

The Impact of Traffic Congestion on Quality Family Time

Nor Akmar Mohamed Azmaili & Azima Abdul Manaf

Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor

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Abstract

Traffic congestion is one of the main challenges faced by urban residents, especially in rapidly developing suburban areas such as Sepang, Selangor. The increase in the number of vehicles, imbalanced urban planning, and limitations in the public transportation system have contributed to prolonged congestion, which not only affects physical mobility but also has psychological, social, and emotional impacts on families. This study aims to examine the effects of traffic congestion on family well-being, focusing on the influence of traffic congestion factors on the quality of time spent with family. This research employed a descriptive design with a quantitative survey approach, involving 400 respondents selected through purposive sampling from various residential zones in the Sepang district of Malaysia. Data was collected through online questionnaires and analyzed using SPSS version 29 through descriptive and inferential statistical techniques, including multiple regression. Findings indicate that traffic congestion stems from five main factors: peak hour traffic volume, vehicle ownership, poor quality of public transportation services, spillover from development projects, and limitations in work flexibility. Three main aspects of quality family time were identified: emotional stress, travel time, and family activities, with emotional stress recording the highest mean value. However, vehicle ownership did not show a significant relationship with quality family time, suggesting that vehicles may serve as tools for adaptation rather than sources of stress. The implications of the study suggest that family well-being can be affected when external pressures such as traffic congestion disrupt time balance, emotions, and family interactions. Therefore, time management, adjustment of family routines, and awareness of the importance of family time need to be strengthened among households. In addition, more balanced and controlled development planning should be emphasized to ensure that physical growth of an area does not exacerbate traffic pressure, which ultimately impacts the family institution negatively.

Keywords: Traffic Congestion, Congestion, Quality Time, Family, Family Time

Introduction

Traffic congestion is one of the major challenges in the landscape of modern urbanization, particularly in rapidly developing urban and suburban areas. This phenomenon has become increasingly complex in tandem with the rapid growth of population, urbanisation, and the aggressive rise in private vehicle ownership over the past two decades. Economic development and imbalanced physical infrastructure planning have placed significant pressure on existing road networks. This imbalance has led to traffic flow disruptions, increased travel time, and inefficiencies in public transportation systems. Urban traffic congestion is a global issue, and this condition has caused disruptions and impacts on both the environment and the psychological well-being of residents. Most major cities around the world, especially in Southeast Asia, face similar challenges. Cities such as Bangkok in Thailand, Jakarta in Indonesia, Manila in the Philippines, Kuala Lumpur in Malaysia, and several other major urban centres are among those suffering from chronic and unresolved traffic congestion. Despite this, residents appear to have no choice but to adapt to these increasingly complicated conditions as part of their daily routines.

The impacts of traffic congestion are not limited to physical and economic aspects alone but also extend into the psychological, social, and family well-being dimensions. Individuals caught in daily traffic jams face emotional stress, extreme fatigue, and time constraints that undermine their ability to spend quality time with family. This situation has the potential to weaken family functions and relationships, especially when shared time becomes increasingly limited and lacks quality. Therefore, traffic congestion should be viewed as a form of environmental stressor that directly affects quality of life and social well-being in urban populations. Although various initiatives have been implemented to address traffic congestion, particularly in terms of improving road infrastructure and public transport systems, the social impact—especially on family relationships—remains underexplored (Rahmat et al., 2012). Most traffic congestion studies have focused on technical aspects such as traffic engineering and urban planning, while the family relationship dimension, specifically in the context of quality family time, has not been thoroughly investigated.

Within the context of this study, the indicator of quality time with family becomes the main focus, as it is directly affected by changes in daily routines and extended travel times caused by traffic congestion, which can disrupt positive interactions and balance in family life. This indicator measures the extent to which family members can consistently allocate time together in an environment that supports open communication, empathy, and affection. Quality time serves as a foundation for building emotional bonds, trust, and family resilience in the face of environmental stressors (IKK Report, 2019). According to the 2019 IKK Report, the state of Selangor recorded an overall score of 7.68 out of 10, categorised as a moderate level of well-being. Although the overall score for the Family Relationship Domain showed a positive performance, this well-being remains vulnerable to uncontrollable external factors such as traffic congestion. This factor can undermine one of the key indicators within the domain—quality time with family—as long and unpredictable travel times have the potential to reduce opportunities for positive interaction among family members. If left unaddressed, this situation could impact emotional stability, communication, and harmony within the family institution.

Traffic congestion leads to longer and more uncertain travel durations, reducing the time that could otherwise be spent on meaningful interaction and family activities. This situation negatively impacts family well-being, as daily interactions and quality communication between family members become disrupted. Overall, the literature suggests that traffic congestion profoundly affects family well-being, particularly in terms of emotional strain, daily interactions, and the stability of the family structure. In addition, demographic differences also have the potential to influence individuals' perceptions of traffic congestion experiences and their impact on quality family time (Schwanen et al., 2008). Therefore, it is crucial to identify the impact of traffic congestion on the quality of family time while taking into account respondents' demographic dimensions to achieve a more comprehensive understanding.

