

Jurnal Psikologi Tabularasa Vol.20(1) April 2025, 33-42 p-ISSN: 1693-7007 e-ISSN: 2541-013x https://jurnal.unmer.ac.id/index.php/jpt/index

# Commuting stress among workers in Jabodetabek and its impact on health

Stres perjalanan kerja pekerja di Jabodetabek dan dampaknya terhadap kesehatan

# Shofi Nadia, Maryam Abidah Masykuroh, Wahyu D. Admaja, Daeng Azizah Rahmatia, Nurani Fitriyah, Fivi Nurwianti

Universitas Indonesia, Jalan Lingkar, Depok, Indonesia

#### ARTICLE INFO: ABSTRACT

Received: 2025-03-28 Revised: 2025-04-21 Accepted: 2025-05-02

Keywords:

Kata Kunci:

tidur, pekerja Jabodetabek.

Commuting stress,

kesehatan, kualitas

Commuting stress,

health, Jabodetabek

worker, sleep quality.

Millions of commuters travel to and from the Greater Jakarta area (Jabodetabek) each day, enduring traffic congestion and overcrowded public transportation. Previous studies have shown that commuting stress has various negative impacts on individuals. This study aims to examine the level of commuting stress experienced by workers in Jabodetabek and its effects on sleep quality and self-rated. health This research employs a quantitative explanatory design with data collected cross-sectionally using self-report questionnaires. The study population consists of workers in Jabodetabek who regularly engage in commuting. A total of 113 participants were recruited through convenience sampling. Linear regression analysis revealed that commuting 88stress has a significant negative effect on self-rated health ( $\beta = -0.534$ , p < 0.001) and sleep quality ( $\beta = -0.312$ , p < 0.001). Additionally, commute duration was found to be positively correlated with commuting stress. Beyond its theoretical contribution, this study offers practical implications for organizations in considering the implementation of remote working strategies, as well as for policymakers in emphasizing the importance of improving the quality and availability of public transportation.

# ABSTRACT

Jutaan komuter melakukan perjalanan menuju dan berpulang (commuting) dari Jabodetabek setiap harinya, menghadapi kemacetan di jalanan dan berdesakan di transportasi umum. Penelitian sebelumnya menunjukkan commuting stress memberi berbagai dampak negatif bagi individu. Penelitian ini bertujuan mengetahui gambaran commuting stress pekerja di Jabodetabek dan dampaknya pada kualitas tidur serta penilaian kesehatan diri. Penelitian ini merupakan studi eksplanatif kuantitatif, pengambilan data dilakukan secara crosssectional menggunakan kuesioner penilaian diri (self-report). Populasi penelitian ini adalah pekerja di Jabodetabek yang melakukan commuting secara rutin. Sebanyak 113 partisipan diperoleh melalui convenience sampling. Analisis regresi linear menunjukkan bahwa commuting stress memiliki efek negatif yang signifikan terhadap penilaian kesehatan diri  $(\beta = -0.534, p < 0.001)$  dan Kualitas Tidur ( $\beta = -0.312, p < 0.001$ ). Selain itu, ditemukan bahwa durasi perjalanan berkorelasi positif dengan commuting stress. Tidak hanya menambah kebaruan teoritis, penelitian ini memberi implikasi praktis bagi perusahaan sebagai bahan pertimbangan penyelenggaraan strategi bekerja jarak jauh (remote working), serta bagi pemerintah dalam menekankan pentingnya peningkatan kualitas dan kuantitas transportasi umum.

> ©2025 Jurnal Psikologi Tabularasa This is an open access article distributed under the CC BY-SA 4.0 license (https://creativecommons.org/licenses/by-sa/4.0/)

How to cite: Nadia, S., Masykuroh, A. M., Admaja, D. W., Rahmatia, D. A., Fitriyah, N., & Nurwianti, F. (2025). Commuting stress among workers in jabodetabek and its impact on health. Jurnal Psikologi Tabularasa, 20(1), 33-42. doi: http://doi.org/10.26905/jpt.v20.i1.15436

# 1. INTRODUCTION

The Jakarta Metropolitan Area, designated as a National Strategic Area (Kawasan Strategis Nasional), handles 70% of Indonesia's financial transactions (Hestya & Mulyawan, 2022). This area includes DKI Jakarta, Bogor, Depok, Tangerang, and Bekasi, collectively known as Jabodetabek. With a population of over 28 million, Jabodetabek is the largest metropolitan area in Southeast Asia and the second largest in the world (Siswanto et al., 2023).

