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Understanding Moral Justifications for Traffic Violations in Türkiye

Erkin Sarı*

Department of Psychology, Faculty of Letters, Selçuk University, 42130, Konya, Türkiye.

Abstract

Despite the widespread presence of traffic laws and the imposition of sanctions for violations, noncompliance (e.g., overspeeding) remains a major factor contributing to accidents and fatalities on the roads. Understanding the underlying reasons that lead drivers to violate traffic regulations is essential. The research focuses on the moral reasoning strategies that support such violations, along with their relationships with a range of psychological factors among Turkish-speaking drivers. In total, 261 (132 males, 127 females, two participants chose not to report; M_{age} = 37.46, SD_{age} = 9.29) drivers participated in the current study. This study's findings on how Turkish-speaking drivers legitimize traffic violations (i.e., moral disengagement) and related variables, as well as the adaptation of two scales (i.e., Driving Moral Disengagement Scale and Justifications of Traffic Violations Scale) into Turkish, indicate that both scales are valid and reliable tools in this context. Additionally, the findings indicated that legitimizing traffic violations was positively correlated with driver anger expression, driving anger, moral disengagement, and aggressive violations, while negatively associated with age, driving experience, and adaptive/constructive anger expression. This paper offers important insights into the factors influencing moral disengagement among Turkish driving context. These results can guide and inform future research efforts aimed at addressing existing gaps and enhancing road safety.

Keywords: Moral justification, traffic violations, driving moral disengagement, driving anger, driving anger expression.

Türkiye'de Trafik İhlallerinin Ahlaki Meşrulaştırılmasının İncelenmesi

Öz

Trafik yasalarının yaygın olarak bulunmasına ve ihlaller için yaptırımların uygulanmasına rağmen, kurallara uymama (ör., aşırı hız yapmak) trafik kazaları ve ölümlere neden olan başlıca faktörlerden biri olmaya devam etmektedir. Bu nedenle, sürücülerin trafik kurallarını ihlal etmelerine yol açan temel nedenleri anlamak büyük önem taşımaktadır. Araştırma, Türkçe konuşan sürücüler arasında söz konusu ihlalleri destekleyen ahlaki akıl yürütme stratejileri ile bu stratejilerin çeşitli psikolojik faktörlerle olan ilişkilerine odaklanmaktadır. Toplamda 261 (132 erkek, 127 kadın, cinsiyetini belirtmek istemeyen iki katılımcı; $Ort_{yaş}$ = 37.46, $SS_{yaş}$ = 9.29) sürücü çalışmaya katılmıştır. Bu çalışmanın, Türkiye'deki sürücülerin trafik ihlallerini nasıl meşrulaştırdığını (yani ahlaki uzaklaşmayı) ve ilişkili değişkenleri, ayrıca iki ölçeğin (Trafikte Ahlaki Uzaklaşma Ölçeği ve Trafik Kurallarını İhlal Etmeyi Meşrulaştırma Ölçeği) Türkçeye uyarlanmasını ele alan bulguları (ör., doğrulayıcı faktör, güvenirlik ve korelasyon analizleri) her iki ölçeğin de bu bağlamda geçerli ve güvenilir ölçüm araçları olduğunu göstermektedir. Ayrıca, trafik ihlallerini meşrulaştırmanın sürücü öfke ifadesi, sürücü öfkesi, ahlaki uzaklaşma ve saldırgan ihlallerle pozitif, yaş, sürücülük deneyimi ve adaptif/yapıcı öfke ifadesiyle negatif ilişkili olduğu saptanmıştır. Bu çalışma Türkiye'deki sürücülerde ahlaki uzaklaşmayı etkileyen faktörler hakkında önemli bilgiler sunmaktadır. Bu sonuçlar, mevcut eksikliklerin giderilmesine ve trafik güvenliğinin artırılmasına yönelik gelecekteki araştırma çabalarına rehberlik edebilir.

Anahtar Kelimeler: Ahlaki meşrulaştırma, trafik kural ihlalleri, trafikte ahlaki uzaklaşma, sürücü öfkesi, sürücü öfke ifadesi.

