues can be cognizant of the fact that the children in these families may be negatively impacted not only in the home but outside of the home as well. This new information can lead workers to suggest additional services to help the children.

Future Directions

Applying these findings to the creation of interventions and education programs is the likely next step. Eliminating these identified risk factors in the home is unlikely. However, professionals can use these results to create protective factors mediating the risks in the school or home. Specifically,

family educators can help parents understand how to effectively monitor their children's behaviors and react physically, verbally, and electronically when bullying is present. The results suggest that a father-child relationship can be an essential protective factor in helping children prevent bullying. Unfortunately, not all children have a father figure to turn to. Studies may investigate the role of having a solid male/father-like figure in a child's life. The presence of such a figure could likely serve the same protective role as a typically defined "father." However, until this research is conducted, little is known about substitutes for this relationship.

Conclusions

Bullying in schools is a topic that has received increased attention from the public. Programs aimed at stopping bullying in schools are likely to proliferate. However, many emotional and social skills are fostered in the home through parent-child interactions. These familial-level variables are also likely to be fruitful in curbing the occurrence of bullying in schools. The research in this study should be used as an initial jumping-off point to utilize the home as a ground to combat bullying as well.

Many factors influence how a child experiences bullying in elementary school. However, this study suggests that a positive familial relationship may be a protective factor and put children at a lower risk. This is supported by Papadaki and Giovazolias' (2013) findings stating that parental acceptance was correlated with a decrease in the student's depressive symptoms and the likelihood of bullying others and Georgiou and Fanti's (2010) research positing the degree to which a parent is involved in their child's life has been negatively correlated with the likelihood of their child participating in bullying activity. Paternal relationships also influence the child's maladaptive behavior. Dewi and colleagues' (2015) results suggest that the father's affection and parent-child interaction are associated with aggressive tendencies in children. This influence can carry on through late adolescence (Williams & Kennedy, 2012), a future area of research that could be investigated. Not only is future research on the influence of a father's affection and parent-child interaction on youth in late adolescence anticipated, but also how the research on these crucial relationships can be used for intervention. With these interventions focusing on protective factors, pertinent strides can be made regarding childhood bullying.

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Declaration of conflicting interests

The authors declare no conflicting interests.

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DIGITAL TRANSFORMATION IN MEDAN'S SMEs: ASSESING THE IMPACT ON OPERATIONAL EFFICIENCY AND CUSTOMER SATISFACTION

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Abstract: *The purpose of this study is to determine and analyze the extent to which business automation and artificial intelligence variables affect the satisfaction of MSMEs in Medan City through operational efficiency as an intervening variable. The subjects of this study were SMEs in Medan City, with independent variables in the form of business automation and the use of artificial intelligence, dependent variables in the form of customer satisfaction, and intervening variables in the form of operational efficiency. The results of the data analysis were obtained through SEM analysis using SMART PLS 4.0 software. The data collection techniques used were questionnaires, interviews, and observations. This study uses a quantitative descriptive method, with data analysis through a structural equation model (SEM), which is processed using the PLS 4.0 application. The results show that partially, the variables of business automation and the use of artificial intelligence affect the customer satisfaction of MSMEs in Medan City and contribute to the operational efficiency of MSMEs in Medan. Simultaneously, the variables of business automation and artificial intelligence implementation affect the customer satisfaction of MSMEs in Medan*

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City through operational efficiency as an intervening variable. Along with the increasing use of digitalization, MSMEs in Medan City will be able to improve business automation in operational activities and carry out operational efficiency to expedite service and enhance customer satisfaction.

Keywords: *Digital transformation, business automation, artificial intelligence, customer satisfaction*

Introduction

Digital transformation is often associated with the Fourth Industrial Revolution, which is characterized by the integration of physical, digital, and biological technologies. Technologies such as the Internet of Things (IoT), artificial intelligence (AI), and big data play an important role in this period (Khalil, Afef, Abdelli, Mohammed El Amine, and Mogaji, 2022). Advances in computing and information technology towards the end of the 20th century were the main catalysts for digital transformation. From mainframe computers to personal computers, and finally the internet, these technologies began to change the way organizations operated and communicated. The emergence of the internet in the 1990s and the development of the World Wide Web created new opportunities for businesses in e-commerce, digital marketing, and communication. It also enabled organizations to collect and analyze data in unprecedented ways (Amaral, Afonso, and Peças, 2021). With the increasing use of mobile devices and the adoption of cloud computing technology, organizations can access and share data in real time from any location. This accelerates business processes and allows for greater flexibility. The collection and analysis of big data enables companies to make smarter, data-driven decisions. Through advanced analytics, organizations can identify trends, understand consumer behavior, and optimize their operations (Costa, Alessandra, 2023). Artificial intelligence and machine learning empower organizations to automate complex tasks, improve efficiency, and deliver personalized customer experiences. Blockchain introduces innovation in data and transaction security. This technology has been implemented in various sectors, including finance, supply chain, and healthcare, to improve transparency and security (Gessa, Ana, Jiménez, Amor, & Sancha, 2023). The Covid-19 pandemic that has swept across the world has been a crucial factor in driving companies to implement technological transformation policies. This requires a massive revolution with the implementation of work from

home, enabling tasks to be completed without face-to-face interaction. Companies are automating work processes that were previously done offline in the office, increasing the efficiency of working from home. The work reporting process is carried out through digital transformation by utilizing artificial intelligence, making company operations more efficient and effective (Canhoto, Ana Isabel, 2021). Business process automation can be realized through creative revolutionary ideas and determination, which can create transformation in the digital world. This transformation is growing every day, with increasing technological sophistication that makes business operations more efficient and effective, thereby reducing operational costs and generating comprehensive cost savings (Priyono, Anjar, Moin & Putri, 2020). Business process automation also produces correction mechanisms for human error, which are necessary to prevent mistakes and errors that could harm the company or increase the cost of correcting those errors (Telukdarie, Arnesh, 2023). This can be a double-edged sword, not only for the company, but also for the company's image. The process of digitalization can have both positive and negative impacts. The positive impacts include correction of human error, as well as an impact on work acceleration and efficiency, which aims to improve cost efficiency and provide fast, accurate, effective, and efficient services (Ulas, 2019). The negative impact that arises is an increase in unemployment, so the government needs to find emergency solutions so that digital transformation does not harm the community and the workforce in these companies. Therefore, a win-win solution is needed that can prevent and provide concrete solutions to overcome these negative impacts (Radicic, Dragana and Petković, 2023). Artificial intelligence applied by every business entity, especially MSMEs, can improve the quality of a company's services. This artificial intelligence operates with human-like flexibility, resulting in effectiveness and reducing errors, thereby enabling it to serve and satisfy customers (Arranz, Carlos F.A., 2023). Artificial intelligence also benefits companies in handling complex tasks that are difficult for humans to perform, which in turn can have a significant impact on company performance. Thus, companies, especially MSMEs, can grow rapidly and improve their performance and work productivity. Artificial intelligence will create business connectivity, thereby improving overall performance (Gouveia, Fernando Diogo and Mamede, 2022). MSMEs need a digital transformation process, given their complex operations and customer service that is often suboptimal, which is detrimental to customers who feel

dissatisfied. Therefore, a revolution in the digital field is needed to accommodate customer complaints about poor service quality (Marzi, Giacomo, 2023). SMEs can increase cost efficiency through digital transformation, which requires maximum time and effort to serve customers quickly and effectively (Yilmaz, Gokcen, 2023).

MSMEs can manage their operations well, while creating efficiency in customer service, which will increase customer satisfaction with effective and efficient services. Therefore, maximum effort is needed in the transformation process towards digitalization, which requires time to switch from manual to digital services (Kim, Goo Young, 2023). MSMEs need a clear vision when transforming human-based manual technology to digital technology that utilizes artificial intelligence. This can have an impact on increasing unemployment rates, while on the other hand, MSMEs need significant business development. Therefore, a clear strategy is needed regarding the direction of MSME business development (Hoang et al., 2023). The city of Medan is a center for MSMEs, with 38,343 business units in 2023, down from 56,750 business units in 2022. This decline was caused by the large number of MSMEs that went bankrupt due to customer complaints about service, resulting in reduced customer loyalty. This was due to the lack of initiative among MSMEs to adopt the transformation from manual to automated work, where the existing quality of work was inadequate. The lack of artificial intelligence (digital technology) in operations tends to reduce efficiency, resulting in increased costs that are not proportional to the costs incurred from manual processes. As a result, effectiveness is reduced and efficiency declines, which impacts the ability to provide good service, leading to a decline in customer satisfaction.