Research Issue

Traffic congestion has become an increasingly critical issue in urban and suburban environments, particularly in rapidly developing areas such as Sepang, Selangor. As cities expand outward, suburban districts often experience a surge in private vehicle usage due to inadequate public transportation infrastructure and poor urban planning (Rahman et al., 2023). In Malaysia, the Malaysian Institute of Road Safety Research (MIROS, 2022) reports that congestion is no longer limited to city centers but is now heavily affecting suburban communities, where development often outpaces transportation planning. However, despite growing attention to the economic and environmental impacts of traffic congestion, there remains a significant gap in understanding its broader social and emotional consequences—especially its impact on family well-being.

Most existing literature on traffic congestion has focused on quantifiable metrics such as productivity losses, fuel consumption, or carbon emissions (Lim & Wahid, 2022). While these studies are essential, they often overlook the human dimension, particularly how congestion affects interpersonal relationships and daily family dynamics. For example, prolonged commuting has been shown internationally to contribute to emotional stress, reduced quality of life, and strained family interactions (Zhang et al., 2023; Ortega & Lee, 2021). However, studies examining these effects in the Malaysian context—especially in suburban settings like Sepang—are scarce. This presents a critical research gap that this study aims to address. The uniqueness of Sepang as a research location further justifies the relevance of this study. As a district experiencing rapid infrastructural growth due to its proximity to Kuala Lumpur International Airport (KLIA), tech parks, and newly developed residential areas, Sepang embodies the challenges of unbalanced urban expansion. The spillover effects of these development projects have intensified traffic congestion, often without corresponding improvements in public transport systems (Ahmad & Fauzi, 2022). Consequently, families residing in these areas are likely to face prolonged commuting hours, emotional fatigue, and diminished opportunities for quality family interaction—issues that remain underexplored in both local and regional studies.

This study, therefore, seeks to fill this research gap by examining how traffic congestion affects the quality of time spent with family, focusing on emotional stress, travel time, and family activities. In doing so, it responds to the growing call for more socially nuanced urban studies that consider not only the physical or economic impacts of urban congestion but also its psychological and familial implications (Tan et al., 2021). By situating this research within

the context of suburban Malaysia and drawing on both national and international studies, this work offers a timely and relevant contribution to the field of urban planning, social development, and family studies. The rapid pace of urban development in suburban regions such as Sepang, Selangor, has given rise to increasingly complex challenges, with traffic congestion emerging as a persistent issue affecting residents' daily lives. While traffic congestion is typically addressed from the lens of infrastructure efficiency, urban mobility, or economic loss, its deeper social implications—particularly on family well-being—remain underexplored in both Malaysian and international scholarship. This gap necessitates a reframing of the problem not merely as a transportation issue, but as a multidimensional social concern with far-reaching consequences for emotional health, time management, and family cohesion.

The core problem this study addresses is the impact of prolonged traffic congestion on the quality of family life, particularly how it disrupts the balance of time, affects emotional well-being, and limits opportunities for meaningful family interactions. In the context of suburban Malaysia, where families often depend on private vehicles due to underdeveloped public transport systems, time lost in traffic translates directly into time lost with family. This has the potential to erode family bonds, increase psychological stress, and contribute to feelings of disconnection within households. From a broader social science perspective, this issue intersects with contemporary debates on time poverty, emotional labor, urban stress, and work-life balance. Scholars such as Hochschild (1997) and Southerton (2003) have long argued that modern families are increasingly constrained by time scarcity, leading to reduced relational quality. In suburban environments where daily commutes are long and inflexible, families face even greater barriers to achieving quality interactions. Moreover, the emotional toll of traffic—frustration, fatigue, and irritability—has been linked to increased domestic stress, yet little is known about how these effects manifest in Southeast Asian suburban contexts.

The significance of this study lies in its contribution to a more holistic understanding of urban development and its unintended consequences on social structures such as the family unit. As urban planners, policymakers, and social scientists continue to grapple with the challenges of sustainable cities, it is crucial to include family well-being as a measurable outcome in urban impact assessments. By examining how traffic congestion interferes with emotional states, family routines, and time use, this study highlights the need for integrative planning that considers both physical infrastructure and social sustainability. In summary, this research addresses a timely and under-investigated issue that sits at the intersection of urban studies and family sociology. It challenges the traditionally siloed approach to traffic as purely a transportation problem and reframes it as a lived, social reality with profound implications for family life. In doing so, it contributes meaningfully to ongoing social science debates on urbanization, mental health, and the evolving structure of family life in the 21st century.

Traffic Congestion

Traffic congestion refers to a condition in which the demand for road usage exceeds the available physical capacity, resulting in reduced vehicle speed, longer travel times, and the formation of long queues of vehicles. According to Hossain (2020), this situation often occurs when traffic flow surpasses the actual capacity of the road system, causing movement to become slow and inefficient. Litman (2020) further explains that traffic congestion happens

when the demand for road space exceeds infrastructure capacity, leading to travel delays, increased fuel consumption, and psychological stress for road users. Therefore, traffic congestion is not merely a technical issue from a transportation engineering perspective, but it also has economic and emotional consequences for urban communities that rely on daily mobility systems.

