



















- Kirmizioğlu E. & Tuydes-Yaman H. (2012). Comprehensibility of traffic signs among urban drivers in Turkey. *Accident Analysis and Prevention*, 45, 135-141. <https://doi.org/10.1016/j.aap.2011.11.014>.
- Laapotti, S., & Keskinen, E. (2004). Has the difference in accident patterns between male and female drivers changed between 1984 and 2000?. *Accident Analysis and Prevention*, 36(4), 577-584. [https://doi.org/10.1016/S0001-4575\(03\)00064-2](https://doi.org/10.1016/S0001-4575(03)00064-2).
- Lajunen, T., Parker, D., & Stradling, S. G. (1998). Dimensions of driver anger, aggressive and highway code violations and their mediation by safety orientation in UK drivers. *Transportation Research Part F: Traffic Psychology and Behaviour*, 1(2), 107-121. [https://doi.org/10.1016/S1369-8478\(98\)00009-6](https://doi.org/10.1016/S1369-8478(98)00009-6).
- Lajunen, T., Parker, D., & Summala, H. (2004). The Manchester driver behaviour questionnaire: a cross-cultural study. *Accident Analysis and Prevention*, 36(2), 231-238. [https://doi.org/10.1016/S0001-4575\(02\)00152-5](https://doi.org/10.1016/S0001-4575(02)00152-5).
- Lawton, R., Parker, D., Manstead, A. S. R., & Stradling, S. (1997). The role of affect in predicting social behaviours: the case of road traffic violations. *Journal of Applied Social Psychology*, 27, 1258–1276. <https://doi.org/10.1111/j.1559-1816.1997.tb01805.x>.
- Lewin, I. (1982). Driver training: a perceptual-motor skill approach. *Ergonomics*, 25(10), 917– 924. <https://doi.org/10.1080/00140138208925051>.
- Mako, E., & Szakonyi, P. (2016). Evaluation of human behaviour at pedestrian crossings. *Transportation Research Procedia*, 14, 2121–2128. <https://doi.org/10.1016/j.trpro.2016.05.227>.
- Martinussen, L. M., Hakamies-Blomqvist, L., Møller, M., Özkan, T., & Lajunen, T. (2013). Age, gender, mileage and the DBQ: The validity of the Driver Behavior Questionnaire in different driver groups. *Accident Analysis and Prevention*, 52, 228-236. <https://doi.org/10.1016/j.aap.2012.12.036>.
- Martinussen, L. M., Lajunen, T., Møller, M., & Özkan, T. (2013). Short and user-friendly: The development and validation of the Mini-DBQ. *Accident Analysis and Prevention*, 50, 1259-1265. <https://doi.org/10.1016/j.aap.2012.09.030>.
- McIlroy, R.C., Plant, K.L., Jikyong, U., Nam, V.H., Bunyasi, B., Kokwaro, G.O., Wu, J., Hoque M. S., Preston, J. M., & Stanton, N. A (2019). Vulnerable road users in low-, middle-, and high-income countries: Validation of a Pedestrian Behaviour Questionnaire. *Accident Analysis and Prevention*, 131, 80–94. <https://doi.org/10.1016/j.aap.2019.05.027>.
- Mohamed, D., & Lotfi, B. (2016). Dimensions of aberrant driving behaviours in Tunisia: identifying the relation between Driver Behaviour Questionnaire results and accident data. *International Journal of Injury Control and Safety Promotion*, 23(4), 337-345. <https://doi.org/10.1080/17457300.2015.1061559>.
- Murat, Y. Ş., & Çakıcı, Z. (2017). Trafik işaretlerinin bilinirliği üzerine bir araştırma: Denizli örneği. *Bitlis Eren Üniversitesi Fen Bilimleri Dergisi*, 6(1), 21-30. <https://doi.org/10.17798/bitlisfen.305485>.
- National General Directorate of Highways (KGM) (2020). *Traffic Signs*. <https://www.kgm.gov.tr/Sayfalar/KGM/SiteTr/Trafik/TehlikeUyariIsaretleri.aspx>.
- Ng A.W.Y., & Chan A.H.S. (2007). The guessability of traffic signs: Effects of prospective-user factors and sign design features. *Accident Analysis and Prevention*, 39, 1245-1257. <https://doi.org/10.1016/j.aap.2007.03.018>.
- Ng A.W.Y., & Chan A.H.S. (2008). The effects of driver factors and sign design features on the comprehensibility of traffic Signs. *Journal of Safety Research*, 39,321-328. <https://doi.org/10.1016/j.jsr.2008.02.031>.
- Nordfjærn, T., & Şimşekoğlu, Ö. (2013). The role of cultural factors and attitudes for pedestrian behaviour in an urban Turkish sample. *Transportation Research Part F: Traffic Psychology and Behaviour*, 21, 181-193. <https://doi.org/10.1016/j.trf.2013.09.015>.