Methodology

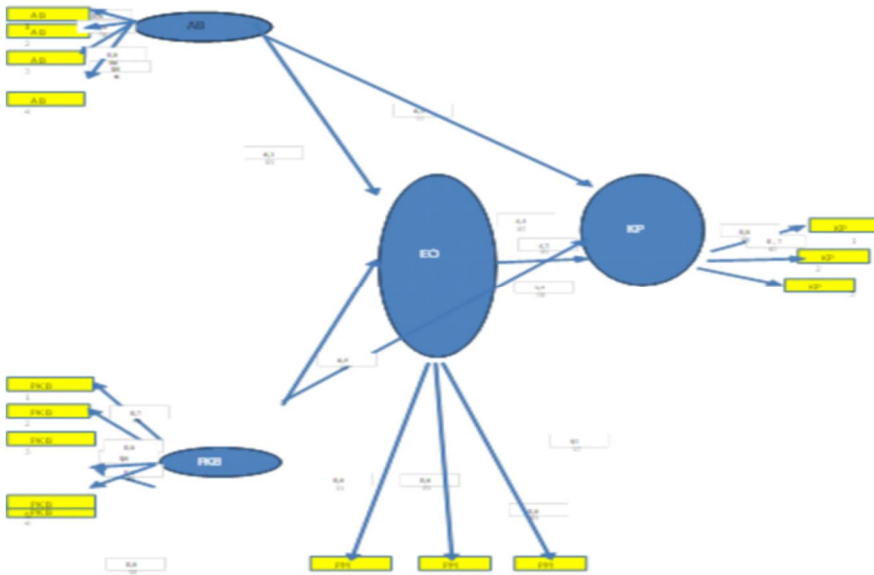
This study uses a quantitative descriptive method with analysis using structural equation modeling (SEM). According to Härting (2022), SEM analysis is a combination of factor analysis and regression analysis, which can be used to test hypotheses regarding the relationship between latent variables (not directly measured) and observable variables. The population in this study consisted of 38,343 MSMEs in Medan City in 2023, with a sampling method using accidental sampling, which according to Bhatti and Sabeen Hussain (2023) is a method in which samples are taken from the

research location. The number of samples taken can be determined using the Slovin formula as follows: $n = N / (1 + Ne^2) = 38,343 / (1 + 38,343 \times 0.1^2) = 99.73 = 100$ MSMEs in Medan City.

Results

The results of the SEM test can be explained through the following Bootstrapping diagram (Figure 1):

Figure 1. Bootstrapping Diagram



Source: own representation

Convergent Validity Analysis

Härting (2022) states that convergent validity analysis is a type of evaluation of the feasibility of existing construct variables. The results of the convergent validity test in this study are as follows:

Table 1 above shows that the data from each variable has been validated, so it can be used effectively for the next data analysis process.

Table 1. Convergent Validity Test

Variabel	Outer Loading
Business Automation (X1)	0,866
	0,876
	0,886
	0,856
Use of Artificial Intelligence (X2)	0,849
	0,759
	0,869
	0,849
	0,839
Customer Satisfaction (Y)	0,833
	0,843
	0,883
Operational Efficiency (Z)	0,881
	0,761
	0,811

Source: Data Processing Results Using PLS 3.0, 2024

Average Variance Extracted (AVE) Analysis

(Härting, Ralf Christian, 2022) states that the AVE test is one of the methods used to evaluate the validity of emerging construct variables. The results of the Average Variance Extracted (AVE) test are presented in the following table:

Table 2. AVE Test

Variabel	AVE
Business Automation (X1)	0,830
Use of Artificial Intelligence (X2)	0,872
Kepuasan Pelanggan (Y)	0,841
Operational Efficiency (Z)	0,861

Source: Data Analysis Results Using PLS 4.0, 2024

Table 2 above shows that the Average Variance Extracted (AVE) value exceeds 0.5, indicating that the construct equation model and data distribution are appropriate and valid.

Composite Reliability Analysis

According to Härting (2022), the Composite Reliability test is a method for evaluating whether the data meets the criteria for suitability and reliability. This can be seen in the following table:

Table 3. Composite Reliability Test

Variabel	Composite Reliability
Business Automation (X1)	0,882
Use of Artificial Intelligence (X2)	0,820
Customer Satisfaction (Y)	0,775
Operational Efficiency (Z)	0,851

Source: Data Processing Results Using PLS 4.0, 2024

Table 3 above shows that the composite reliability value is above 0.6, which indicates that the data is reliable and suitable for further testing.

Discriminant Validity Analysis

In confirmatory factor analysis (CFA) or structural equation modeling (SEM), discriminant validity analysis measures the extent to which constructs differ from one another (Härting, Ralf Christian, 2022). The results of the discriminant validity analysis can be seen in Table 4 below:

Table 4. Discriminant Validity Analysis

	Customer Satisfaction Moderating Effect 1	Customer Satisfaction Moderating Effect 2	Customer Satisfaction Moderating Effect 3	Customer Satisfaction Moderating Effect 4
Business Automation	.757	1.000	.756	.624
Use of Artificial Intelligence	.664	.737	1.000	.724
Customer Satisfaction	.756	.784	.837	1.000
Operational Efficiency	1.000	.746	.668	.636

Source: PLS Data Processing Results, 2023

According to Table 4 above, the AVE value from one equation to another construct equation has met the Discriminant Validity assumption.

Path Coefficient Test

The path coefficient test can be seen in the following table:

Table 5. R Square Test

Variabel	R Square
Business Automation (X1)	0,880
Use of Artificial Intelligence (X2)	0,841
Customer Satisfaction (Y)	0,872
Operational Efficiency (Z)	0,863

Source: Data Analysis Results Using PLS 3.0, 2023

From Table 5, the R Square for the customer satisfaction variable is explained by the variables of business automation, use of artificial intelligence, and operational efficiency by 87.2%, while the remaining 12.8% is explained by other variables not included in this study.

Hypothesis Testing

The results of the hypothesis testing can be seen in the following table:

Table 6. Hypothesis Testing

Hypothesis	Influence	T-Statistics	P-Value	Result
H1	Business automation for MSME customer satisfaction in Medan City	6,411	0,000	Accepted
H2	The use of artificial intelligence on the satisfaction of MSME customers in Medan City	5,132	0,001	Accepted
H3	Business automation for the operational efficiency of MSMEs in Medan City	6,303	0,001	Accepted
H4	The use of artificial intelligence for the operational efficiency of MSMEs in Medan City	6.513	0,000	Accepted
H5	Operational efficiency on customer satisfaction of Medan City MSMEs	4,251	0,000	Accepted
H9	Business automation on MSME customer satisfaction in Medan City through operational efficiency as an intervening variable	4,402	0,000	Accepted
H10	The use of artificial intelligence on the satisfaction of MSME customers in Medan City through operational efficiency as an intervening variable	3,510	0,000	Accepted

Source: Data Analysis Results Using PLS 3.0, 2023

According to the table above, it can be concluded that partially, the variables of business automation and the use of artificial intelligence affect the customer satisfaction of MSMEs in Medan City and the operational efficiency of MSMEs in Medan. Simultaneously, the variables of business automation and the application of artificial intelligence affect the customer satisfaction of MSMEs in Medan City through operational efficiency as an intervening variable.

Discussion

Business Automation Affects Customer Satisfaction of MSMEs in Medan City. Research shows that business automation affects customer satisfaction of MSMEs in Medan City. Research by Bhatti and Sabeen Hussain (2023) shows that business automation can reduce errors in service and improve service quality to create customer satisfaction.

The Use of Artificial Intelligence Affects Customer Satisfaction of MSMEs in Medan City. Research shows that the application of artificial intelligence affects customer satisfaction of MSMEs in Medan City. Research by Matarazzo and Michela (2021) shows that increased use of artificial intelligence contributes to operational efficiency, better service, and reduced human error, which in turn increases customer satisfaction.

Business Automation Affects the Operational Efficiency of MSMEs in Medan City. The results show that the business automation variable affects the operational efficiency of MSMEs in Medan City. Research by Denicolai et al. (2021) shows that increased business automation results in faster and more effective work completion, which in turn increases business operational efficiency.

