

BAB V

KESIMPULAN DAN SARAN

Pada bab ini dipaparkan kesimpulan yang diperoleh dari hasil penelitian ini. Kesimpulan yang dipaparkan merupakan jawaban dari rumusan masalah yang telah ditentukan. Selain kesimpulan, akan dipaparkan juga mengenai saran untuk penelitian selanjutnya.

V.1 Kesimpulan

Berdasarkan hasil dari penelitian yang telah dilakukan, dapat ditarik kesimpulan sebagai berikut:

1. Hasil penelitian menunjukkan hanya faktor jenis metode pemaparan yang berpengaruh terhadap tingkat kantuk partisipan ($p\text{-value} = 0,049$). Tingkat kantuk tidak dipengaruhi oleh faktor jenis kelamin dan interaksi faktor jenis kelamin dan jenis metode pemaparan seluruh indikator kewaspadaan. Untuk tingkat kewaspadaan tidak dipengaruhi oleh kedua variabel independen.
2. Penentuan jenis metode pemaparan untuk perempuan dan laki-laki dilakukan berdasarkan jenis metode pemaparan yang menghasilkan tingkat kantuk terendah bagi pengemudi. Metode pemaparan *intermittent* (10 menit) menghasilkan tingkat kantuk terendah bagi perempuan dan laki-laki.

V.2 Saran

Berdasarkan penelitian yang telah dilakukan, berikut merupakan beberapa saran yang dapat diberikan untuk penelitian selanjutnya.

1. Pada penelitian selanjutnya dapat melakukan eksperimen dengan cara *field study* agar pengalaman mengemudi lebih akurat, sehingga hasil penelitian yang didapatkan lebih baik.
2. Dalam menentukan jumlah partisipan untuk penelitian selanjutnya, sebaiknya menggunakan *power of statistics* minimal 80%.

DAFTAR PUSTAKA

- Alhola, P., & Polo-Kantola, P. (2007). *Sleep deprivation: Impact on cognitive performance. Neuropsychiatric Disease and Treatment*, 3(5), 553–567.
- Arnold, L. S., Tefft, B. C., & Safety, A. A. A. F. for T. (2015). *Prevalence of Self-Reported Drowsy Driving, United States: 2015. November*, 10p. <https://www.aaafoundation.org/sites/default/files/PrevalenceOfSelf-ReportedDrowsyDrivingReport.pdf> <https://trid.trb.org/view/1375059>. (Diakses pada 10 Maret 2022).
- Badan Pengatur Jalan Tol. (2021). *Ketahui Batas Kecepatan Berkendara Di Jalan Tol*. Badan Pengatur Jalan Tol. <https://bpjt.pu.go.id/berita/ketahui-batas-kecepatan-berkendara-di-jalan-tol>. (Diakses pada 10 Maret 2022).
- Badan Pusat Statistik Indonesia. (2019). *Jumlah Kecelakaan, Korban Mati, Luka Berat, Luka Ringan, dan Kerugian Materi 2017-2019*. Badan Pusat Statistik Indonesia. <https://www.bps.go.id/indicator/17/513/1/jumlah-kecelakaan-korban-mati-luka-berat-luka-ringan-dan-kerugian-materi.html>. (Diakses pada 4 Maret 2022).
- Badan Pusat Statistik Indonesia. (2020). *Indikator Kecelakaan Lalu Lintas*. Badan Pusat Statistik Indonesia. <https://jakarta.bps.go.id/indicator/17/301/1/indikator-kecelakaan-lalu-lintas-di-jalan-tol-menurut-ruas-jalan.html>. (Diakses pada 1 Maret 2022).
- Badan Pusat Statistik Indonesia. (2020). *Jumlah Penduduk Hasil Proyeksi Menurut Provinsi dan Jenis Kelamin (Ribuan Jiwa), 2018-2020*. Badan Pusat Statistik Indonesia. <https://www.bps.go.id/indicator/121886/1/jumlah-penduduk-hasil-proyeksi-menurut-provinsi-dan-jenis-kelamin.html>. (Diakses pada 14 Maret 2022).
- Badan Pusat Statistik Indonesia. (2020). *Perkembangan Jumlah Kendaraan Bermotor Menurut Jenis (Unit), 2018-2020*. Badan Pusat Statistik Indonesia. <https://www.bps.go.id/indicator/17/57/1/jumlah-kendaraan-bermotor.html>. (Diakses pada 1 Maret 2022).
- Basner, M., Mollicone, D., & Dingus, D. F. (2012). *Validity and Sensitivity of a Brief Psychomotor Vigilance Test (PVT-B) to Total and Partial Sleep Deprivation*.