According to the Federal Highway Administration (FHWA, 2019), congestion is categorized as a *stop-and-go traffic* phenomenon, where vehicle movement frequently stops and resumes in a disjointed manner due to excessive vehicle numbers exceeding road capacity. In other words, congestion occurs when the average speed and route capacity fall below optimal levels, resulting in delays and stress for users. This explanation is supported by the New Zealand Transport Agency (2019), which states that congestion arises when road capacity is fully utilized and traffic flow is no longer stable, causing the road system's performance to fall short of users' expectations and needs. In this context, traffic congestion not only affects daily travel flow but also negatively impacts the quality of time spent with family.

With increasing population growth driven by urban development, the number of vehicles has risen significantly, especially during peak hours between 7:00 AM to 9:00 AM and 4:00 PM to 7:00 PM (Mazdi, 2001). The stress experienced by road users is not limited to physical discomfort but can also spill over into emotional and social well-being, including family relationships.

Quality Time with Family

A study by Musick et al. (2016), using daily time diaries, concluded that everyday activities such as playing and relaxing with children tend to produce more positive emotions and satisfaction compared to time spent on other activities. This shows that not only the duration but also full engagement and "flow" during interactions are indicators of quality family time. RaisingChildren.net.au (2022) explains that quality time with family is characterized by open communication, full engagement, and active emotional presence during daily routines such as having meals together without distractions or sharing stories about the day. It includes joint activities such as eating, talking, playing, or engaging in family activities that help strengthen bonds and improve communication among family members. This quality time does not solely depend on the amount of time spent together but also on enjoyment, comfort, and active involvement of each individual in the activity (RaisingChildren.net.au, 2022).

Meanwhile, Conger, Ackerman, and Donnellan (2010) discuss quality time with family through the concept of *positive engagement*, which encompasses attentive interaction, warmth, cooperation, and clear communication—elements that are vital in building strong bonds and shared family values. In this regard, quality time with family is measured as an important indicator of family well-being.

However, external factors such as traffic congestion can potentially disrupt this quality time. When family members spend long hours on the road, they often return home exhausted and unable to fully engage in family interactions. This condition subsequently reduces the family's ability to participate in activities that strengthen emotional bonds and harmony within the family institution.

Work-Life Balance Theory

The Work-Life Balance Theory refers to a concept that emphasizes the importance of managing time, energy, and commitments in a balanced manner between career demands and personal or family life (Greenhaus & Allen, 2011). This theory is based on the assumption that individuals have limited resources—particularly in terms of time and energy—and must allocate them wisely to meet the needs of both domains. An imbalance in this allocation can negatively affect psychological and emotional well-being, as well as the quality of social relationships, especially within the family context.

According to Frone (2003), work-life imbalance is often associated with *role conflict*—a situation in which the demands of one's work role conflict with or hinder the performance of roles in family life. In such cases, individuals may experience stress, emotional exhaustion, and decreased satisfaction in both areas. Conversely, a good work-life balance can enhance work productivity, life satisfaction, and strengthen family relationships (Clark, 2000).

In the context of this study, the Work-Life Balance Theory is applied to understand how traffic congestion affects the daily time allocation of individuals, particularly the time that should be spent with family after working hours. The long hours spent on the road due to traffic congestion not only reduce physical time spent with family but also influence emotional and psychosocial aspects of family relationships. Therefore, traffic congestion can be considered an environmental factor that challenges the balance between work and personal life, consequently affecting the quality of time spent with family.

Additionally, this theory supports the importance of time management strategies, flexible work policies, and efficient urban planning to minimize work-life conflicts arising from external factors such as traffic congestion. Thus, understanding this theory not only strengthens the conceptual foundation of the study but also allows research findings to be analyzed within a broader and more relevant framework for modern life.

The Impact of Traffic Congestion on the Quality of Family Time

Traffic congestion is an urban phenomenon that not only affects physical systems and human mobility but also triggers various social impacts, including on family well-being. In this context, the quality of family time becomes one of the most affected dimensions when daily travel time becomes increasingly lengthy and unpredictable. The following sections will specifically discuss how traffic congestion influences travel time and family time, the psychological stress arising from daily commutes, and its effects on family activities and relationships.

Travel Time and Family Time

Extended daily travel due to traffic congestion is increasingly recognized as a significant factor that directly affects family well-being, particularly by reducing the amount of quality time spent together. Prolonged commutes not only cause physical fatigue but also contribute to mental exhaustion, which diminishes individuals' capacity to engage positively with family members. Meaningful interactions such as having dinner together, enjoying weekend leisure, or even simple casual conversations are often sidelined due to time constraints and fatigue brought home from work.