The Use of Artificial Intelligence Affects the Operational Efficiency of MSMEs in Medan City. The results show that the variable of artificial intelligence use affects the operational efficiency of MSMEs in Medan City. Research by Gamache et al. (2020) shows that increased use of artificial intelligence has the potential to reduce unnecessary operational costs, thereby improving the efficiency of operational activities.

The Operational Efficiency of MSMEs in Medan City Affects Customer Satisfaction of MSMEs in Medan City. Research shows that the operational efficiency of MSMEs in Medan City affects the satisfaction of MSME customers in Medan City. Research by Gao, Xue, and Ren (2023)

shows that improvements in business operational efficiency tend to enable timely customer service, thereby increasing customer satisfaction with the product.

Business Automation Affects SME Customer Satisfaction in Medan City through Operational Efficiency as an Intervening Variable. Research shows that the business automation variable affects the growth of SME customer satisfaction in Medan City through operational efficiency as an intervening variable. Research by Liu and Zixu (2022) shows that increased automation and good service will improve the effectiveness of the company's work and operations, as well as increase customer satisfaction to continue using certain products.

The Use of Artificial Intelligence Affects Customer Satisfaction of MSMEs in Medan City through Operational Efficiency as an Intervening Variable. The results of the study show that the variable of artificial intelligence use affects the operational efficiency of MSME customers in Medan City through operational efficiency as an intervening variable. Research (Spaltini and Marco, 2022) shows that artificial intelligence, which plays a role in digital transformation, tends to increase operational efficiency and improve services, thereby increasing customer satisfaction

Conclusions

The results of the study indicate that, partially, the variables of business automation and the use of artificial intelligence affect the customer satisfaction of MSMEs in Medan City and contribute to the operational efficiency of MSMEs in Medan. Simultaneously, the variables of business automation and the application of artificial intelligence affect the customer satisfaction of MSMEs in Medan City through operational efficiency as an intervening variable. As the use of digitalization increases, MSMEs in Medan City will be able to improve business automation in their operations and achieve operational efficiency to accelerate service and increase customer satisfaction.

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Declaration of conflicting interests

The authors declare no conflicting interests.

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THE GEOPOLITICAL DYNAMISM OF THE RUSSIAN FEDERATION: A MULTIDIMENSIONAL STRATEGIC ANALYSIS

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Abstract: *This paper examines the contemporary geopolitical dynamism of the Russian Federation, identifying the structural and actionable factors that define its strategic revisionism. The analysis investigates the ideological matrix centered on Neo-Eurasianism and the Russkiy Mir (Russian World) concept, the pivot away from the Western liberal order toward multipolarity, and the deployment of hybrid instruments within the post-Soviet "Near Abroad." This research argues that Russian foreign policy is governed by a perceived necessity to secure strategic depth and project power as a distinct pole in the international system. While increasingly decoupled from the West, Russia maintains its capacity to disrupt and reshape regional and global orders through asymmetric methods, challenging liberal principles of sovereignty and territorial integrity.*

Keywords: *Russian Geopolitics, Strategic Revisionism, Eurasia, Multipolarity, Near Abroad, Hybrid Warfare, Eastern Pivot.*

Introduction: The Evolution of Russian Strategic Thought

The collapse of the Soviet Union led to the former Soviet republics declaring their independence one by one, which meant that the territories and strategic benefits they provided to Moscow passed into the jurisdiction of the capitals of the new independent states. The metropolis of the former Soviet empire intended to regain its influence in these areas by

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various means, some of which were at the limits of legislation and international law (for example, by establishing bilateral economic relations and offering financial support in the form of loans), while others clearly exceeded this limit (the annexation of the Crimean Peninsula to the Russian Federation).

Thus, local conflicts arose after the collapse of the Soviet Union in the successor states. In 1988–1989, war broke out in the Nagorno-Karabakh region of Azerbaijan, which lasted until 1994, when the Russian Federation's mediation efforts brought the hostilities to an end. (Council on Foreign Relations, 2025) This was followed a year later by the outbreak of a short war in South Ossetia, Georgia, which lasted two years until a ceasefire, also mediated by Moscow, ended active hostilities for a time. The end of the violent clashes in South Ossetia in 1992 was immediately followed by a second civil conflict in Georgia, this time in Abkhazia. This new Georgian conflict ended in 1993–1994 as a result of mediation by the Russian Federation and the United Nations (UN). (German, 2006) Elsewhere in the region, a minor conflict between the Government of the Republic of Moldova and the authorities in the Transnistrian region escalated into a civil war in March 1992, which lasted until July of that year. The year 1992 also brought civil war to Tajikistan, which lasted until 1997 and was resolved through a comprehensive peace agreement with the assistance of the Russian Federation, Iran, and the UN. (United Nations, 2000) Before the 21st century, the final major conflict in the former Soviet region was the war in Chechnya, which began in 1994, was suspended in 1996, resumed in 1999, and continues at a low level to this day.² (Gutkin *et al*, 2024)

At first glance, we can see how Moscow has mediated or participated in the ceasefire process in every conflict on the territory of the former Soviet Union. Further on, we will see that the Russian Federation has helped to accentuate ethnic segregation in those territories, and we will analyze these facts as elements of the hybrid toolkit used by Moscow to regain its former sphere of influence.

It should be noted that, with the exception of Tajikistan, none of the above-mentioned conflicts has been resolved through a lasting peace

² For an in-depth reading on the conflicts in the former Soviet sphere, the author recommends Janusz Bugajski, *Pacea Rece, Noul Imperialism al Rusiei*, Casa Radio Publishing House, Bucharest, 2005.

agreement. The conflict situations in Transnistria, South Ossetia, Abkhazia, and Nagorno-Karabakh have continued to exist in a state of uncertainty, characterized by the absence of active hostilities but without any obvious progress towards peace. The exceptions to the above are the five-day war in Georgia in 2008 and the resumption of fighting in Nagorno-Karabakh in 2016, events that underscore the fact that, in the absence of lasting peace, the possibility of violent clashes escalating and potentially spreading to neighboring countries cannot be ruled out. Karabakh in 2016, events that underscore the fact that, in the absence of lasting peace, the possibility of violent clashes escalating and resuming exists, with serious consequences for both the country concerned and the international system.

This raises the question: why have some of these conflicts become "frozen"? We can answer this question by looking at the objectives of the Russian Federation at the time, which remain relevant today, namely to restore Moscow's sphere of influence throughout the former Soviet region. And we can already see how a hybrid means was used, which consisted of triggering conflicts by using the administrative autonomy structure of the former Union of Soviet Socialist Republics, a structure that was completely unclear. Subsequently, in order to defuse the conflict, the Russian army would intervene in the conflict territories, thus laying the foundations for bridgeheads through which to exercise its power in the area, both militarily and politically and also economically. As mentioned, Transnistria, South Ossetia and Abkhazia are such cases, frozen conflicts, to which we add the still-hot events in Ukraine—Donbas and the ongoing war, the rekindling of the conflict in Nagorno-Karabakh (although Russia is not a belligerent actor), the Russian enclave of Kaliningrad, and key territories in western Syria, such as the port of Tartus. All these examples are part of Moscow's neo-imperial logic of controlling bridgeheads in countries in its immediate or nearby neighbourhood, through which the Russian Federation can exert strategic regional influence.

The collapse of the Soviet Union in 1991 did not merely signal the end of a bipolar era; it initiated a profound ontological crisis for the Russian state. After a decade of domestic instability and a failed rapprochement with Western institutions under the Boris Yeltsin administration, the ascent of Vladimir Putin marked a decisive shift toward the restoration of "Derzhavnost" (Great Power status). (Kyle, 2026)

Contemporary Russian geopolitical dynamism is not a random series of tactical responses but a coherent strategic effort to revise the post-Cold War settlement. According to Mearsheimer (2014), the behavior of great powers is dictated by the pursuit of regional hegemony and the exclusion of rival powers from their immediate periphery. (Mearsheimer, 2014)

For Moscow, the eastward expansion of NATO and the EU is perceived not as a spread of democracy, but as a "containment" strategy designed to relegate Russia to a secondary tier of global influence. (Ibid) This research utilizes a qualitative approach, analyzing strategic documents and scholarly discourse to dissect how Russia integrates classical realism with 21st-century hybridity to assert its role in a multipolar world.