Being the most densely populated region in Indonesia, traffic congestion and heavy road usage pose daily challenges for residents commuting to work and school (Saffan & Rizki, 2018). Commuting, as defined by Diebig et al. (2021), involves individuals traveling between suburban areas and Jakarta. This makes transportation a fundamental necessity for commuters – those who regularly engage in this activity – whether they use private vehicles such as cars or motorcycles, or rely on public transport like buses or trains (Ratnasari, 2023).

Traffic congestion is a prevalent urban issue, with Jakarta ranking 30th among the world's most congested cities and being the most congested city in Indonesia (Hamida, 2024). Friday evenings are reported to have the longest travel times, where a 10-kilometer journey can take up to 32 minutes on average (Indraswari, 2023). This congestion affects not only drivers but also public transport users, with the Electric Rail Train (KRL) commuter line – one of the most relied-upon modes of public transportation – carrying over 980,000 passengers daily on weekdays (Tim Redaksi KAI Commuter, 2024). This high volume results in overcrowding, particularly during morning and evening peak hours (Rahmawati & Muliya, 2023).

Traffic congestion and overcrowding bring significant consequences. Studies have shown that commuting-related stress negatively impacts individuals. Recent research highlights that daily commuting experiences, particularly those that are persistently negative, can affect individuals' functionality, health, and well-being (Holland, 2016). Transportation challenges are common in most major cities. Frequent commuters are especially vulnerable to transportation-related risks, such as prolonged travel times, road hazards, congestion, and overcrowding (Useche et al., 2023).

The factors mentioned above have contributed to the emergence of the concept of commuting stress, which has gained increasing recognition over the past decades, alongside the rising daily stressors related to transportation systems worldwide (Useche et al., 2023). Stress is generally defined as a condition where environmental demands exceed an individual's perceived psychological and physiological ability to cope (Cohen et al., 2016). Commuting stress specifically refers to the stress individuals experience when they lack the psychological and physiological resources needed to handle the external demands and challenges faced during their commute (Useche et al., 2023). These challenges include inefficiency, discomfort, insecurity, congestion, overcrowding, and psycho-physical pressure during their daily journeys (Useche et al., 2023).

Commuting has also been linked to poor health conditions (Hansson et al., 2011) due to the unpleasant situations encountered during commuting (Novaco et al., 1990), as well as the

#### Commuting stress among workers in Jabodetabek and its impact on health

Shofi Nadia, Maryam Abidah Masykuroh, Wahyu D. Admaja, Daeng Azizah Rahmatia, Nurani Fitriyah, Fivi Nurwianti

reduction in time available for health-promoting activities such as physical exercise, relaxation, and social interactions due to long travel durations (Hansson et al., 2011). Previous studies have found that commuting correlates with lower social participation, which associated with health outcomes (Lindström, 2004). Additionally, commuting is considered an antecedent of work-family conflict and is linked to lower well-being and poorer physical and mental health (Hämmig et al., 2009; Jansen et al., 2003). Across all studies investigating commuting stress, albeit limited in number, commuting has consistently been found to be associated with lower subjective well-being.

Hansson et al. (2011) conducted a study to further explore the relationship between commuting and its impact on health, using a sample of 21,088 residents of Scania, Sweden. The study identified two significant variables as outcomes of commuting: perceptions of sleep quality and lower self-rated health. These findings were later supported by Hege et al. (2019), who demonstrated that stress predicts lower sleep quality. Similarly, a significant correlation between commuting and low self-rated health was previously found in studies by Stutzer & Frey (2008) and Rüger et al. (2017).