A study by Lyons and Chatterjee (2008) found that the average worker in Britain spends approximately 139 hours per year commuting, with one in ten workers spending more than two hours daily on the road. This finding highlights how a significant portion of time is "stolen" from family time, thereby reducing opportunities to build strong emotional connections within the family. As a result, the loss of shared time not only disrupts daily routines but also has long-term implications on family structure and function.

Furthermore, several other studies support these findings by focusing on the relationship between commute duration, personal stress, and work–family conflict. For example, Cantwell et al. (2021) discovered that commute-related stress acts as a mediator between travel time and family conflict, with individuals experiencing higher levels of stress being more likely to struggle in balancing work and family roles. A study in Beijing by Lyu et al. (2013) also confirmed that stress from long commutes can trigger role conflicts and reduce emotional engagement at home. Therefore, long travel durations due to traffic congestion not only reduce physical time with family but also contribute to a decline in interaction quality, emotional stability, and the overall psychosocial well-being of the family.

Stress Due to Traffic Congestion

Long and unpredictable daily commutes caused by traffic congestion have been shown to increase stress levels among commuter families in Malaysia. A study by Arshat et al. (2015) found that parental stress increased when parents spent extended hours commuting each day, which in turn affected family functioning. This has a direct impact on the quality of family interactions, including daily routines and communication among family members.

Additionally, studies in Malaysia have shown that stress from daily travel not only causes psychological effects such as mental fatigue and emotional disturbances but also leads to role conflict between work responsibilities and home duties. Research published in the *Malaysian Journal of Human Ecology* found that rising commute stress—measured by feelings of exhaustion, urgency, and anxiety—can disrupt emotional stability and contribute to internal conflict among family members.

Moreover, a study conducted on drivers in the Klang Valley (Mohamad Shamsurijan et al., 2022) confirmed that road-related stress such as noise, pollution, and daily traffic disruptions contribute to reduced psychological well-being and lower individuals' capacity to be emotionally present for their families after returning home. These findings are consistent with global evidence suggesting that commute stress is not merely an individual issue but also directly impacts family dynamics and well-being.

Family Activities and Relationships

Consistent family activities play a crucial role in nurturing healthy relationships and cohesion among family members. Activities such as eating together, watching television, engaging in light sports, or simply having daily conversations are basic forms of interaction that contribute to emotional development, trust, and family functioning. According to Zabriskie and McCormick (2001), involvement in core daily leisure activities directly contributes to family cohesion and adaptability. The study emphasized that the greater the participation in shared activities, the stronger the family functions formed through open communication, empathy, and psychosocial support.

However, the quality and frequency of family activities are often affected by external factors such as work overload, environmental stressors, and long travel times due to traffic congestion. In an integrative study, Hodge et al. (2015) found that families who maintained regular routines of shared activities showed higher performance in emotional functioning, communication, and stress coping ability. Conversely, time constraints due to job demands or long commutes tend to reduce the frequency of family activities, thereby undermining emotional balance within the household. Therefore, quality time with family should not be underestimated in assessing overall family well-being.

A local study by Pai and Arshat (2020) provided stronger evidence of the influence of traffic congestion on family activities and relationships. In their research on dual-income families who commute long distances daily, it was found that stress from long travel durations reduced the opportunities for involvement in daily family activities. This limitation not only affects quality time with spouses and children but also contributes to emotional tension and weak communication among family members. These findings show that traffic congestion and long commutes not only impact individuals physically and psychologically but also create a chain reaction affecting the stability, harmony, and overall function of the family institution. In conclusion, traffic congestion has a significant impact on the quality of family time through three main aspects: prolonged travel time, increased psychological stress, and disruption of family activities and relationships. Extended commutes not only reduce physical time together but also affect emotional stability, communication, and cohesion among family members. Commute-related stress increases the risk of role conflict between work and home, while time constraints make it difficult to engage in family activities that contribute to well-being. Therefore, the next chapter will discuss how families adapt to these challenges through strategies aimed at maintaining harmony and family functioning amidst ongoing traffic congestion.

Research Methodology

The study population consists of working and family-oriented residents in the Sepang district. This research employed purposive sampling, where selected samples met specific criteria set by the researchers, namely: individuals who are married, reside in Sepang, and are involved in daily commuting activities that expose them to traffic congestion. The sample included residents living in housing zones that have developed as a result of urban expansion and spillover development around Sepang district. This sampling method is recommended by Patton (2002), as it is suitable for studies requiring participants with particular characteristics. The survey instrument was distributed online using digital posters containing QR codes. This approach was chosen to facilitate distribution to the target respondents living and working in and around Sepang, Selangor. The questionnaire was developed using Google Forms, a user-friendly platform easily accessible through various devices such as smartphones and laptops. The online survey was distributed via social media applications such as WhatsApp, Facebook, and Instagram, in line with current communication trends that lean heavily on digital platforms. This method also allowed for broader respondent outreach in a shorter time while reducing costs and logistical needs.