Faced with Western sanctions and diplomatic isolation, Russia has accelerated its "Pivot to the East," seeking to solidify an anti-hegemonic bloc – especially with China, India, and regional organizations like the Shanghai Cooperation Organization (SCO) and BRICS. (Baunov, 2024) Through these forums, Russia promotes frameworks that exclude or marginalize the West while advocating for alternative financial systems, such as de-dollarization and local currency trade.

Moreover, the aforementioned aspects also have an impact on the ideological foundations of the Eurasianism and the "Russian World". Thus, Russian dynamism is deeply rooted in a unique synthesis of geography and destiny. Unlike Western maritime powers, Russia views itself as a "Land Power" (Tellurocracy) with a mission to organize the vast Eurasian landmass. (Lough *et al*, 2025)

Neo-Eurasianism and the Contestation of Thalassocracy

The intellectual framework provided by Aleksandr Dughin has significantly influenced the Kremlin's strategic corridors. Neo-Eurasianism posits that Russia is a distinct civilization, neither European nor Asian, but a unique synthesis of both. This ideology frames the geopolitical struggle as an existential conflict between the "Atlanticist" world (led by the United States and United Kingdom) and the "Eurasianist" pole (Dughin, 2012). From this perspective, Russia's dynamism is a defensive necessity to prevent the "maritime powers" from encircling the heartland. This ideology justifies the formation of continental axes—such as the Moscow-Beijing partnership—to counterbalance Western hegemony.

In this context, Moscow uses the "Russkiy Mir" concept as Soft and Sharp Power. The concept of *Russkiy Mir* (The Russian World) provides the ethno-cultural justification for intervention beyond Russian borders. By defining the nation not by citizenship, but by language, religion (Orthodoxy), and shared history, the Kremlin claims a "special responsibility" to protect compatriots in Estonia, Latvia, Ukraine, and Moldova. As Orzechowski (2020) argues, this concept transforms cultural affinity into a geopolitical weapon. When "compatriots" are perceived to be under threat, it serves as a *casus belli* for military or political intervention, effectively blurring the lines between domestic policy and international aggression.

In this context, Marcin Orzechowski refers to the justificatory narrative for the 24 February 2022 invasion of Ukraine: a claim that Russia has an inalienable right to protect people who declare Russian origin or identify with Russian culture and history, and that military action is a defensive, corrective measure — framed as "denazification," "demilitarization," and "defense of traditional values." (Orzechowski, 2024)

"Russkiy Mir" operates as a hybrid instrument that converts cultural affinity into geopolitical leverage. By redefining compatriots as a Russian responsibility, it supplies a rhetorical and institutional toolkit the Kremlin uses for influence operations and, when expedient, coercive intervention. Countering that strategy requires a mix of domestic integration, information resilience, legal clarity, multilateral coordination and calibrated deterrence to limit the doctrine's ability to justify interstate aggression.

The "Near Abroad" and the Doctrine of Strategic Depth

A central pillar of Russian dynamism is the maintenance of a sphere of privileged interests in the post-Soviet space, termed the *Near Abroad*. (Huasheng, 2021) This is driven by a perennial insecurity born from the lack of natural geographic barriers on the North European Plain.

To prevent its neighbors from integrating into Western structures, Russia has perfected the use of protracted or "frozen" conflicts. In Transnistria (Moldova), Abkhazia and South Ossetia (Georgia), and previously in the Donbas (Ukraine), Moscow has supported separatist enclaves that serve as permanent anchors against NATO or EU accession. International law generally prohibits the entry of states with unresolved territorial disputes

into NATO; thus, by maintaining these "grey zones," Russia exerts a de facto veto over the sovereign choices of its neighbors.

In this context, one can argue that the current Ukrainian Crisis represents „a Geopolitical Rubicon” as the escalation of the conflict in Ukraine represents the most violent expression of Russian strategic dynamism. (Temerko, 2022) Beyond territorial gains, the objective is the neutralization of Ukraine as a functional pro-Western state. Trenin (2016) suggests that for Moscow, a Western-aligned Ukraine is an "unacceptable vulnerability" that would bring NATO's military infrastructure within striking distance of the Russian heartland. The annexation of Crimea and the subsequent full-scale invasion are attempts to rewrite the rules of European security, moving from a rules-based order to a "Yalta 2.0" logic where great powers dictate the fate of smaller nations within their spheres of influence.

Nevertheless, the dynamism of the Russian state is perhaps most evident in its mastery of asymmetric warfare. The "Gerasimov Doctrine," named after the Chief of the General Staff, emphasizes that the lines between war and peace have become blurred.

Gerasimov (2016) noted that the ratio of non-military to military measures in modern conflict is 4:1. This includes cyber-attacks, disinformation campaigns and the weaponization of energy. Russia utilizes these tools to exacerbate internal divisions within Western societies, targeting the "fault lines" of democracy. By supporting populist movements on both the left and right in Europe and North America, Moscow seeks to weaken the internal cohesion of the West, thereby reducing its capacity to project a unified response to Russian actions in the East. (Ibid)

Another important leverage of power consists of Russia's role as a major energy exporter, which is inextricably linked to its geopolitical goals. For decades, the construction of pipelines like North Stream was not merely an economic endeavor but a strategic attempt to create "energy dependency" in Europe's industrial heartland. (Zhang *et al*, 2024) This leverage allowed Moscow to influence the political discourse in states like Germany, complicating the European Union's ability to impose sanctions or provide military aid to Ukraine. The "energy weapon" is a prime example of how Russia utilizes its natural endowments to achieve strategic outcomes without firing a shot.

The Moscow-Beijing Axis and projections in the Global South

The relationship with China has evolved from a "strategic partnership" into a deep, albeit asymmetric alliance. While China provides Russia with an economic lifeline and a market for its hydrocarbons, Russia offers China military technology and diplomatic support in international forums. Tsygankov (2016) argues that this partnership is the cornerstone of Russia's vision for a multipolar world. By aligning with Beijing, Moscow ensures that it is not isolated and that the "Global South" sees an alternative to the Washington-led consensus.

Russian dynamism is also increasingly visible in Africa and the Middle East. Through the use of private military companies (PMCs) and arms sales, Russia has positioned itself as a "security provider" for regimes that are shunned by the West. From Syria to Mali, Moscow offers regime survival in exchange for access to strategic minerals and naval ports. (Katz *et al*, 2020) This projection demonstrates that despite being pressured in Europe, Russia remains a global disruptor capable of challenging Western interests across multiple continents.

The Russia–China alignment and Moscow's active footprint in Africa and the Middle East form complementary pillars of a strategy that preserves Russian relevance and creates alternatives to Western influence. The arrangement is mutually beneficial but asymmetric, and Russia's global reach is constrained by resource limits and growing dependence on China. External actors can respond by offering credible alternatives, disrupting exploitative modalities and strengthening regional resilience to transactional security offers.

Although China and Russia have different political cultures and differ in their assessments of one another's motivations, "they are fundamentally unified by a similar perception of international relations and their approach to foreign policy," according to a 2021 OSW report on the Beijing-Moscow axis. (Le Corre, 2023)

Conclusion

The geopolitical dynamism of the Russian Federation is a multifaceted phenomenon driven by a combination of historical grievance, geographic necessity and ideological conviction. Moscow's transition from a post-Cold War partner to a revisionist challenger marks a turning point in global

history. While the West continues to emphasize the principles of the liberal order, Russia operates within a realist framework of power blocks and spheres of influence. The future of global stability depends on the ability of the international community to balance Russian ambitions while managing the risks of a protracted, hybrid confrontation that transcends traditional battlefields.

The ideological foundation of Russian policy rests on several key assumptions: the belief in Western decline and moral decay, the need to restore the "historic Russian space" and the call for equal cooperation among civilizations in a polycentric world. Russia portrays itself as a guardian of international law and UN legalism, while reinterpreting these principles to legitimize its own expansionist actions. (Piekara, 2025)

The geopolitical trajectory set by Russia's revisionist turn creates a durable, hybrid contest that will shape global affairs for years to come. Managing this contest requires a balanced mix of deterrence, resilience, multilateral cooperation and selective engagement that preserves stability while limiting the space for prolonged, destabilizing confrontation.