* *İletişim / Contact: Erkin Sarı, Faculty of Letters, Department of Psychology, Konya, Türkiye., 42130; e-posta:* erkin.sari@yahoo.com.tr

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Understanding Moral Justifications for Traffic Violations in Türkiye

1. Introduction

According to the World Health Organization [WHO] (2023), road accidents result in the deaths of approximately 1.19 million individuals annually and can also lead to severe physical (e.g., long-term pain, serious injuries, prolonged recovery periods) and psychological consequences (e.g., trauma, anxiety) (Alharbi et al., 2019; Kaçan-Bibican et al., 2023; Marasini et al., 2022). Despite the existence of traffic rules in nearly every country and the enforcement of penalties for their violations, the disregard of these rules remains one of the primary reasons of road accidents and traffic-related fatalities and injuries. Particularly, offenses like disregarding traffic signals, exceeding speed limits, operating a vehicle under the influence of intoxicants, engaging with distracting elements (e.g., cellphone) are among the most common infractions (Ben Laoula et al., 2023). What, then, are the underlying reasons that lead drivers to violate traffic regulations? This study aims to explore the moral justifications underlying such violations (i.e., moral disengagement strategies) and their associations with several psychological determinants within the context of Türkiye.

1.1. Traffic Rule Violations: Who Engages in Them and What Are the Underlying Causes?

The primary cause of traffic accidents and their associated losses is the human factor. WHO's (2023) report indicates that risky driving behaviors and driver distraction represents a major risk to road safety. Similarly, the European Commission's (2024) report indicates that exceeding the speed limits, alcohol- or drug-impaired driving, seatbelt noncompliance, and cellphone usage lead to traffic accidents and/or elevate the rates of deaths and injuries associated with them. In their analysis of crash data from the United States, Penmetsa and Pulugurtha (2017) found that 51% of drivers involved in accidents had committed at least one traffic violation, and 74% of serious injury crashes were caused by traffic violations.

Although early research on road safety primarily focused on drivers' cognitive/motor skills and deficiencies in driving abilities as primary reasons of crashes, it is now well established that both driving performance and driving style are associated with traffic accidents (Elander et al., 1993). According to the model proposed by Elander and colleagues (1993), driving performance is influenced by cognitive/motor skills and driving experience, whereas driving style is shaped by lifestyle, personality traits, attitudes, and beliefs. Lajunen and Summala (1995) also emphasize that ensuring road safety requires not only the driver's ability to control the vehicle (i.e., perceptual-motor skills) but also the ability to apply safe driving techniques and develop strategies to prevent accidents (i.e., safety skills).

The relevant literature indicates that numerous variables such as demographic traits (e.g., age and gender) (Lawton et al., 1997; Penmetsa & Pulugurtha, 2017; Varet et al., 2023; Yagil, 1998), gender roles (Özkan & Lajunen, 2005; Öztürk et al., 2019), personality traits (Luo et al., 2023), driving anger (Demir et al., 2016; Zhang et al., 2015), anger expression (Eşiyok et al., 2007), and external locus of control (Töre et al., 2022) are associated with risky driving behavior and traffic rule violations. Specifically, prior findings have shown that novice and young, and male drivers, exhibit a higher likelihood to violating traffic regulations (Lawton et al., 1997). For example, Penmetsa and Pulugurtha (2017) reported that over 70% of crashes involving drivers under the age of 18, and nearly 60% of accidents involving drivers between the ages of 19 and 25, were caused by traffic rule violations. For the age groups 36–50 and 51–65, this rate falls below 40%.

Yagil (1998) further notes that normative motivation to obey traffic rules is weaker among novice and young drivers. Özkan and Lajunen (2005) demonstrate that the frequency of traffic violations and offenses is positively predicted by masculinity and negatively predicted by femininity. Similarly, Deniz and colleagues (2021) reported that higher masculinity correlates with greater maladaptive anger expression (e.g., verbal aggression, aggressive gestures, vehicle use), while they observed a positive relationship between femininity and adaptive/constructive anger expression.

Personality traits also have a significant impact in driving behavior. Earlier literature has shown that conscientiousness (Baran et al., 2021; Ehsani et al., 2015) and agreeableness (Chraif et al., 2016) are linked to lower levels of risky driving, whereas extraversion (O'Hern et al., 2020; Schwebel et al., 2006), neuroticism (Tao et al., 2017; Zhang et al., 2018), sensation-seeking (Ayvaşık et al., 2005;

Oppenheim et al., 2016; Rimmö & Aberg, 1999), and dark triad traits (i.e., Machiavellianism, narcissism, psychopathy) (Endriulaitienė et al., 2018) are positively associated with risky driving. According to a meta-analysis (Luo et al., 2023) on personality traits and traffic violations, risky and aggressive driving tend to be negatively correlated with conscientiousness, agreeableness, and openness, whereas neuroticism is associated with higher risk-taking on the road (for a Turkish-language review on personality traits and risky driving, see Bıçaksız, 2021).