Several studies have examined the relationship between commuting and its effects on health and sleep quality. Hansson et al. (2011) investigated how commuting duration is associated with stress, self-rated health, and sleep quality. Additionally, research by Hege et al. (2019) and Liu et al. (2024) showed that stress is linked to lower sleep quality. Meanwhile, Rüger et al., (2017) found that stress acts as a mediator in the relationship between commuting time and various health-related outcomes.

To date, no study has specifically examined commuting stress among workers in Jabodetabek, Indonesia, and its effects on sleep quality and self-rated health. In the present study, commuting stress is assessed using the Multimodal Commuting Stress scale (Useche et al., 2023), which evaluates stress across four dimensions: inefficiency and inconvenience, unsafety and insecurity, congestion and crowding, and psychophysical strain. This scale provides a more comprehensive assessment of commuting stress by capturing a wide range of potential stressors experienced by commuters.

Based on this background, the present study proposes two hypotheses. The first hypothesis (H1) states that commuting stress negatively predicts self-rated health. The second hypothesis (H2) states that commuting stress negatively predicts sleep quality. This study aims to examine the impact of commuting stress on health and quality of sleep among the residents of Jabodetabek. Additionally, this study seeks to gain deeper insights into the phenomenon of commuting stress.

#### 2. METHOD

# **Participants**

The sample was selected using convenience sampling, which involves choosing participants based on ease of access (Cohen, Schneider, & Tobin, 2022). This method was chosen

#### Jurnal Psikologi Tabularasa Volume 19, No 1, April 2024: 33–42

due to its convenience and efficiency. The questionnaire was distributed online via Google Forms through social media from November 28 to December 1, 2023. Individuals meeting the study criteria were invited to participate by completing the questionnaire. Participants were required to be at least 18 years old, reside in Jabodetabek, and regularly commute between their residence and workplace.

# Measures

Prior to data collection, all measurement scales were translated into Indonesian through a two-step process per the procedure of direct translation with translation by committee (McKay et al., 1996). First, two translators translated the original items into Indonesian. Then, an expert reviewed both translations to ensure their meaning aligned with the original items and determined the final wording for use in the study. This process aimed to maintain semantic equivalence between the original and translated items.

Commuting stress was measured using the Multimodal Commuting Stress Scale (MCSS) developed by Useche et al. (2023), consisting of 21 statements covering four dimensions: (1) Inefficiency and discomfort (e.g., "The travel time I spend is longer than it should be"); (2) Insecurity (e.g., "I often experience the risk of accidents or conflicts with other road users while commuting"); (3) Congestion and overcrowding (e.g., "There is no transportation option that allows me to make this trip quickly and efficiently"); and (4) Psycho-physical tension (e.g., "Whenever I face mobility difficulties while commuting, I feel uncomfortable or anxious"). The scale was self-reported using a 5-point Likert scale ranging from 0 (never/almost never) to 4 (always/almost always).

Self-rated health was measured using an item adapted from Hansson et al. (2011): "How do you currently feel physically and psychologically regarding your health and well-being?" Responses were rated on a 7-point scale from 1 (very low) to 7 (excellent).

Perceived sleep quality was measured using an item adapted from Hansson et al. (2011): "Do you think you get enough sleep to feel refreshed?" Response options included: "Yes, generally" (3 points), "Yes, but not often enough" (2 points), and "No, never or almost never" (1 point).

# Analysis

Data analysis was performed using Jamovi, starting with descriptive statistics to outline the participants' characteristics based on the demographic data collected. Hypotheses 1 and 2 were tested through linear regression analysis. Additionally, the researcher conducted correlation tests, t-tests, and f-tests to further investigate commuting stress in the Jabodetabek area.