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POTENTIAL BENEFITS AND CHALLENGES OF THE COLLABORATIVE TRANSPORT ECONOMY FOR PERSONS WITH DISABILITIES

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Abstract: *This study explores the potential benefits and challenges of the Collaborative Transport Economy (CTE) for Persons with Disabilities (PWD). The research is grounded in the growing role of ridesharing, carpooling, and similar digital mobility platforms in improving accessibility and convenience in urban transportation. However, while these systems are seen as inclusive, concerns remain about their actual accessibility and usability for disadvantaged groups such as PWD. The main aim of this study is to identify the barriers and facilitators that affect the participation of PWD in the CTE and to understand how these platforms can support equitable and inclusive mobility. Guided by Social Exchange Theory, the study interprets interactions between users and service providers as exchanges of costs and benefits that influence participation and satisfaction. A Systematic Literature Review (SLR) was conducted using Scopus and Web of Science databases. Using the PRISMA 2020 flow process, nine peer-reviewed studies were selected based on inclusion and exclusion criteria that focused on accessibility, inclusivity, and transport design for PWD. The*

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findings reveal that while CTE services can promote independence, flexibility, and inclusion through innovations like Mobility as a Service (MaaS) and Shared Autonomous Vehicles (SAVs), barriers persist. These include infrastructural, digital, social, economic, and institutional challenges. The study concludes that without inclusive design and effective policy implementation, the benefits of CTE will remain limited for PWD. Strengthening accessibility standards and integrating inclusive technology are essential to make mobility truly equitable.

Keywords: *persons with disabilities, transport economy, accessibility, mobility*

Introduction

Collaborative Transport Economy (CTE) has redefined the way people access and experience mobility especially in urban areas (Arcidiacono and Duggan, 2020). The CTE includes services like ridesharing, carpooling, and bike-sharing. With the use of technology, these CTE platforms connect people and provide flexible and sometimes more affordable means of transportation (Saxena et al., 2020; Arcidiacono and Duggan, 2020; Marushchak et al. 2024). These innovations are often regarded as inclusive solutions to mobility challenges (Yuana et. al, 2019), particularly in urban areas where traffic congestion and limited public transportation create constraint to mobility. However, while collaborative transport offers alternative transportation options (Standing et al., 2018), there are still questions about who really benefits from these services.

Disadvantaged populations, which includes Persons with Disabilities (PWD), elderly, and low-income individuals, often face challenges in the transportation systems. These challenges may translate to expensive transportation costs, physical limitations, safety issues, and limited technology access (Lucas, 2012). As CTE models promote fair access to transportation (Dillahun and Malone, 2015; Shaheen and Chan, 2016), these platforms may not always be effective in serving the disadvantaged populations.

As policymakers continue to consider collaborative transport economy as part of inclusive and efficient transport strategy, it is necessary to critically look at how these systems impact access to mobility for disadvantaged groups, especially PWD. Therefore, a comprehensive understanding of both barriers and enabling factors affecting CTE participation of PWD is

essential - especially in developing policies, platform or application designs, and future research. In view thereof, this study aims to systematically review existing literature on the impacts of the CTE in relation to access to mobility for the PWD. It aims to identify the barriers and facilitators to equitable access, highlighting the social outcomes of CTE participation for the PWD. This study was guided by the following questions: (1) How does the collaborative transport economy potentially benefit or challenge the access to mobility for the Persons with Disabilities? and (2) What barriers do Persons with Disabilities face in accessing and benefiting from collaborative transport services? This paper proceeds by framing the study within social exchange theory, then defines CTE and its advantages and disadvantages, explains the research methods used, presents and analyzes the data, and concludes with key insights and implications.

Social exchange theory

Social Exchange Theory (SET) was adopted as the framework of this study in exploring how Persons with Disabilities (PWD) experience and navigate through Collaborative Transport Economy (CTE). Social exchange theory analyzes how people trade costs and benefits during interactions where individuals maximize rewards and minimize costs (Blau 1964). This theory views social life as a network built on these exchanges, where perceived fairness, trust and mutual benefit factors in determining participation. People form relationships based on benefits and costs during interactions. Contextualizing this theory in CTE, interactions occur during ridesharing, carpooling, bike-sharing and similar mobility platforms. These interactions are participated by service providers such as drivers, car owners, bike owners, or operators and by the users such as commuters or passengers. It treats transport interactions as exchanges between actors with competing and shared interests. Riders expect savings, comfort, or speed. Drivers seek income, safety, or flexible schedules. Each party acts when rewards exceed effort or risk. Trust, reputation, and convenience reinforce repeated exchanges. Through Social Exchange Theory, the study explains how service providers and users, specifically the PWD, interact in CTE platforms.

This theory is beneficial in understanding the impact, barriers and needs that affect the participation of PWD with CTE services. Collaborative Transport Economy affects PWD differently from able-bodied commuters or passengers. Many PWD weigh not just fare cost, but also comfort,

safety, and accessibility. Drivers may weigh time and income when deciding to accept a booking from PWD. Platforms may set rules that shape how drivers and PWD engage in transport services. When benefits are unequal, participation may drop. If accommodating a PWD requires more time or effort, drivers may perceive a net cost. Platforms influence these decisions by offering incentives or penalties. This mirrors how social exchange theory sees power: those who control resources shape interactions. When platforms design features that favor inclusivity, like accessible ride options, PWD receive more value, and drivers may feel their time is better rewarded. Repeated positive exchanges build long-term access for disadvantaged users.

Collaborative Transport Economy

The Collaborative Transport Economy (CTE) is part of the broader collaborative economy, specifically applied within the transportation sector. The collaborative or sharing economy is an umbrella term for business models in which goods and services are shared collaboratively between individuals and groups (Lovick, 2024). Through digitalization, the value of the collaborative economy has been captured by many corporations and entrepreneurs, allowing them to enter into the informal economy (Márton, 2022; Lovick, 2024). The CTE, in particular, has emerged as a practical and increasingly adopted approach to addressing mobility issues by leveraging ridesharing platforms and digital transport services (Standing et al., 2018). Standing et al. (2018) argue that digital platforms have revolutionized transportation by introducing peer-to-peer systems that optimize vehicle usage, reduce travel costs, and enhance commuter convenience.

Sharing mobility is a significant component of the CTE. Sharing mobility are the diverse types and modes of transport operators and solutions that have become significant in creating livable cities (Arcidiacono and Duggan, 2020). In 2019, Heineke et al. (2021) states that the sharing mobility market accounted for approximately \$130-140 billion in overall global consumer spending. The recent rise of sharing mobility may be attributed to the concept of Mobility as a Service (MaaS). MaaS is a user-centric model for intelligent mobility distribution where all mobility services are accumulated by a single mobility provider and supplied to users via a single digital platform (Kamargianni and Matyas, 2017; Arcidiacono and Duggan, 2020). As stated by Arcidiacono and Duggan (2020), these transport

services may be categorized according to 1) their types of use such as *one-way sharing*, *roundtrip vehicle sharing*, or *fractional ownership*; or 2) their mode of deposit, whether *station-based* or *free-floating*.

One-way sharing involves public sharing modes (e.g. *bike-sharing*) for trips from one point to another. *Roundtrip vehicle sharing* typically involves vehicles used for round trips compensated by the hours used. *Fractional ownership*, introduced by automobile companies like Ford and Mercedes, are car leasing services facilitated by such automobile companies. *Station based sharing* involves vehicles being picked up and deposited in predefined points in an urban area, while *free floating sharing* involves vehicles picked up and dropped off anywhere within the area where the service is active (Arcidiacono and Duggan, 2020).

Specific types of sharing mobility include *peer-to-peer car sharing*, *ridesharing*, and *e-hailing*. According to Arcidiacono and Duggan (2020), *peer-to-peer car sharing* usually operates on the basis of one-time trips without fixed time schedules and is distinct from car renting, since it involves relations between users or *peers* who collaborate by dividing the costs (money and time) of trips. *Ridesharing*, which is associated with the terms carpooling and hitchhiking, is a hybrid of *peer-to-peer* and *one-way sharing*. With digitalization, pre-arranged carpooling has been overtaken by flexible ridesharing platforms (e.g. BlaBlaCar and UberPOOL), allowing algorithmic ride-matching processes for both short and long distance trips. *E-hailing*, an innovation from traditional taxi services, collective transport (e.g. shuttle services), and micro-transit (e.g. vans), allows riders to order or book transport services mainly through digital platforms (e.g. Hailo in the UK and Goehail in New York) (Arcidiacono and Duggan, 2020).