<https://doi.org/10.1016/j.actaastro.2011.07.015>.Validity

- Beermann, B., & Nachreiner, F. (1995). *Working shifts—different effects for women and men? Work and Stress*, 9(2–3), 289–297. doi: /10.1080/02678379508256565
- Beigi, M., Toriki-Harchegani, M., & Pirbalouti, A. G. (2018). *Quantity and chemical composition of essential oil of peppermint (Mentha x piperita L.) leaves under different drying methods. International Journal of Food Properties*, 21(1), 267–276. doi: 10.1080/10942912 .2018.1453839
- Blanca, M. J., Alarcón, R., Arnau, J., Bono, R., & Bendayan, R. (2017). *Non-normal data: Is ANOVA still a valid option? Psicothema*, 29(4), 552–557. doi: 10.7334/psicothema2016.383
- Brown, I. D. (1996). *Driver fatigue. The International Journal of Aromatherapy*, 7(2), 43. doi: 10.1016/0962-4562(95)80042-5
- Budiono, C. K. (2018). *Penentuan Jenis Aromaterapi Bagi Pengemudi Yang Kekurangan Tidur Pada Kondisi Jalan Monoton. Universitas Katolik Parahyangan.*
- Centers for Disease Control and Prevention. (2017). Drowsy Driving. Centers for Disease Control and Prevention. https://www.cdc.gov/sleep/about_sleep/drowsy_driving.html. (Diakses pada 4 Maret 2022).*
- Charness, G., Gneezy, U., & Kuhn, M. A. (2012). *Experimental methods: Between-subject and within-subject design. Journal of Economic Behavior and Organization*, 81(1), 1–8. doi: 10.1016/j.jebo.2011.08.009
- Choudhary, A. K., Kishanrao, S. S., Dadarao Dhanvijay, A. K., & Alam, T. (2016). *Sleep restriction may lead to disruption in physiological attention and reaction time. Sleep Science*, 9(3), 207–211. doi: 10.1016/j.slsci.2016.09.001
- Dalton, P., & Wysocki, C. J. (1996). *The nature and duration of adaptation following long-term odor exposure. Perception and Psychophysics*, 58(5), 781–792. doi: 10.3758/BF03213109
- Dawson, D., & McCulloch, K. (2005). *Managing fatigue: It's about sleep. Sleep Medicine Reviews*, 9(5), 365–380. doi: 10.1016/j.smr.2005.03.002
- Dawson, D., Searle, A. K., & Paterson, J. L. (2014). *Look before you (s)leep: Evaluating the use of fatigue detection technologies within a fatigue risk management system for the road transport industry. Sleep Medicine Reviews*, 18(2), 141–152. doi: org/10.1016/j.smr.2013 .03.003