The questionnaire was developed based on a literature review and comprised four main sections:

1. Respondent Profile,
2. Factors of Traffic Congestion,
3. Quality of Family Time, and
4. Family Adaptation Strategies.

All items used a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The reliability of the instrument was tested using Cronbach's Alpha coefficient, which yielded values above 0.80 for each section, indicating a high level of reliability.

The questionnaire was designed to analyse the impact of traffic congestion on the quality of family time. This section consisted of fifteen questions adapted from previous studies. To objectively evaluate this impact, the assessment was divided into three sub-sections, each broken down into specific questions:

- **C1:** Travel Time and Family Time,
- **C2:** Stress Due to Traffic Congestion,
- **C3:** Family Activities and Relationships.

Table 1 presents Sub-section C1, which includes five questions focusing on travel time and time spent with family. Generally, the items in this section aim to assess the extent to which traffic congestion influences both travel duration and the time available for family among Sepang residents.

Table 1.

Survey Sub-section C1: Travel Time and Time Spent with Family

No.	Statement
1.	I spend a long time commuting to work due to traffic congestion.
2.	I spend a long time dropping off and picking up my children from school.
3.	I have to wake up earlier to avoid traffic congestion.
4.	I do not have enough time to spend quality time with my children on weekdays.
5.	I often feel exhausted after returning from work due to the long commute.

Table 2 presents Sub-section C2, which focuses on stress caused by traffic congestion, consisting of five questions aimed at assessing the extent to which traffic congestion causes stress among Sepang residents. Table 3 presents Sub-section C3, which focuses on family activities and family relationships. It consists of five questions designed to evaluate the extent to which traffic congestion affects family activities and relationships.

Table 2.

Survey Sub-section C2: Stress Due to Traffic Congestion

No.	Statement
1.	I feel stressed when facing daily traffic congestion.
2.	Traffic congestion makes me feel irritable.
3.	I often feel anxious during my journey home.
4.	Traffic congestion affects my emotions even after arriving home.
5.	Traffic congestion makes me feel less motivated to interact with my family members.

Table 3 presents Sub-section C3, which focuses on family activities and family relationships, consisting of five questions aimed at assessing the extent to which traffic congestion impacts family activities and relationships.

Table 3.

Survey Sub-section C3: Family Activities and Family Relationships

No.	Statement
1.	I often miss family activities due to traffic congestion.
2.	Traffic congestion disrupts my family's daily schedule planning.
3.	The quality of family mealtimes is affected by traffic congestion.
4.	I participate less in recreational or leisure activities with my family due to time constraints caused by travel.
5.	My children often complain because I frequently arrive late to pick them up from school.

Demographics Respondent

In this study, the respondents consisted of residents in the Sepang district, Selangor. A total of 400 individuals participated in this study. The respondents' profiles were obtained from the questionnaire form, which contained ten questions covering demographic information such as gender, age, marital status, number of children, monthly household income, residential location, type of occupation, daily travel time (to and from work/daily activities), travel distance, and type of vehicle used.

This demographic data is presented in tabular form based on the number and percentage of respondents. Multiple regression analysis allows the researcher to assess the relative contribution of each factor and identify the dominant factors influencing the study outcomes. It also shows the strength of the relationships through the beta regression coefficient (β) and significance level ($p < 0.05$). According to Hair et al. (2019), multiple regression is suitable for social studies involving a single dependent variable but more than one independent variable and is used for prediction or modeling relationships.

Table 4

Distribution of Respondent Demographics

Demographic	Sub-profile	Frequency	Percentage (%)
Gender	Male	181	45.3
	Female	219	54.8
Age	20 - 29 years	24	6.0
	30 - 39 years	153	38.3
	40 - 49 years	170	42.5
	50 years and above	53	13.3
Marital Status	Married	360	90.0
	Single	36	9.0
	Previously married	4	1.0
Number of Children	None	67	16.8
	1 - 2 children	130	32.5
	3 - 4 children	160	40.0
	5 or more children	43	10.8
Household Income	Less than RM3000	26	6.5
	RM3000 - RM5999	113	28.2
	RM6000 - RM8999	87	21.8
	RM9000 and above	174	43.5
Residence Location	City Center / New Town	94	23.5
	Town / Semi-urban area	40	10.0
	Traditional village	13	3.3
	Residential area / New housing	253	63.2
Type of Employment	Public sector	192	48.0
	Private sector	159	39.8
	Self-employed	27	6.8
	Unemployed	22	5.5
Daily Travel Time	Less than 30 minutes	45	11.3
	30 minutes - 1 hour	175	43.8
	1 - 2 hours	133	33.3
	More than 2 hours	47	11.8
Travel Distance	Less than 5 km	19	4.8
	5 km - 10 km	41	10.3
	11 km - 20 km	92	23.0
	21 km - 30 km	113	28.2
	More than 30 km	135	33.8
Type of Vehicle Used	Car (Sedan / Hatchback)	240	60.0
	SUV / MPV	113	28.2
	Motorcycle	31	7.8
	Public transport (Bus / LRT / MRT / Commuter)	15	3.8
	E-hailing (Grab / Taxi)	1	0.3

Gender

Table 4 shows the distribution of 400 residents in Sepang district by gender. The study found that 181 people or 45.3% were male, while 219 people or 54.8% were female. The higher percentage of women indicates that this group might be more exposed to or responsive towards issues of traffic congestion and work-family balance, especially among working women who also play an important role in household management.