1.2. Moral Underpinnings of Traffic Rule Compliance and Traffic Violations

According to Evans (2004), the primary purpose of a traffic system is to ensure mobility efficiently while minimizing the risk of undesirable outcomes, particularly accidents. Achieving this goal is closely related to the existence and effectiveness of traffic regulations, and most importantly, to road users' compliance with these rules. Although the consequences of traffic accidents (e.g., death, injury, financial loss) are frequently covered in the media, not all road users comply with traffic rules to the same extent.

Rules that regulate social life and play a critical role in maintaining social order are defined as "principles or maxims that prescribe or proscribe a particular standard of behaviour ('do x!', 'don't do y!')" and they "come in various forms, as orders, regulations and guidelines issued by authorities, as laws and legal statutes, and as informal social and moral norms" (Gächter et al., 2025, p. 1342). Considering that many traffic accidents are caused by violations of traffic rules, understanding the factors underlying road users' compliance and failure to adhere to these rules is crucial for ensuring traffic safety. Earlier work (e.g., Tyler, 1990; Varet et al., 2021; Yagil, 2005) present two main perspectives on individuals' rule compliance. The instrumental perspective focuses on the deterrent effect of traffic rules, referring to the benefits individuals gain when complying with these rules (e.g., avoiding accidents) and the costs they face when failing to comply (e.g., fines, involvement in traffic accidents). This perspective holds that increasing the strictness of traffic regulations is essential for traffic safety.

On the other hand, the normative perspective suggests that when individuals view traffic rules (e.g., stopping at a red light) and the authorities responsible for enforcing them (e.g., the police) as legitimate, they follow these rules regardless of any external incentives or pressures (Varet et al., 2021). Prior research has shown that perceiving traffic rules (Bautista et al., 2015) and the police enforcing them (Demir et al., 2020) as legitimate promotes compliance, whereas those who consider traffic rules unrealistic (e.g., viewing the 50 km/h speed limit as unreasonable) (Havârneanu & Havârneanu, 2012) or who have previously had undesirable encounters with the police (Havârneanu & Golita, 2010) are more likely to commit violations (for a review, see Varet et al., 2021).

Internalized moral values and standards, much like in numerous other domains of decision-making throughout individuals' lives (Coşkun et al., 2024; FeldmanHall et al., 2018) (see Arslantürk, 2024 for a Turkish review), are also implicated in shaping behaviors within traffic contexts. However, individuals may not always act in accordance with these standards. In such cases, a person may develop various strategies to preserve a desired self-image and avoid cognitive dissonance. Bandura (1986, 1991) describes this phenomenon as moral disengagement. Individuals may evade personal responsibility for harmful actions by attributing blame to external pressures, authorities, or groups, downplaying or misrepresenting the consequences, and dehumanizing or blaming victims, thereby reducing empathy (for a review, see Moore, 2015).

These eight interrelated cognitive strategies are referred to as moral disengagement mechanisms. Examples of their use in traffic settings include claiming to have exceeded the speed limit to reach a hospital (i.e., moral justification), saying that honking the horn was merely a way to vent frustration (i.e., euphemistic labeling), viewing other drivers or pedestrians as obstacles and objectifying them (i.e., dehumanization), arguing that inexperienced drivers provoke others (i.e., attribution of blame), minimizing the impact of one's violation (i.e., distortion of consequences), claiming that everyone engages in the same violation (i.e., diffusion of responsibility), asserting that one was forced to act rudely by other drivers and thus shifting the responsibility onto them (i.e., displacement of responsibility), and pointing out that other drivers resort to physical violence in an attempt to downplay one's own shouting (i.e., advantageous comparison).

The relevant literature indicates that road users often employ strategies similar to those described above to legitimize their traffic rule violations. For example, Holman and Popusoi (2018) observed that drivers defend such breaches of traffic rules by invoking personal needs (e.g., "Speeding is acceptable when driving to the hospital"), downplaying potential risks (e.g., "Driving under the influence is not dangerous for a short distance"), shifting responsibility to others (e.g., "Parking violations are acceptable when parking spaces are insufficient"), and claiming to act with the intention of preventing greater harm (e.g., "Pedestrians should not be given the right of way if the intersection will become blocked").