Shared mobility has unique qualities that allow the transport economy to fill in the gaps between the access provided by public transport without having to own private vehicles. Collaborative transport services offer more flexible ways of travelling and this has become clear to authorities and transport operators who increasingly turn to such solutions (International Association of Public Transport, 2023).

Advantages and Disadvantages of CTE

Numerous research has been explored in the area of Collaborative Transport in relation to its potential in addressing problems in mobility

and transportation (Frenken and Schor, 2017; Shaheen et al., 2017; Kim et al., 2019), especially in urban areas. Some advantages of CTE include both economic and environmental benefits (Chen and Kockelman 2016; Clewlow and Mishra, 2017), while disadvantages include regulatory issues and socio-economic implications.

Shaheen et al. (2017) emphasize that shared mobility services improve accessibility and affordability while reducing transport-related environmental impacts. Another study by Frenken and Schor (2017) highlights that collaborative transport platforms like ride-sharing services reduce transportation costs and make mobility more accessible for low-income individuals by lowering the need for private vehicle ownership. Additionally, Kim et al. (2019) conducted a study in South Korea showing that colleague systematically based carpooling services helped reduce traffic and commuting expenses, making transportation more efficient and socially beneficial. Chen and Kockelman (2016) conducted a life-cycle analysis of carsharing in the U.S., reporting that users decreased their VMT by 30-70% and cut greenhouse gas emissions by nearly 50%. Supporting these findings, Clewlow and Mishra (2017) found that shared mobility services reduce private car ownership and vehicle miles traveled (VMT), resulting in lower greenhouse gas emissions. While collaborative transport offers several advantages to the communities, some studies argue that there are consequences and challenges associated with its implementation (Schaller, 2018; Frayer, 2018).

The complete adoption of the Collaborative Transport Economy faces considerable challenges arising from existing regulations and market dynamics (Standing et al., 2018). Wu et al. (2019) discuss how gig economy drivers often face unstable incomes and lack of labor rights, which raises concerns about worker exploitation. Likewise, Frayer (2018) reported on China's bike-sharing crisis, where rapid expansion led to oversupply, financial losses, and environmental waste, showing how unregulated growth in collaborative transport can result in economic and logistical failures. On the other hand, Schaller (2018) argued that ride-hailing may worsen congestion by pulling commuters away from walking, biking, or public transport. In support, Henao and Marshall (2019) observed that ride-sourcing services increase VMT by 83.5% due to "deadheading" - when drivers cruise without passengers between trips.

Research Gap

Several studies on the Collaborative Transport Economy (CTE) and Mobility as a Service (MaaS) have explored how technology-based transport systems can improve accessibility for Vulnerable Social Groups such as the elderly, low-income users, and Persons with Disabilities (PWD) (Dadashzadeh et al., 2022; Dadashzadeh et al., 2024). Etminani-Ghasrodashti et al., (2021), highlighted that the new Shared Autonomous Vehicles (SAVs) should prioritize and focus on providing mobility for the elderly particularly those in less dense areas, which would be heavily dependent on the implementation of the shared services. However, PWD raised their concerns regarding the potential new SAV systems, specifically related to the physical accessibility of the vehicles, their safety, and the ultimate cost of the service (Etminani-Ghasrodashti et al., 2021).

Handayani and Romadhon (2025) emphasized that integrating different transport modes can benefit low-income and elderly users by improving connectivity and affordability. However, barriers such as digital exclusion and limited infrastructure still hinder accessibility. Meanwhile, Simonovits et al. (2023) revealed that individuals with disabilities continue to face subtle forms of discrimination when using ride-sharing platforms, limiting their mobility and participation in the digital transport economy. In addition, Fink et al. (2023) highlight that most ride-sharing systems lack inclusive features for visually impaired users, making them feel unsafe and dependent during travel.

While these studies show efforts to make Collaborative Transport more inclusive for vulnerable groups, there remains a clear gap in the literature. Only few studies specifically focus on how CTE can enhance the mobility and accessibility of PWD and perceptions of PWD regarding MaaS in general are not well documented (Dadashzadeh et al., 2022; Nanchen et al., 2022). This gap highlights the need for further research that examines how CTE platforms can be designed and implemented to ensure equitable, safe, and inclusive mobility for PWD.

Methodology

Systematic Literature Review was employed in this study to review existing literature on the impacts of the Collaborative Transport Economy (CTE) in relation to access to mobility for Persons with Disabilities. Two

databases were systematically searched in collecting the literature that served as the main data for this research. These databases are Scopus, and Web of Science. Scopus database was chosen since it is the most extensive multidisciplinary database available (Carrera-Rivera et al., 2022). Web of Science provides a multidisciplinary database with wide ranging content (Carrera-Rivera et al., 2022). Hence, these two databases are crucial in collecting significant data for the study. The PRISMA 2020 Flow Diagram was used to guide the screening of the data used for the analysis.

Keyword combinations were chosen from three main categories to guide the literature search for this study. The Boolean operators (AND, OR) will be used to enable precise inclusion of studies (Hollier, 2020) relevant to the intersection of disability, mobility access, and shared transportation systems. These keyword combinations are presented in Table 1.

Table 1. Keyword Combination - applied in identifying relevant literature on mobility access for PWD within the CTE.

Keyword Combination	Purpose
"collaborative transport" or "sharing mobility*" or "gig mobility economy" or "ride sharing" or "ridesharing" or "car sharing" or "bike sharing" or "peer-to-peer transport" or "mobility as a service" or "maas" or "carpool*" or "car-pool*"	To limit literature focusing on collaborative transport economy
"person with disabilities" or "people with disabilities" or "disabled person" or "disabled people" or "pwd" or "differently abled" or "physically challenged" or "intellectually disabled" or "mobility impaired" or "hearing impaired" or "visually impaired" or "impaired" or "disabled" or "disabilit*"	To limit literature focusing on Persons with Disabilities
"access" or "accessible mobility" or "mobility accessibility" or "wheelchair access" or "barrier-free access" or "physical accessibility" or "accessible transportation" or "mobility-impaired access" or "ada compliant" or "universal design" or "barrier" or "inclusion"	To limit literature focusing on accessibility

At the time of the writing, there were 38 documents found in the Scopus database using article, abstract, and keywords search categories. In Web of Science, there were 26 documents found using the topic (search for title,

abstract and author keywords). After searching the two databases for literature, the screening process followed. To guide this step, this study employed inclusion and exclusion criteria to ensure that only the most relevant studies are included in the analysis. Establishing inclusion and exclusion criteria aided this study in ensuring that literature included aligns with the research topic. The inclusion and exclusion criteria are presented in Tables 2 and 3 respectively.

Table 2. Inclusion Criteria.

Criterion	Description
Topic relevance	Studies must focus on mobility access for Persons with Disabilities within the context of the collaborative transport economy
Disability focus	Must explicitly address the mobility needs, experiences, or access challenges of Persons with Disabilities (physical, sensory, cognitive, or intellectual)
Transport model	Must explicitly address the mobility needs, experiences, or access challenges of Persons with Disabilities (physical, sensory, cognitive, or intellectual)
Publication type	Peer-reviewed journal articles, book chapters, or conference papers
Language	Published in English
Availability	Full-text must be accessible through institutional or open-access platforms