Age

Table 4 shows the age distribution of 400 residents in Sepang district. The study found that 6.0% (24 people) were aged 20–29 years, 38.3% (153 people) were aged 30–39 years, 42.5% (170 people) were aged 40–49 years, and 13.3% (53 people) were 50 years and above. The majority of respondents were between 30 and 49 years old, i.e., 38.3% (30–39 years) and 42.5% (40–49 years). This age group reflects active adults who are usually in their career peak and family responsibilities, making them highly related to the effects of traffic congestion on time and family relationships.

Marital Status

Table 4 shows the distribution of 400 residents in Sepang district by marital status. The study found that 360 people (90.0%) were married, 36 people (9.0%) were single, and 4 people (1.0%) were previously married. The majority of respondents, 90.0%, were married. This selection aligns with the study's focus on individuals with family structures to assess the impact of traffic congestion on family relationships and adaptation strategies.

Number of Children

Table 4 shows the distribution of 400 residents in Sepang district by number of children. The study found that 67 people (16.8%) had no children, 130 people (32.5%) had 1 to 2 children, 160 people (40.0%) had 3 to 4 children, and 43 people (10.8%) had 5 or more children. 40.0% of respondents had 3 to 4 children, while 32.5% had 1 to 2 children. This indicates that most respondents have family responsibilities involving time management and attention to children, which is relevant to the study on quality time spent with family.

Household Income (Monthly)

Table 4 shows the distribution of 400 residents in Sepang district by household income. The study found that 26 people (6.5%) earned less than RM3000, 113 people (28.2%) earned RM3000 to RM5999, 87 people (21.8%) earned RM6000 to RM8999, and 174 people (43.5%) earned RM9000 and above. Most respondents earned RM9000 and above (43.5%), followed by the RM3000–RM5999 group (28.2%). This income variation reflects diverse socioeconomic backgrounds and allows comparative analysis regarding the capacity to adapt to congestion issues, such as route choice, vehicle type, and travel timing.

Residence Location

Table 4 shows the distribution of 400 residents in Sepang district by residence location. The study found that 94 people (23.5%) lived in the city center or new towns, 40 people (10.0%) in towns or semi-urban areas, 13 people (3.3%) in traditional villages, and 253 people (63.2%) in residential areas or new housing estates. Most respondents (63.2%) lived in residential or new housing areas. This reflects densely populated areas with rapid development in Sepang, often exposed to traffic spillover due to increased housing units and limited road access.

Type of Employment

Table 4 shows the distribution of 400 residents in Sepang district by type of employment. The study found that 192 people (48.0%) worked in the public sector, 159 people (39.8%) in the private sector, 27 people (6.8%) were self-employed, and 22 people (5.5%) were unemployed. Almost half of the respondents worked in the public sector, followed by the private sector. Both sectors typically require daily travel with fixed schedules and formal working hours, increasing their risk of exposure to traffic congestion and time constraints with family.

Daily Travel Time (To and From Work / Daily Errands)

Table 4 shows the distribution of 400 residents in Sepang district by daily travel time. The study found that 45 people (11.3%) spent less than 30 minutes, 175 people (43.8%) spent 30 minutes to 1 hour, 133 people (33.3%) spent 1 to 2 hours, and 47 people (11.8%) spent more than 2 hours traveling daily. Nearly half of the respondents (43.8%) took between 30 minutes and 1 hour for their daily commute. Meanwhile, 33.3% spent between 1 to 2 hours. This indicates that daily travel consumes a significant portion of productive time, indirectly reducing family time and increasing daily fatigue.

Travel Distance

Table 4.1 shows the distribution of 400 residents in Sepang district by travel distance. The study found that 19 people (4.8%) traveled less than 5 km, 41 people (10.3%) traveled 5 to 10 km, 92 people (23.0%) traveled 11 to 20 km, 113 people (28.2%) traveled 21 to 30 km, and 135 people (33.8%) traveled more than 30 km. A significant number of respondents (33.8%) travel over 30 km daily, while 28.2% travel between 21 and 30 km. This shows that many Sepang residents must travel long distances for work, either to the city center or main industrial areas, increasing their risk of being stuck in traffic jams.

Type of Vehicle Used

Table 4 shows the distribution of 400 residents in Sepang district by type of vehicle used. The study found that 60.0% (240 people) used cars (sedan/hatchback), 28.2% (113 people) used SUVs/MPVs, 7.8% (31 people) used motorcycles, 3.8% (15 people) used public transport (bus/LRT/MRT/commuter), and 0.3% (1 person) used e-hailing services (Grab/taxi). The majority of respondents used private cars, mainly sedans/hatchbacks (60.0%) and SUVs/MPVs (28.2%). This reflects a high dependency on private vehicles compared to public transportation, which is also a major contributing factor to traffic congestion in the area.