Drawing on Bandura's (1986, 1991) eight mechanisms, Swann et al. (2017) developed a unidimensional scale and noted that drivers legitimizing their violations often employ strategies such as making strong accusations against other road users (e.g., "Some drivers deserve to be treated like idiots") and blaming others (e.g., "Drivers who do not know how to drive provoke other drivers"). Minimizing the possible negative consequences of speeding (Forward, 2006), maintaining traffic flow (Sheykhfard et al., 2022), and being in a hurry to reach a destination (Torres-Quintero et al., 2019) are further examples of justifications offered by drivers for their violations (for a review, see Basiyd-Fellahi et al., 2025). Previous literature has also indicated that legitimizing traffic violations is positively associated with driver anger (Swann et al., 2017) and expressions of driver anger (Lennon & Watson, 2011; Swann et al., 2017), and that younger (Sheykhfard et al., 2022; Swann et al., 2017; Watling, 2014) and male (Swann et al., 2017) drivers are more inclined to rationalize their noncompliance with traffic rules.

1.3. The Current Study

As outlined in the previous sections, this study's main objective is to assess how Turkish-speaking drivers legitimize their traffic violations (i.e., moral disengagement strategies). To this end, the Driving Moral Disengagement Scale (Swann et al., 2017) and the Justifications of Traffic Violations Scale (Holman & Popusoi, 2018) will be adapted to the Turkish cultural context, and several variables associated with the legitimization of violations (e.g., driving anger, driving anger expression, aggressive violations, moral disengagement) will be investigated.

2. Method

2.1. Participants and Procedure

The dataset used in this study comprised of 261 (132 males, 127 females, two participants chose not to report; M_{age} = 37.46, SD_{age} = 9.29) drivers. On average, participants reported driving 20,915.25 kilometers (*SD* = 75,835.13) in the past year. Participants had held a driver's license for an average of 9.61 (*SD* = 9.28) years. Additionally, they reported receiving an average of 0.67 traffic penalties over the past three years (*SD* = 1.42). All participants filled out the survey battery online. Ethical approval was obtained from Ethics Committee of Selçuk University Faculty of Letters (Decision Number: 2025-013)..

2.2. Measures

2.2.1. Demographic Information Form.

Participants completed items addressing their gender, age, the number of traffic fines over the past five years, total kilometers driven in the last year, and years of driving license ownership.

2.2.2. Driving Moral Disengagement Scale (DMDS).

This 13-item scale developed by Swann and colleagues (2017) has a unidimensional structure and aims to understand how drivers justify risky, aggressive, and rule-violating behaviors in traffic. Based on the eight mechanisms of moral disengagement proposed by Detert and colleagues (2008), the scale was constructed and found to reflect a single-factor structure. A 5-point Likert scale (1= strongly disagree to 5= strongly agree) was used for participants' responses (sample item: "It's ok to go over the speed limit if it means you are keeping up with the rest of the traffic") with higher scores reflecting greater driving moral disengagement. The scale was adapted to Turkish as part of the present study. Due to low factor loadings of items 8 and 9—.28 and .31, respectively—these items were removed, resulting in an 11-item Turkish version of the scale. The Turkish version demonstrated acceptable internal consistency (Cronbach's α = .79).

2.2.3. Justifications of Traffic Violations Scale (JTVS).

Holman and Popusoi (2018) developed this 12-item measure to examine the cognitive strategies that drivers adopt to defend their non-adherence to road

safety rules. JTVS has four subdimensions: 4-item personal needs-based justification (sample item: "It's reasonable to overtake another car on the continuous line when you're in a hurry to get to an important meeting"), 3-item minimizing risks (sample item: "Driving drunk for a short distance doesn't create any significant danger"), 3-item displacement of responsibility (sample item: "Since the parking places are insufficient, it's ok to park illegally"), and 2-item outcome-based justification (sample item: "If braking could lead to a sideslip it's reasonable to cross the red lights"). A 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) was used for participants' response, where greater scores signify higher endorsement of moral justifications for traffic violations across each subscale.