## 3. RESULTS

Most respondents in this study were male (52.2%) and resided outside of DKI Jakarta (65.5%). The majority of respondents commuted to DKI Jakarta (57.5%) and used private

transportation (49.6%), followed by public transportation (40.7%) and a combination of both (9.7%). The most common commuting frequency was five days per week (45.1%), followed by three to four days per week (24.8%). The most common travel duration was 30–60 minutes (40.7%), followed by 60–90 minutes (26.5%) and less than 30 minutes (15.9%). Full demographic analysis can be seen in Table 1.

Correlation analysis was conducted using Spearman's rho, as the normality test with Kolmogorov-Smirnov indicated that the data were not normally distributed (p < 0.05). The correlation results showed that commuting stress had a significant negative relationship with Self-Rated Health (r = -0.319, p < 0.001) and Sleep Quality (r = -0.417, p < 0.001), indicating that higher commuting stress was associated with worse self-rated health and sleep quality. Additionally, Travel Duration was positively correlated with Commuting Stress (r = 0.207, p < 0.05), suggesting that longer travel durations were associated with higher commuting stress. Age was also positively correlated with Self-Rated Health (r = 0.224, p < 0.05) but negatively correlated with Gender (r = -0.305, p < 0.01), indicating significant age differences based on respondents' gender. Full correlation analysis results can be seen in Table 2.

Regression analysis results showed that commuting stress had a significant negative effect on Self-Rated Health ( $\beta$  = -0.534, p < 0.001) and Sleep Quality ( $\beta$  = -0.312, p < 0.001). The R<sup>2</sup> values of 0.201 and 0.265 indicated that commuting stress explained 20.1% of the variance in Self-Rated Health and 26.5% of the variance in Sleep Quality. These results support H1 and H2, showing that higher commuting stress is associated with lower self-rated health and sleep quality. Full regression analysis results can be seen in Table 3.

T-tests and F-tests were conducted to compare groups based on gender, domicile, destination, mode of transportation, frequency, and travel duration. However, no significant differences were found between the groups.

Table 1. Demography												
No.	Gender		Domicile		Destination		Tran N	sportation Means	Frequency		Travel Dura- tion	
	n	%	n	%	n	⁰∕₀	n	%	n	%	n	0⁄0
1	59	52.2%	39	34.5%	65	57.5%	46	40.7%	13	11.5%	18	15.9%
2	54	47.8%	74	65.5%	48	42.5%	56	49.6%	28	24.8%	46	40.7%
3							11	9.7%	51	45.1%	30	26.5%
4									21	18.6%	15	13.3%
5											4	3.5%

**Notes.** Gender: 1 = Man, 2 = Woman; Domiciled and Destination: 1 = DKI Jakarta, 2 = Outside DKI Jakarta; Mode of Transportation: 1 = Public, 2 = Private, 3 = Mix; Frequency: 1 = 1-2 day/week, 2 = 3-4 day/week, 3 = 5 day/week, 4 = 6-7 day/week; Travel Duration: 1 = < 30 minute, 2 = 30-60 minute, 3 = 60-90 minute, 4 = 90-120 minute, 5 = > 120 minute.

#### Jurnal Psikologi Tabularasa Volume 19, No 1, April 2024: 33–42

	Variable	1	2	3	4	5	6	7	8	9	10
1.	Commuting Stress	1									
2.	Self-Rated Health	-0.319***	1								
3.	Sleep Qual- ity	-0.417***	0.251**	1							
4.	Domiciled	0.104	-0.149	-0.088	1						
5.	Destination	-0.157	0.080	0.200*	0.134	1					
6.	Mode of Transport.	0.113	0.154	0.099	0.042	0.137	1				
7.	Frequency	0.079	0.025	-0.081	-0.207	-0.142	0.073	1			
8.	Duration	0.207*	0.020	-0.069	0.139	-0.062	-0.117	0.125	1		
9.	Gender	0.117	-0.179	0.080	0.210*	0.146	-0.232**	-0.122	0.097	1	
10.	Age	-0.149	0.224*	0.017	-0.041	-0.167	0.233*	0.058	0.095	-0.305**	1
Μ		2.02	4.74	2.40	1.65	1.42	1.69	2.71	2.48	1.48	33.2
SD	)	0.665	1.16	0.543	0.478	0.497	0.642	0.903	1.03	0.502	9.72

Table 2. Mean, Standard Deviation, and Correlation Between Variables

*Notes.* N = 113. M: mean; SD: standard deviation. \* p < 0.05. \*\* p < 0.01. \*\*\* p < 0.001 (2-tailed).