Influence of Traffic Congestion Factors on Quality Family Time

This section focuses on the traffic congestion factors that influence the quality of family time among residents in the Sepang district. To address this question, multiple regression analysis was used to assess whether there is a significant influence between the predictor variables—namely the traffic congestion factors such as peak hour traffic volume, increasing vehicle ownership trends, low quality of transportation services, spillover from development projects, and limited work pattern changes and work time flexibility—on the dependent variable, which is the quality of family time. Table 5 shows the results of the multiple regression analysis indicating the influence of traffic congestion factors on quality family time.

Table 5.

Influence of Traffic Congestion Factors on Quality Family Time

Variable	B	Std. Error	Beta	t	Sig.
Constant	-0.634	0.455		-1.393	0.165
Peak hour traffic volume	0.538	0.084	0.279	6.428	0.000
Increasing trend in vehicle ownership	-0.060	0.054	-0.048	-1.119	0.264
Low quality of transportation service	0.174	0.037	0.207	4.717	0.000
Spillover from development projects	0.253	0.065	0.174	3.887	0.000
Limited work pattern changes & flexibility	0.187	0.033	0.245	5.598	0.000

The results in Table 5 indicate that traffic congestion factors significantly predict the quality of family time among Sepang residents, explaining 32.6% of the variance ($R^2 = 0.326$, $F(5, 394) = 38.071$, $p < 0.05$). Among the factors, peak hour traffic volume has the highest influence ($\beta = 0.279$, $t(394) = 6.428$, $p < 0.01$), followed by limited changes in work patterns and work time flexibility ($\beta = 0.245$, $t(394) = 5.598$, $p < 0.01$), low quality of transportation services ($\beta = 0.207$, $t(394) = 4.717$, $p < 0.01$), and spillover from development projects ($\beta = 0.174$, $t(394) = 3.887$, $p < 0.01$). Meanwhile, the increasing trend in vehicle ownership did not show a significant effect on quality family time ($\beta = -0.048$, $t(394) = -1.119$, $p > 0.05$).

The multiple regression analysis results suggest that overall, traffic congestion factors significantly predict quality family time among residents in Sepang, with an R^2 value of 0.326, indicating that 32.6% of the variance in quality family time can be explained by the five main traffic congestion factors studied. Four of the five independent variables significantly influenced the dependent variable, while one variable did not show a significant relationship. The strongest influence was shown by peak hour traffic volume ($\beta = 0.279$, $t(394) = 6.428$, $p < 0.01$). This finding aligns with explanations by TomTom (2023) and the Kuala Lumpur Traffic Master Plan 2040, which emphasize peak hours as the most critical period for traffic flow, directly affecting travel time and the available time for family interactions. Schwanen et al. (2008) also noted that consistent congestion during morning and evening peak hours impacts users' time and emotional stress, thereby affecting family harmony.

The second significant factor was limited changes in work patterns and inflexible working hours ($\beta = 0.245$, $t(394) = 5.598$, $p < 0.01$). This indicates that fixed work schedules without alternative timing options make it difficult for individuals to manage family time, consistent with discussions by Chatterjee et al. (2019) and Kalašová et al. (2024), which highlight that constraints in work time management contribute to work-life balance disruption, especially in family time.

The third significant factor was the low quality of public transportation services ($\beta = 0.207$, $t(394) = 4.717$, $p < 0.01$), which also impacted quality family time. This finding is consistent with studies by Katiman et al. (2010) and Ng and Yap (2016) that indicate inefficient and unreliable public transport systems cause users to rely more on private vehicles, adding time pressure and daily fatigue that negatively affect family time.

The spillover effect of development projects also showed a significant impact ($\beta = 0.174$, $t(394) = 3.887$, $p < 0.01$). Findings by Katiman et al. (2010) and the Selangor State Structure

Plan reveal that physical development not aligned with road capacity increases congestion and disruption on main routes, which affects daily travel time and family commitments.

In contrast, the increasing trend in vehicle ownership did not show a significant relationship with quality family time ($\beta = -0.048$, $t(394) = -1.119$, $p > 0.05$). This differs from initial assumptions and some previous studies linking vehicle ownership to congestion. However, in this study's context, vehicle ownership may reflect mobility needs and greater time control rather than adding pressure, especially if it helps reduce dependence on inefficient public transportation. This suggests that vehicle ownership may serve as an adaptation tool rather than a direct cause of reduced quality family time.

In this context, vehicle ownership is seen more as a mobility necessity and a self-control tool over time, especially in environments where public transportation is inefficient or incomplete. Therefore, rather than contributing to stress or reduced family time quality, private vehicles might allow families to organize travel more flexibly, reduce dependence on public transport schedules, and enhance control over personal and family time.