As part of this study, the scale was translated and adapted for Turkish use. Cronbach's α values of the dimensions were .81 for first factor .67 for second factor, .64 for third factor. Since the fourth factor included only two items, a Pearson correlation coefficient was calculated instead (r = .27, p < .001). These findings indicate that the Turkish version exhibits acceptable reliability.

2.2.4. Moral Disengagement Scale.

Bandura et al. (1996) developed Moral Disengagement Scale to examine the extent to which individuals rely on mental strategies (e.g., displacement of responsibility, attribution of blame) to distance themselves from their moral principles, enabling them to legitimize unethical or harmful actions. The Turkish adaptation of this unidimensional 32-item scale was conducted by Gezici-Yalçın and colleagues (2016). A 5-point Likert scale (1 = strongly disagree to 5 = strongly agree) was used for participants' response, where greater scores indicating greater levels of moral disengagement (sample item: "It is alright to fight when your group's honour is threatened"). In the current study, Cronbach's α score was found as .91.

2.2.5. Driving Anger Scale Short Form.

Deffenbacher and colleagues (1994) developed the Driving Anger Scale (DAS) to evaluate how prone individuals are to feeling anger in driving situations. The scale presents a series of frustrating traffic scenarios, and participants are asked to rate the extent to which each situation (e.g., "Someone yells at you about your driving", "Someone speeds up when you try to pass them") would make them feel angry. Original version of this measure has 33 items under 6 dimensions, namely hostile gestures, illegal driving, police presence, slow driving, discourtesy, and traffic obstruction. Participants respond to the items using a 5-point Likert scale ranging from 1 (not at all) to 5 (very much). Both the original (33-item) and short (14-item) versions of the scale were adapted into Turkish by Yasak and Eşiyok (2009). In the present study, the 14-item unidimensional short form of the scale was used (Cronbach's α = .90).

2.2.6. The Driving Anger Expression Inventory.

Developed by Deffenbacher and colleagues (2002) to investigate the modes of anger expression during driving, this 49-item instrument comprises four distinct factors: 12-item verbal aggressive expression (sample item: "I make negative comments about the other driver aloud"), 11-item personal physical aggressive expression (sample item: "I try to force the other driver to the side of the road"), 11-item use of vehicle to express anger (sample item: "I try to cut in front of the other driver"), and 15-item adaptive/constructive expression (sample item: "I just try to accept that there are bad drivers on the road"). Participants respond to the items using a 4-point Likert scale ranging from 1 (almost never) to 4 (almost always), where higher scores reflect more frequent use of particular anger expression style. This measure was adapted into Turkish by Eşiyok et al. (2007). A total aggressive expression index can be derived by aggregating the items from the first three factors of the scale, providing a composite measure of aggressive anger expression while driving. In the current study, total aggressive expression index (α = .93) and adaptive/constructive expression (α = .90) were used.

2.2.7. Driver Behavior Questionnaire (DBQ) – Aggressive Violations Subscale.

To understand aggressive behaviors exhibited by drivers while driving, the 3-item Aggressive Violations subscale of the 28-item DBQ, developed by Reason and colleagues (1990) and adapted into Turkish by Lajunen and Özkan (2004), was used (sample item: "Use your horn to indicate your annoyance to another road user"). Participants respond to the items using a 6-point Likert scale ranging from 1 (never) to 6 (always), with higher scores reflect more aggressive driving style. In the current study, internal reliability score (Cronbach's α) was found as .76.

3. Results

3.1. Preliminary Analysis

Prior to assessing the appropriateness of DMDS and JTVS for the Turkish context, the assumption of normality was examined. Skewness and kurtosis values were found to be within acceptable bounds (i.e., |1.5|), indicating that the data satisfied the normality assumption (Tabachnick & Fidell, 2019). See Table 1 for descriptive statistics.