#### Table 3. Hypothesis Testing Results

Variables	β	SE	R <sup>2</sup>	р	Conclusion
$CS \rightarrow Health$	-0.534	0.171	0.201	<.001	Negative significance, supporting H1
$CS \rightarrow Sleep$	-0.312	0.075	0.265	<.001	Negative significance, supporting H2

Notes. CS: Commuting stress; Health: Self-rated health; Sleep: Quality of sleep.

# 4. **DISCUSSION**

Commuting stress is an unavoidable issue in urban society, including for workers in Jabodetabek. In line with previous studies (Hansson et al., 2011; Hege et al., 2019), this study provides evidence that high commuting stress predicts lower sleep quality among commuters. Additionally, commuting stress negatively impacts commuters' perceptions of their health conditions, consistent with the findings of Hansson et al. (2011) and Rüger et al. (2017). This study also confirms that one of the factors influencing commuting stress levels is travel duration, where longer travel times result in higher levels of stress experienced by commuters (Sasongko & Setiadi, 2021).

Many studies have shown a link between stress and sleep quality in various contexts, such as among students and elderly (Liu et al., 2017; Gardani et al., 2021). This study adds that

#### Commuting stress among workers in Jabodetabek and its impact on health

Shofi Nadia, Maryam Abidah Masykuroh, Wahyu D. Admaja, Daeng Azizah Rahmatia, Nurani Fitriyah, Fivi Nurwianti

stress from commuting can also negatively affect sleep quality. According to Zhang et al. (2020), this happens because stress increases activity in brain areas related to sensory processing and movement (Sensory/Somatomotor Network), as well as areas involved in focus and attention control (Cingulo-Opercular Control Network). Under stress, these networks stay active even during sleep, when they should be at rest. This overactivity can disrupt the brain's ability to relax, cause hyperarousal, and reduce sleep quality.

Theoretically, this study contributes evidence on the impact of commuting stress on sleep quality and health among workers in the Jabodetabek region, Indonesia. It also expands on previous research by employing the Multimodal Commuting Stress scale developed by Useche et al. (2023), which offers a comprehensive assessment by including various sources of stress faced by commuters, such as inefficiency and inconvenience, unsafety and insecurity, congestion and overcrowding, and psychophysical strain.

The findings of this study can serve as a valuable reference for commuters, the government, and companies in policymaking. For commuters, the study highlights that commuting can cause stress, which subsequently leads to decreased sleep quality and self-rated health. To mitigate these negative effects, it is crucial for workers to adopt self-regulation strategies that make their commuting experience more relaxed or enjoyable. For the government, the study underscores the importance of addressing traffic congestion and enhancing the capacity and quality of public transportation, as these efforts can have a broad societal impact and contribute to overall well-being. For companies, the findings suggest that remote work strategies should be considered, as they offer employees the opportunity to reduce their exposure to commuting stress.

However, this study has several limitations. The small sample size made it challenging to conduct a more in-depth analysis comparing different groups (e.g., public transport users versus private vehicle users) and to perform a dimensional-level examination of the Multimodal Commuting Stress scale. Future research should aim to increase the sample size to allow for more comprehensive comparisons. Additionally, this study relied on selfreport questionnaires to assess sleep quality and health, which could introduce bias. Future studies might consider using more objective measurement tools, such as medical health assessments.

# 5. CONCLUSION

Commuting is a daily reality for workers in Jabodetabek. However, this study confirms that the commuting experience can act as a stressor that predicts negative impacts on individuals, which are lower sleep quality and poorer self-rated health. These findings are important for workers, the government, and companies to recognize so that necessary actions can be taken to minimize the negative effects.