- Di Milia, L., Smolensky, M. H., Costa, G., Howarth, H. D., Ohayon, M. M., & Philip, P. (2011). *Demographic factors, fatigue, and driving accidents: An examination of the published literature. Accident Analysis and Prevention, 43*(2), 516–532. doi: 10.1016/j.aap.2009.12.018
- Dinges, D. F. (1995). *An overview of sleepiness and accidents.*
- Du, H., Zhao, X., Zhang, X., Zhang, Y., & Rong, J. (2015). *Effects of Fatigue on Driving Performance Under Different Roadway Geometries: A Simulator Study. Traffic Injury Prevention, 16*(5), 468–473. doi: 10.1080/15389588.2014.971155
- Farhud, D., & Aryan, Z. (2018). *Circadian rhythm, lifestyle and health: A narrative review. Iranian Journal of Public Health, 47*(8), 1068–1076.
- Good Therapy. (2016). *Brain Waves.* Good Therapy. <https://www.goodtherapy.org/blog/psychpedia/brain-waves> (Diakses pada 14 July 2022)
- Hartanto, B. D. (2020). Pengaruh Mengemudi Malam dan Kondisi Jalan Monoton Terhadap Tingkat Kelelahan Pengemudi dan Implikasinya Pada Kecelakaan. *Jurnal Penelitian Transportasi Darat, 21*(2), 117–124. doi: 10.25104/jjptd.v21i2.1563
- Hirshkowitz, M., Whiton, K., Albert, S. M., Alessi, C., Bruni, O., DonCarlos, L., Hazen, N., Herman, J., Adams Hillard, P. J., Katz, E. S., Kheirandish-Gozal, L., Neubauer, D. N., O'Donnell, A. E., Ohayon, M., Peever, J., Rawding, R., Sachdeva, R. C., Setters, B., Vitiello, M. V., & Ware, J. C. (2015). *National Sleep Foundation's updated sleep duration recommendations: Final report. Sleep Health, 1*(4), 233–243. doi: 10.1016/j.sleh.2015.10.004
- Horrey, W. J., Noy, Y. I., Folkard, S., Popkin, S. M., Howarth, H. D., & Courtney, T. K. (2011). *Research needs and opportunities for reducing the adverse safety consequences of fatigue. Accident Analysis and Prevention, 43*(2), 591–594. doi: 10.1016/j.aap.2010.01.014
- Jap, B. T., Lal, S., & Fischer, P. (2011). *Comparing combination of EEG activity in train drivers during monotonous driving. 38*(1), 996–1003. doi: 10.1016/j.eswa.2010-07-109
- Jap, B. T., Lal, S., Fischer, P., & Bekiaris, E. (2009). *Using EEG spectral components to assess algorithms for detecting fatigue. Expert Systems with Applications, 36*(2 PART 1), 2352–2359. doi: 10.1016/j.eswa.2007.12.043
- Johnson, A. J. (2011). *Cognitive facilitation following intentional odor exposure.*

- Sensors*, 11(5), 5469–5488. doi: 10.3390/s110505469
- Komada, Y., Asaoka, S., Abe, T., & Inoue, Y. (2013). *Short sleep duration, sleep disorders, and traffic accidents*. *IATSS Research*, 37(1), 1–7. doi: 10.1016/j.iatssr.2013.06.001
- Korlantas POLRI. (2017). Jenis Cidera. Korlantas POLRI. <http://korlantas-irsms.info/graph/angelnjuryData>. (Diakses pada 3 Maret 2022).
- Lal, S. K. L., & Craig, A. (2001). *A critical review of the psychophysiology of driver fatigue*. *Biological Psychology*, 55(3), 173–194. doi: 10.1016/S0301-0511(00)00085-5
- Larue, G., Rakotonirainy, A., & Pettitt, T. (2010). *Driving Performance on Monotonous Roads*.
- Lauderdale, D. S., Knutson, K. L., Yan, L. L., Rathouz, P. J., Hulley, S. B., Sidney, S., & Liu, K. (2006). *Objectively measured sleep characteristics among early-middle-aged adults: The CARDIA study*. *American Journal of Epidemiology*, 164(1), 5–16. doi: 10.1093/aje/kwj199
- Link, R. (n.d.). *The Signs and Symptoms of Too Much Stress*. Healthline. <https://www.healthline.com/nutrition/symptoms-of-stress#What-is-stress>. (Diakses pada 3 Maret 2022).
- Lwin, M. O., Malik, S., & Neo, J. R. J. (2021). *Effects of Scent and Scent Emission Methods: Implications on Workers' Alertness, Vigilance, and Memory under Fatigue Conditions*. *Environment and Behavior*, 53(9), 987–1012. doi: 10.1177/0013916520940804
- Mahachandra, M., Yassierli, & Garnaby, E. D. (2015). *The Effectiveness of In-vehicle Peppermint Fragrance to Maintain Car Driver's Alertness*. *Procedia Manufacturing*, 4(less), 471–477. doi: 10.1016/j.promfg.2015.11.064
- Martin, D. W. (2008). *Doing Psychology Experiments* (E. Evans & K. Bomont (Eds.); 7th Edition). The Thomson Corporation.
- Maxwell, S. E., & Delaney, H. D. (1990). *Designing Experiments and In Analysing Data* Wadsworth Belmont California.
- Mazlan, Munirah. & Diah, N. M. (2018). *Women and Essential Oil Usage : a Literature Review*. *Malaysian Journal of Social Science*, 3(December), 27–36.
- Meeuwesen, L., Bensing, J., & Van den Brink-Muinen, A. (2002). *Communicating fatigue in general practice and the role of gender*. *Patient Education and Counseling*, 48(3), 233–242. doi: 10.1016/S0738-3991(02)00176-3