- Özkan, T., & Lajunen, T. (2005). A new addition to DBQ: Positive driver behaviours scale. *Transportation Research Part F: Traffic Psychology and Behaviour*, 8(4-5), 355-368. <https://doi.org/10.1016/j.trf.2005.04.018>.
- Özkan, T., & Lajunen, T. (2011). Person and environment: Traffic culture. In B. Porter (Ed.), *Handbook of Traffic Psychology* (pp. 179-192). Academic Press. <https://doi.org/10.1016/B978-0-12-381984-0.10014-1>
- Özkan, T., Lajunen, T., Chliaoutakis, J. E., Parker, D., & Summala, H. (2006). Cross-cultural differences in driving behaviours: A comparison of six countries. *Transportation Research Part F: Traffic Psychology and Behaviour*, 9(3), 227-242. <https://doi.org/10.1016/j.trf.2006.01.002>.
- Qu, Y. K., & Liu, Y. C. (2012). Effects of sign design features and training on comprehension of traffic signs in Taiwanese and Vietnamese user groups. *International Journal of Industrial Ergonomics*, 42(1), 1-7. <https://doi.org/10.1016/j.ergon.2011.08.009>.
- Reason, J., Manstead, A., Stradling, S., Baxter, J., & Campbell, K. (1990). Errors and violations on the roads: a real distinction?. *Ergonomics*, 33(10-11), 1315-1332. <https://doi.org/10.1080/00140139008925335>.
- Sümer, N., & Özkan, T. (2002). The role of driver behavior, skills, and personality traits in traffic accidents. *Turkish Journal of Psychology*, 17(50), 1-22.
- Sümer, N., Lajunen, T., & Özkan, T. (2002, May 8-12). Sürücü davranışlarının kaza riskindeki rolü: İhlaller ve hatalar [Paper presentation]. Uluslararası Trafik ve Yol Güvenliği Kongresi. Gazi University, Turkey
- Şehribanoğlu, S. (2019). Van ilinde yaşayanların trafik işaretleri bilgisi ve trafik kurallarına bakış açıları üzerine bir araştırma. *Trafik ve Ulaşım Araştırmaları Dergisi*, 2(1), 1-15. <https://doi.org/10.38002/tuad.479023>.
- Turkish Statistical Institute (2020). *Transportation Statistics, 2020*. <https://data.tuik.gov.tr/Bulten/Index?p=Karayolu-Trafik-Kaza-Istatistikleri-2020-37436>.
- World Health Organization (2018). *Global Status Report on Road Safety 2018*. <https://apps.who.int/iris/bitstream/handle/10665/276462/9789241565684-eng.pdf?ua=1>.
- Yıldırım, Z. (2007). *Religiousness Conservatism and Their Relationship with Traffic Behavior* [Unpublished Master's Thesis]. Middle East Technical University.
- Zhang, T., & Chan, A. H. S. (2013). Traffic sign comprehension: A review of influential factors and future directions for research. In S. I. Ao, O. Castillo, C. Douglas, D. D. Feng, & J. Lee (Eds.), *Proceedings of the International MultiConference of Engineers and Computer Scientists* (Vol. II, pp. 1026-1030). International MultiConference of Engineers and Computer Scientists, Hong Kong, China
- Zhuang, X., & Wu, C. (2011). Pedestrians' crossing behaviors and safety at unmarked roadway in China. *Accident Analysis and Prevention*, 43(6), 1927-1936. <https://doi.org/10.1016/j.aap.2011.05.005>.