#### REFERENCES

- Cohen, S., Gianaros, P. J., & Manuck, S. B. (2016). A Stage Model of Stress and Disease. *Perspectives on Psychological Science*, 11(4), 456–463. https://doi.org/10.1177/1745691616646305
- Diebig, M., Li, J., Forthmann, B., Schmidtke, J., Muth, T., & Angerer, P. (2021). A threewave longitudinal study on the relation between commuting strain and somatic symptoms in university students: Exploring the role of learning-family conflicts. *BMC Psychology*, 9(199). https://doi.org/10.1186/s40359-021-00702-7.
- Gardani, M., Bradford, D., Russell, K., Allan, S., Beattie, L., Ellis, J., & Akram, U. (2021). A systematic review and meta-analysis of poor sleep, insomnia symptoms and stress in undergraduate students. *Sleep medicine reviews*, 61, 101565. https://doi.org/10.1016/j.smrv.2021.101565.
- Hamida, S. R. (2024, January 16). Jakarta Berada di Urutan ke-30, Inilah Daftar Kota Termacet di Dunia versi TomTom Traffic Index 2023. *Tempo.Co.* https://www. tempo.co/internasional/jakarta-berada-di-urutan-ke-30-inilah-daftar-kotatermacet-di-dunia-versi-tomtom-traffic-index-2023-97284
- Hämmig, O., Gutzwiller, F., & Bauer, G. (2009). Work-life conflict and associations with work- and nonwork-related factors and with physical and mental health outcomes: A nationally representative cross-sectional study in Switzerland. *BMC Public Health*, 9. https://doi.org/10.1186/1471-2458-9-435
- Hansson, E., Mattison, K., Björk, J., Östergren, P. O., & Jakobsson, K. (2011). Relationship between commuting and health outcomes in a cross-sectional population survey in southern Sweden. *BMC Public Health*, 11(1). https://doi.org/10.1186/1471-2458-11-834
- Hege, A., Lemke, M. K., Apostolopoulos, Y., & Sönmez, S. (2019). The Impact of Work Organization, Job Stress, and Sleep on the Health Behaviors and Outcomes of U.S. Long-Haul Truck Drivers. *Health Education & Behavior*, 46(4), 626–636. https://doi.org/10.1177/1090198119826232
- Hestya, R. P., & Mulyawan, A. (2022, Desember). Pekerjaan Rumah Metropolitan Jakarta sebagai Pusat Ekonomi Nasional. *Kompas.Com.* https://www.kompas.com/ properti/read/2022/12/07/133243621/pekerjaan-rumah-metropolitan-jakartasebagai-pusat-ekonomi-nasional
- Holland, D. M. (2016). Cost of commuting: A review of determinants, outcomes, and theories of commuting-related stress. *Skripsi, Portland State University*. https://doi. org/10.15760/honors.263
- Indraswari, D. L. (2023, March 23). Kemacetan di Jakarta yang Kian Sulit Dihindari. *Kompas. Id.* https://www.kompas.id/baca/riset/2023/03/23/kemacetan-di-jakarta-yangkian-sulit-dihindari
- Lindström, M. (2004). Social capital, the miniaturisation of community and self-reported global and psychological health. *Social Science and Medicine*, *59*, 595–607. https://doi.org/10.1016/j.socscimed.2003.11.006.

Commuting stress among workers in Jabodetabek and its impact on health

Shofi Nadia, Maryam Abidah Masykuroh, Wahyu D. Admaja, Daeng Azizah Rahmatia, Nurani Fitriyah, Fivi Nurwianti