Discussion of Research Findings

The findings of this study indicate that traffic congestion has a significant impact on the quality of family time, especially among working residents living in rapidly developing areas such as Sepang. One of the most notable effects is the loss of time due to long travel durations during commutes to work, school, or other daily destinations. Respondents reported that they have to leave earlier in the morning and return home later in the evening, which reduces the time available for family interaction and activities. This situation also disrupts daily routines such as having dinner together, helping children with homework, or engaging in recreational activities as a family.

Furthermore, traffic congestion negatively affects the emotional well-being of family members. Many respondents reported experiencing physical fatigue and mental stress after enduring exhausting journeys. These conditions often manifest at home as emotional instability, such as irritability, impatience, and a desire to isolate oneself. Consequently, interpersonal relationships within the family become tense and less harmonious, with some respondents expressing feelings of guilt for not being able to spend sufficient or quality time with their spouses and children. This directly impacts the family's emotional support function, which ideally should serve as a space for recovery from external pressures.

These findings are consistent with previous research by Schwanen et al. (2008), which states that prolonged travel time caused by congestion directly affects family interaction time and satisfaction with parental roles. That study also emphasized that psychological stress from congestion not only occurs within the vehicle but also extends into the household environment, potentially triggering deeper conflicts if effective coping strategies are not implemented. This study also supports findings in the Kuala Lumpur Traffic Master Plan 2040, which acknowledges that congestion is not merely an urban mobility issue but also has sociocultural implications and affects household well-being.

More concerning is that disruptions to family time risk having long-term effects on children's emotional development and socialization. Children who receive less attention and quality time from their parents tend to experience emotional voids, lack of guidance, and feelings of

alienation within the home environment. This phenomenon not only harms parent-child relationships but also impacts the formation of values and psychological well-being in the long term. Therefore, it is important to consider the quality of family time not only in terms of the quantity of time spent together but also in terms of psychological and emotional presence and quality.

Conclusion

Overall, this discussion clearly shows that traffic congestion has broader implications beyond just travel delays. It triggers emotional stress, disrupts family dynamics, and affects the psychosocial well-being of family members. Therefore, any efforts to improve urban quality of life must not overlook the impact on family relationships affected by daily stresses such as traffic congestion. Thus, it can be concluded that this study provides a significant theoretical contribution by broadening the understanding of how urban environmental factors, particularly traffic congestion, affect social dynamics within the family institution. Theoretically, the findings further strengthen the framework of urban sociology and work-life balance theories, which emphasize the importance of managing time and space in shaping the quality of family relationships. This study also adds value in the local context by highlighting the reality of urban life in Malaysia, which is increasingly exposed to time pressures due to chronic traffic issues. Contextually, the findings clarify that traffic congestion is not merely a physical or logistical problem but also has deep social implications for family well-being. Therefore, this study not only strengthens the academic discourse in the fields of family studies and urban mobility but also provides empirical foundations for the formulation of more holistic public policies, especially in urban planning, flexible working hours, and family-life balance.

The study of traffic congestion has long been dominated by research focused on infrastructure, transportation efficiency, and environmental concerns. However, in recent years, a growing number of empirical studies have begun to explore the social dimensions of congestion, particularly its impact on psychological well-being and time use. To enhance the academic positioning of this study, recent empirical findings are integrated to demonstrate how the current research both builds upon and challenges existing knowledge. For instance, a study by Zhang et al. (2022) examined how prolonged commuting times in Chinese metropolitan areas led to increased emotional exhaustion, reduced satisfaction with family life, and weakened social bonds. Their quantitative analysis highlighted a clear correlation between commuting stress and reduced quality time with family members. Similarly, Ortega & Lee (2021) explored how time lost in traffic in South Korean urban centers disproportionately affects dual-income families, particularly in managing childcare and household responsibilities.

These studies provide a foundation for understanding how traffic affects family dynamics; however, most of this empirical work is situated in highly urbanized, densely populated cities in East Asia. The current study builds on this by shifting the focus to suburban Malaysia, specifically Sepang, a rapidly developing district that faces a different urban trajectory characterized by less dense infrastructure, weaker public transportation networks, and increasing vehicle ownership. This change in setting presents an important contextual variation and fills a gap in the literature on suburban traffic experiences in Southeast Asia. Moreover, while previous studies have focused primarily on emotional stress or productivity

loss, this research expands the discussion by examining three dimensions of family well-being—emotional stress, travel time, and family activities—thus offering a more holistic framework. It also challenges the assumption seen in some earlier studies that vehicle ownership directly contributes to family strain. Instead, findings from this research suggest that in suburban contexts, private vehicles may act as coping mechanisms that help families adapt to infrastructural limitations.

By engaging with and expanding upon recent empirical studies, this research makes a meaningful contribution to contemporary social science debates on urbanization, time poverty, and family well-being. It extends the discussion into new geographical and social contexts while offering fresh insights into how families navigate the realities of suburban development and transportation challenges in Malaysia.

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