- NHTSA. (2009). Traffic Safety Facts. *Www-Nrd.Nhtsa.Dot.Gov*, 2005(May), Volume: 2001, Issue: June, Pages: 232. <http://www-nrd.nhtsa.dot.gov/Pubs/811620.pdf>
<http://www-nrd.nhtsa.dot.gov/Pubs/809778.pdf>
- Putra, R. (2022). Usulan Jenis Aromaterapi Untuk Mengatasi Penurunan Kewaspadaan Saat Mengemudi Monoton Ketika Kekurangan Tidur. Universitas Katolik Parahyangan.
- Ream, E., & Richardson, A. (1997). *Fatigue in patients with cancer and chronic obstructive airways disease: A phenomenological enquiry*. *International Journal of Nursing Studies*, doi: 10.1016/s0020-7489(96)00032-6
- Saeki, Y. (2018). *Influence of the Scent of Peppermint on Concentration*. <https://www.sigmarepository.org/handle/10755/624568>
- Sagberg, F. (1999). *Road accidents caused by drivers falling asleep*. *Accident Analysis and Prevention*, 31(6), 639–649. doi: 10.1016/S0001-4575(99)00023-8
- Schmider, E., Ziegler, M., Danay, E., Beyer, L., & Bühner, M. (2010). *Is It Really Robust?: Reinvestigating the robustness of ANOVA against violations of the normal distribution assumption*. *Methodology*, 6(4), 147–151. doi: 10.1027/1614-2241/a000016
- Shahid, A., Wilkinson, K., Marcu, S., & Shapiro, C. M. (2012). *STOP, THAT and one hundred other sleep scales*. *STOP, THAT and One Hundred Other Sleep Scales*, 1–406. doi: 10.1007/978-1-4419-9893-4
- Suni, E. (2022). *Drowsy Driving*. *Sleep Foundation*. <https://www.sleepfoundation.org/drowsy-driving>. (Diakses pada 2 Maret 2022).
- Thomann, J., Baumann, C. R., Landolt, H., & Werth, E. (2014). *Psychomotor Vigilance Task Demonstrates Impaired Vigilance*. *Journal of Clinical Sleep Medicine*, 10(9), 1019–1024.
- Tillett, J., & Ames, D. (2010). *The uses of aromatherapy in women*. *Journal of Perinatal and Neonatal Nursing*, 24(3), 238–245. doi: 10.1097/JPN.0b013e3181ece75d
- Watson, P., Whale, A., Mears, S. A., Reyner, L. A., & Maughan, R. J. (2015). *Mild hypohydration increases the frequency of driver errors during a prolonged, monotonous driving task*. *Physiology and Behavior*, 147, 313–318. doi: 10.1016/j.physbeh.2015.04.028

- Williamson, A., Lombardi, D. A., Folkard, S., Stutts, J., Courtney, T. K., & Connor, J. L. (2011). *The link between fatigue and safety. Accident Analysis and Prevention*, 43(2), 498–515. doi: 10.1016/j.aap.2009.11.011
- World Health Organization(WHO). (2018). *Global Status Report on Road. World Health Organization*, 20. <https://www.who.int/publications/i/item/9789241565684>
- Zack, P. (2016). *Essential Oils For Healing*. Lulu Press, Inc.