- Liu, Y., Li, T., Guo, L., Zhang, R., Feng, X., & Liu, K. (2017). The mediating role of sleep quality on the relationship between perceived stress and depression among the elderly in urban communities: a cross-sectional study. *Public health*, 149, 21-27 . https://doi.org/10.1016/j.puhe.2017.04.006.
- McKay, R.B., Breslow, M.J., Sangster, R.L., Gabbard, S.M., Reynolds, R.W., Nakamoto, J.M. and Tarnai, J. (1996). Translating Survey Questionnaires: Lessons Learned. *New Directions for Evaluation* 70: 93-105. https://doi.org/10.1002/ev.1037.
- Novaco, R. W., Stokols, D., & Milanesi, L. (1990). Objective and subjective dimensions of travel impedance as determinants of commuting stress. *American Journal of Community Psychology*, 18(2), 231–257.
- Rahmawati, F., & Muliya, D. (2023, July 11). Berapa Batas Maksimal Penumpang di KRL saat Berdesakan pada Jam Tertentu? Begini Kata KAI Commuter. *Kompas.Tv*. https://www.kompas.tv/lifestyle/424556/berapa-batas-maksimal-penumpangdi-krl-saat-berdesakan-pada-jam-tertentu-begini-kata-kai-commuter.
- Ratnasari, A. F. (2023.). Understanding Commuter Stress as an Effect of the Transport Mode Choice: A Case Study in Indonesia. Tesis. Universiteit Hasselt.
- Rüger, H., Pfaff, S., Weishaar, H., & Wiernik, B. M. (2017). Does perceived stress mediate the relationship between commuting and health-related quality of life? *Transportation Research Part F*, 50, 100–108. https://doi.org/10.1016/j.trf.2017.07.005
- Saffan, A. F., & Rizki, M. (2018). Exploring the Role of Online 'Ojek' In Public Transport Trips: Case of Jakarta Metropolitan Area Rail Users. IOP Conference Series: Earth and Environmental Science, 158. https://doi.org/10.1088/1755-1315/158/1/012024
- Sasongko, D., & Setiadi, Y. (2021). Variabel-Variabel yang Memengaruhi Status Stres Pekerja Komuter dengan Kendaraan Bermotor Pribadi dan Umum di Jabodetabek. Seminar Nasional Official Statistics, 2021(1), 621-630. https://doi.org/10.34123/semnasoffstat.v2021i1.982
- Siswanto, S., Nuryanto, D. E., Ferdiansyah, M. R., Prastiwi, A. D., Dewi, O. C., Gamal, A., & Dimyati, M. (2023). Spatio-temporal characteristics of urban heat Island of Jakarta metropolitan. *Remote Sensing Applications: Society and Environment*, 32, 101062. https://doi.org/10.1016/j.rsase.2023.101062.
- Tim Redaksi KAI Commuter. (2024, Mei). Jam Sibuk Awal Pekan, KAI Commuter Operasikan 482 Perjalanan Commuter Line Jabodetabek Untuk Layani 385.226 Pengguna–Sepanjang Bulan Mei 2024, pengguna transportasi massal ini di Jabodetabek sudah mencapai 16,43 juta orang. *KAI Commuter*. https:// commuterline.id/informasi-publik/berita/jam-sibuk-awal-pekan-kai-commuteroperasikan-482-perjalanan-commuter-line-jabodetabek-untuk-layani-385-226pengguna-sepanjang-bulan-mei-2024-pengguna-transportasi-massal-ini-dijabodetabek-sudah-mencapai-16-43-juta-orang.
- Tim TvOne. (2022, June 22). Sejarah HUT DKI Jakarta Diperingati Setiap 22 Juni. *Tvonenews.Com.* https://www.tvonenews.com/berita/48801-sejarah-hut-dkijakarta-diperingati-setiap-22-juni?page=all

#### Jurnal Psikologi Tabularasa Volume 19, No 1, April 2024: 33–42

- Useche, S. A., Marin, C., & Llamazares, F. J. (2023). "Another (hard) day moving in the city": Development and validation of the MCSS, a multimodal commuting stress scale. *Transportation Research Part F: Psychology and Behaviour*, 95, 143–159. https://doi.org/10.1016/j.trf.2023.04.005
- Zhang, L., Li, D., & Yin, H. (2020). How is psychological stress linked to sleep quality? The mediating role of functional connectivity between the sensory/somatomotor network and the cingulo-opercular control network. *Brain and Cognition*, 146. https://doi.org/10.1016/j.bandc.2020.105641.