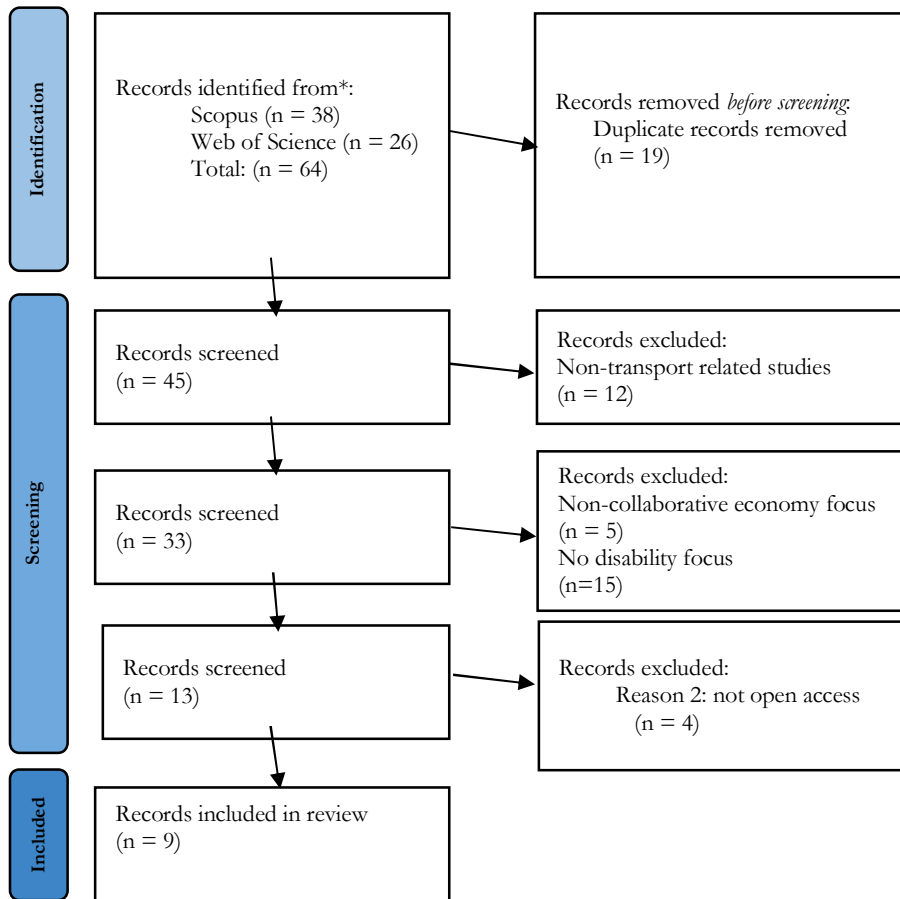
Table 3. Exclusion Criteria.

Criterion	Description
Non-transport sectors	Studies that do not address transportation or mobility services (e.g., focus only on healthcare, education, or housing)
Non-collaborative economy focus	Studies that do not examine shared, on-demand, or platform-based transport models (e.g., only cover traditional public transport systems)
No disability focus	Studies that do not include or mention Persons with Disabilities or their mobility/access needs
Non-peer reviewed sources	Opinion pieces, blogs, news articles, theses, or non-scholarly publications
Language	Publications in languages other than English
Duplicate studies	Multiple reports of the same study - only the most comprehensive and recent version is included

Prisma 2020 Flow Diagram

This study employed PRISMA 2020 Flow Diagram to ensure a transparent and systematic review process. The PRISMA 2020 was applied to document each stage of the literature selection process, including identification, screening, eligibility assessment, and final inclusion of studies (Nalen, 2023).

Figure 1. PRISMA 2020 Flow Diagram for identification of studies to be included in systematic review.



The diagram started with the initial number of studies identified through database searches. It then outlined the number of studies that remained after the duplicates were eliminated and the number of studies that were

excluded at each stage based on predefined eligibility criteria (Nalen, 2023). The PRISMA Flow Diagram provided a clear overview of the study selection procedure, making it an important component of a systematic review (Sohrabi et al., 2021).

Presentation, Analysis and Discussion of Data

After the identification and screening of literature using PRISMA 2020, this study proceeded with nine (9) papers included in the research analysis.

Table 4. Reviewed Studies on Collaborative Transport and PWD Access.

Author(s)	Year	Key Findings Related to Mobility / PWD Access
Goralzik et al.	2022	The results presented authorities’ advice regarding accelerating the development of sustainable transport options and emphasized the need of enhancing either automobile and industry structures to comply with the accessibility necessities of people with impairments.
Handayeni & Romadhon	2025	The results showed a MaaSINI (Mobility as a Service Inclusive Index) of public transportation based on MaaS targeting the vulnerable groups. The data required accessibility on physical services and platform awareness.
Simonovits	2023	The findings highlighted that observed patterns are most readily explained by intergroup emotions. Contempt toward Roma passengers likely engenders both passive and active harm, whereas pity toward disabled passengers likely engenders passive harm and active facilitation.
Fink et al.	2023	The study provided much-needed guidance for future design of humanlike, anthropomorphized, fully autonomous vehicle AIs with important implications for social autonomous agents more generally. This study also speaks to the ways in which inclusive and accessible user interfaces should best support user needs across the range of vision loss in future transportation networks.

Author(s)	Year	Key Findings Related to Mobility / PWD Access
Etminani-Ghasrodashti et al.	2021	The findings highlighted technological improvements to be important to increasing the reliability of SAV service. Enhancing the SAV app to integrate multiple destinations in one trip and improving the mapping system are among the technological advances that may influence university people.
Dadashzadeh et al.	2022	The findings concluded that MaaS has a strong potential to enhance sustainable transport services for all users. Yet such aspirations can only be achieved if all transport users benefit through an inclusive mobility service, regardless of their socio-economic status, such as gender, age, or disability.
Nanchen et al.	2022	Based on the findings, the proponents developed an integrative model to accompany and orchestrate such Autonomous Vehicle (AV) design developments. This integrative model seeks to help policymakers and public transport companies rethink mobility concepts while incorporating AVs and make them accessible to ensure the social inclusion of PWD.
Dadashzadeh et al.	2024	The results of multi-criteria decision-making (MCDM) analysis show that accessible transport services, accessible MaaS platforms, and accessibility data collection have a share of 51 %, 29 %, and 20 %, respectively. The functionality of the proposed framework has been illustrated on a real-world multi-city MaaS implementation within the Solent area, in particular Portsmouth city located in Southeast England.
Chane-Haï et al.	2024	They developed a matheuristic, iteration route selection algorithm (IRS) which combines a LNS and a MILP solver. The LNS generates a pool of routes, and the MILP solver chooses the best combination of these routes.

Potential Benefits of Collaborative Transport Economy on PWD

Recent studies on Collaborative Transport Economy reveal that collaboration and flexibility can make transportation more efficient for Persons with Disabilities (PWD). According to Etminani-Ghasrodashti et al. (2021), collaborative transport helps PWD have an accessible and user-

friendly transport system. Enhancements to MaaS that prioritize customers and support the independence of PWD include online planning systems, variable navigation features, and mutual cost frameworks (Nanchen et al., 2022; Etminani-Ghasrodashti et al., 2021). Also, Nanchen et al. (2022) discussed that AV systems and infrastructure have to necessarily consider the safety and inclusivity for PWD. In addition, Dadashzadeh et al. (2024) highlighted that it would strengthen the accountability of the government through policy making and strong integration of safeguarding the PWD. Dadashzadeh et al. (2024) reviewed MaaSINI and other inclusive accessibility indicators as significant for making urban transport networks more inclusive as a tribute to shared use of resources.

Potential Challenges of Collaborative Transport Economy on PWD

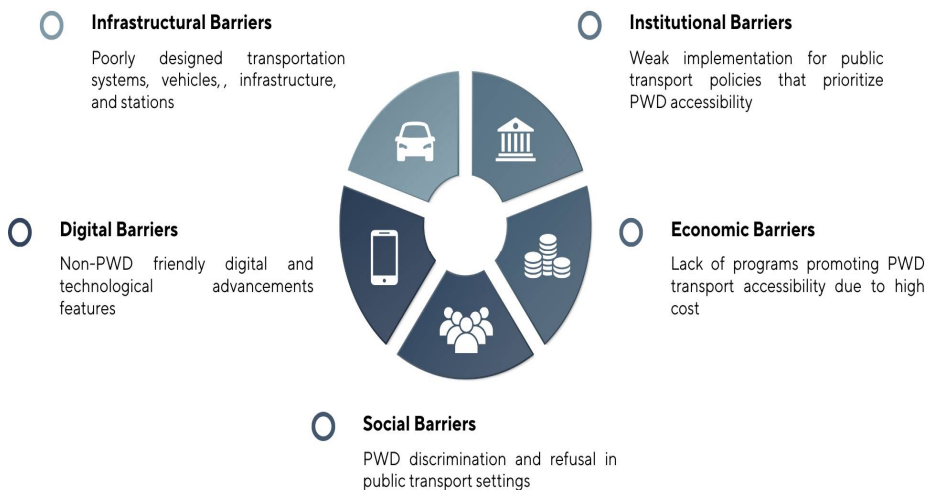
Notwithstanding the potential benefits of the Collaborative Transport Economy (CTE) on PWD, vocational and professional mobility opportunities continue to be limited. Goralszik et al. (2022) highlight that shared mobility services such as ride-pooling, microtransit, and bike-sharing still lack adequate accessibility features, including user-friendly interfaces, audio feedback, and vehicle designs suitable for individuals with visual or locomotor impairments. Similarly, a 2024 scoping review on barriers and facilitators of public transport use among PWD reveals that ambiguous information systems, negative driver attitudes, and insufficient assistive infrastructure persistently hinder full participation and independence in mobility settings. These forms of mechanical discrimination perpetuate exclusion despite technological advances intended to promote inclusiveness. Vocational and Professional Training continues to be unobtainable. Goralszik et al. (2022) and Fink et al. (2023) illustrate that mechanical discrimination, that includes ambiguous interfaces, inadequate aural input, and mediocre aesthetic development, persists in marginalizing people who have visual or locomotor disabilities. Simonovits (2023) asserts that perceived disadvantage and subconscious prejudice are two variables that impede PWD from fully engaging in accommodating transport scenarios. The consequences are exacerbated by inadequate regulatory oversight, as shown by Handayeni and Romadhon (2025), where integration measures are either ineffective or poorly managed, particularly in rapidly growing metropolitan areas.