Appendices

Table 1
Percentages of Traffic Sign Comprehension

Traffic Sign	Drivers (N = 177)					Pedestrians (N =98)				
	Correct	Partially Correct	No comment	Incorrect	Opposite	Correct	Partially Correct	No comment %	Incorrect	Opposite
 BEND TO RIGHT	26.6	66.7	1.1	2.3	3.4	29.6	63.3	2	2	3.1
 DOUBLE CURVE FIRST TO LEFT	22	49.7	2.8	24.3	1.1	21.4	35.7	9.2	28.6	5.1
 ROAD NARROWS ON BOTH SIDES	28.2	62.1	4	5.6	0	23.5	55.1	12.2	8.2	1
 SLIPPERY ROAD	95.5	0	.6	4	0	88.8	0	3.1	8.2	0
 PEDESTRIAN CROSSING AHEAD	97.7	0	1.1	.6	.6	99	0	0	0	1
 SINGLE-TRACK LEVEL CROSSING WITHOUT GATES	27.7	44.6	9	16.9	1.7	15.3	22.4	16.3	45.9	0
 UNCONTROLLED CROSSROAD AHEAD	37.3	7.9	16.4	37.3	1.1	24.5	2	20.4	53.1	0

	59.3	25.4	6.2	6.2	2.8	50	18.4	13.3	10.2	8.2
TRAFFIC MERGING FROM LEFT AHEAD										
	93.2	6.2	.6	0	0	85.7	10.2	2	0	2
SCHOOL CROSSING										
	42.4	53.1	1.1	0	3.4	45.9	51	0	0	3.1
CYCLE ROUTE AHEAD										
	55.4	1.7	14.7	27.7	.6	34.7	1	39.8	24.5	0
GIVE WAY										
	53.7	2.8	26	17.5	0	32.7	1	38.8	22.4	5.1
CLOSED TO ALL VEHICLES IN BOTH DIRECTIONS										
	52	0	7.9	36.7	3.4	36.7	0	12.2	42.9	8.2
NO ENTRY FOR PEDESTRIANS										
	67.2	9	2.3	21.5	0	64.3	8.2	6.1	21.4	0
NO ENTRY										
	34.5	.6	5.1	59.3	.6	22.4	5.1	10.2	62.2	0
PRIORITY FOR ONCOMING TRAFFIC										
	52.5	0	6.2	5.1	36.2	38.8	0	4.1	16.3	40.8
NO ENTRY FOR BICYCLES										
	69.5	1.1	3.4	18.6	7.3	43.9	0	11.2	37.8	7.1
NO OVERTAKING										
	78	21.5	0	0	.6	71.4	28.6	0	0	0
MAXIMUM SPEED LIMIT										

	49.7	6.8	10.2	3.4	29.9	31.6	14.3	11.2	3.1	39.8
MINIMUM SPEED LIMIT										
	52.2	0	25.4	10.7	11.9	32.7	0	42.9	10.2	14.3
END OF SPEED LIMIT										
	63.8	1.7	20.9	13	.6	45.9	1	22.4	30.6	0
MANDATORY PATH FOR PEDESTRIANS										
	91	6.8	2.3	0	0	78.6	9.2	9.2	3.1	0
NO HONKING										
	62.1	25.4	6.8	3.4	2.3	68.4	22.4	8.2	0	1
PEDESTRIAN OVERPASS										
	54.8	5.1	11.3	26.6	2.3	43.9	2	25.5	28.6	0
PARKING PROHIBITED										
	40.7	34.5	11.3	13.6	0	29.6	23.5	21.4	24.5	1
NO STANDING OR PARKING										
TOTAL %	56.3	17.3	7.9	14.2	4.4	67.1	6.7	8.9	14.7	2.4

Note. Most of translations based on Kirmizioglu (2010). Total scores for pedestrians were aggregated from the five pedestrian related signs (marked in bold). Other percentages for pedestrians are presented for descriptive purposes only. This table showed the percentages of traffic sign comprehension for both drivers and pedestrians who reported that they do not drive separately.