The investigation's findings suggest that while innovation is widely employed to overcome commuter challenges, it can inadvertently reinforce usability gaps and inequality if accessibility is not integrated from the earliest stages of design and development. Dadashzadeh et al. (2022) and Chane-Häi et al. (2024) suggest that technologically advanced travel systems have to strike an appropriate equilibrium amid socioeconomic fairness as well as efficacy while making sure that innovations do not adversely impact those demanding customized service.

Barriers to Accessing Collaborative Transport

The barriers to accessing collaborative transport for Persons with Disabilities (PWD) are complex and interconnected, often preventing them from fully benefiting from technologically improved modes like Mobility as a Service (MaaS) and Shared Autonomous Vehicles (SAVs) (Dadashzadeh et al., 2024; Goralzik et al., 2022). Research has shown that without fair planning and coordinated rules, these systems frequently exclude vulnerable users (Dadashzadeh et al., 2022). This section showcases the various barriers that limit or reduce PWD participation in the CTE and are summarized in this model.

Figure 2. Barriers to Access and Participation.



Infrastructural Barriers. The current transportation systems and vehicles are designed in accordance with universal transportation infrastructures and features. Therefore, the mass transportation system lacks accessibility for PWD. The onboarding, stations, and mobility options are poorly designed that may cause limited accessibility for PWD (Goralzik et al., 2022; Dadashzadeh et al., 2024). Reinforcing public transportation that is structured in accordance with mobility assistance of PWD would help the transportation system to become accessible for all passengers. Standards should be proposed and implemented in order for the transportation system to follow it accordingly and strictly. It would also promote equality because it allows passengers with disabilities to access comfortably and safely the transportation that is also sufficient for them.

Digital Barriers. The digital or technological advancements that have been made such as mobility cars and rides are not intended for PWD. The features such as screen reader and voice command are not fully integrated in digital platforms; therefore, it has become inconvenient for people with complications to use it. It only favors people that have no disability (Fink et al., 2023; Nanchen et al., 2022). This deficiency limits the passengers especially those who have impaired problems and mobility difficulties to use it. Platforms that are intended to provide service for passengers should also advocate for accessibility and rides for all passengers to promote inclusivity. Platforms should also include multi-sensory and user friendly applications that fill the gap in terms of inefficiency of these features.

Social Barriers. PWD often experience discrimination in public transportation because of their motor skills. Many passengers with disabilities encounter refusal from drivers because they are seen as inconvenient. This act shows that the social culture lacks sensitivity when it comes to collaborative transportation (Simonovits et al., 2023). Authorities should implement programs that prioritize safe and equal acts in order for the drivers to become socially sensitive and aware for the safeguard and protection of the passengers, especially PWD. Mandatory training is needed to establish a positive behavior for the drivers to learn how to give good and standard service for passengers with disabilities.

Economic Barriers. There are little to no programs that encourage and promote accessibility for public transportation for people with disabilities. There are numerous infrastructures that are not user friendly due to its high maintenance facilities (Dadashzadeh et al., 2022). Public and private collaboration is needed to provide standardized programs and infrastructures that prioritize PWD accessibility and mobility.

Institutional Barriers. There is a lack of strong implementation of public transportation that prioritizes the mobility and accessibility of PWD. Government institutions, private sector, and public organizations should prioritize vehicles that are equally accessible and user friendly for all passengers rather than prioritizing their speed and aesthetic features (Dadashzadeh et al., 2022; Etminani-Ghasrodashti et al., 2021). Legislation should prioritize and implement policies and regulations that allow performance metrics for drivers to enhance the overall experience of PWD in mass transportation. Also, the government officials and other organizations should strengthen their integration for fair and inclusive promotion in safeguarding PWD.

Contextualizing Social Exchange Theory

In the context of Social Exchange Theory (SET), the study shows the interactions between PWD and service providers of the CTE as exchanges within a cost-benefit network. Within the CTE, it is evident that the involved people seek to maximize convenience while minimizing costs. For PWD, developments such as inclusive MaaS platforms and accessible AV systems are benefits gained from the CTE, providing them with independence, accessible transportation, and user-friendly encounters. In contrast, the lack of accessible features in transport systems, negative attitudes from drivers, and discrimination represent the costs or barriers. These barriers lead to potentially lower participation in the network. From the service providers' and government's point of view, the investments, resources and regulation oversight necessary to develop accessible transport constitute costs. Their associated costs are expected to be reciprocated by the longevity of access as well as reinforced accountability and relationship. In the event that drivers experience a net cost (where they offer more time or effort) in accommodating PWD, or a platform is unable to offer incen-

tives, exchange between actors breaks down, highlighting exclusion instead of reciprocity. Thus, it correlates with the dynamic explained in the SET, where power or the control of resources shapes interaction.

Conclusions

The Collaborative Transport Economy (CTE), with technologies that involve Mobility as a Service (MaaS) as well as Shared Autonomous Vehicles (SAVs), offers opportunities as well as challenges in making it easier to mobilize Persons with Disabilities (PWD). The use of the platforms, if proper, has the potential to enhance independence, flexibility, and inclusion, as per research findings. However, if the platforms lack connectivity, then it becomes the opposite, making things harder for the already deprived individuals.

This study contributes to the academic discourse on the CTE by addressing a significant research gap, specifically the limited focus on PWD within CTE literature. While most existing studies concentrate on general users or economic and technological aspects, this research uniquely highlights the mobility experiences and challenges of PWD in collaborative transport systems. Moreover, it is the first study to employ a Systematic Literature Review (SLR) as a methodological approach in examining CTE from the perspective of PWD. By systematically analyzing and synthesizing existing works, this study provides a structured foundation for future research and strengthens the academic understanding of inclusivity and accessibility in the evolving field of CTE.

By synthesizing the barriers and identifying the possible advantages and difficulties of the CTE for PWD, this study serves essential guidance to policymakers, system designers, and transport operators. This shows the necessity of a comprehensive strategy to make CTE and the larger public transportation system more accessible, inclusive, and secure for all users, encompassing vulnerable groups like PWD. Moreover, in order to address the barriers that PWD are currently experiencing, this practical implication is achieved by emphasizing the need for strong policy implementation, mandatory driver training, accessible digital interfaces, and encouraging public-private cooperation to address the expensive costs of user-friendly infrastructure.

Based on the reviewed evidence, future studies on the experiences of CTE and PWD should focus on conducting more disability-specific, platform-specific, and location-sensitive analyses. Most of the studies reviewed collapsed "PWD" into a single category. This obscures the needs of blind/low-vision users, wheelchair users, people with hearing disabilities, and people with cognitive or intellectual disabilities, which are largely differentiated. Therefore, future research should examine one type of disability at a time to develop appropriate accessibility benchmarks. Additionally, researchers should conduct comparative studies across the major CTE platforms (e-hailing vs. microtransit vs. SAV-integrated MaaS apps) to examine design failures and best practices at the platform level. Finally, because much of the research has been conducted in a high-income context, it is important to conduct research in developing countries, specifically in the context of Southeast Asia and developing archipelagos like the Philippines, where digital exclusion, cultures of informal transport, and infrastructure may be additional barriers to CTE mobility.

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