Table 1. Descriptive Statistics

	M	SD	Min	Max	Skewness	Kurtosis
DMDS	2.65	.64	1	4.73	.28	.48
JTVS (Factor 1)	2.53	.87	1	5	.33	-.09
JTVS (Factor 2)	1.55	.57	1	3.33	1.10	.91
JTVS (Factor 3)	2.31	.82	1	5	.61	.50
JTVS (Factor 4)	2.59	.89	1	5	.15	-.19
Driving Anger	3.53	.72	1	4.71	-1	1.13
Anger Expression Index	1.56	.32	1	2.34	.63	-.12
Adaptive/Constructive Anger Expression	2.66	.56	1	4	-.36	.52
Aggressive Violations	2.06	.76	1	4.67	1.01	1.03
Moral Disengagement	2.16	.52	1.06	4.59	.60	1.44

3.2. The Factorial Structure of DMDS and JTVS

As previously mentioned, DMDS (Swann et al., 2017) and JTVS (Holman & Popusoi, 2018) were adapted to the Turkish cultural context within this study. The factorial structures of both scales were examined through confirmatory factor analysis conducted using Jamovi.

Findings indicated that the original 13-item version of DMDS did not provide an adequate fit to the data; $\chi 2$ (n = 261, df =65) = 195, $\chi 2$ / df = 3, p < .001, CFI = .80, TLI = .75, RMSEA = .09, 90% CI [.07, .10], SRMR = .06. Upon examining the factor loadings, it was observed that Item 8 (.28) and Item 9 (.31) had loadings below the acceptable threshold of .32 (see Tabachnick & Fidell, 2019). Therefore, these items were removed from the scale. The results also indicated that model fit could be improved by specifying error covariances between Item 4 and 6, and between Item 12 and 13. Given that these item pairs are also theoretically similar, error covariances were added in line with the recommendation of Chou and Bentler (2002).

The theoretical similarity among these items can also be seen in the item content presented in Table 2. Subsequent to these changes, the revised model's fit improved: χ^2 (n = 261, df = 42) = 85.00, χ^2/df = 2.02, p < .001, CFI = .93, TLI = .90, RMSEA = .06, 90% CI [.04, .08], SRMR = .05.

Confirmatory factor analysis was conducted to assess whether the four-factor structure of the 12-item Justifications of Traffic Violations Scale is culturally appropriate for the Turkish context. The results indicated that the original structure did not exhibit an adequate fit to the data; χ^2 (n = 261, df = 48) = 118.00, χ^2/df = 2.05, p < .001, CFI = .92, TLI = .89, RMSEA = .08, 90% CI [.06, .09], SRMR = .06.

The findings suggested that model fit could be improved by specifying error covariances between Item 1 and Item 2, and between Item 2 and Item 3. As these item pairs reflect similar theoretical themes, error covariances were added in accordance with the recommendations of Chou and Bentler (2002) (for item content, see Table 3). Following these modifications, the revised model demonstrated improved fit to the data; χ^2 (n = 261, df = 46) = 97.30, χ^2/df = 2.12, p < .001, CFI = .94, TLI = .91, RMSEA = .07, 90% CI [.05, .08], SRMR = .05.

3.3. Reliability Analysis

After confirming the one-factor structure of the Driving Moral Disengagement Scale and the four-factor structure of the Justifications of Traffic Violations Scale, internal consistency coefficients were calculated. Cronbach's α was .79 for the Driving Moral Disengagement Scale, and for the four factors of the Justifications of Traffic Violations Scale, α = .81, .67, and .64, respectively. As the fourth factor comprised only two items, a Pearson correlation coefficient was computed instead (r = .27, p < .001). These values indicate that the Turkish version of the scale is reliable.

Table 2. Standardized Factor Loadings of DMDS

Factor	Item Number	Item Content	Standardized Factor Loading
1	1	"It's ok to yell at other drivers who put the lives of your passengers at risk."	.42
	2	"Honking the horn loudly is just a way of letting off frustration."	.52
	3	"Yelling at other drivers is pretty tame when compared to people that attack other drivers."	.57
	4	"Speeding a little over the limit is not too serious compared to those that speed a lot over the limit."	.52
	5	"If a driver is pushed into being rude to other drivers they shouldn't be blamed for it."	.55
	6	"It's ok to go over the speed limit if it means you are keeping up with the rest of the traffic."	.48
	7	"Drivers don't mind being honked at because they know it just means 'hurry up'."	.37
	10	"People who don't know how to drive, provoke bad driving in others."	.32
	11	"It's alright to abuse drivers who are behaving like ''knobs"."	.60
	12	"A driver who is inconsiderate doesn't deserve to be treated like a normal person."	.53
	13	"Some drivers deserve to be treated like the idiots they are."	.59

Table 3. Standardized Factor Loadings of JTVS

Factor	Item Number	Item Content	Standardized Factor Loading
1		***Personal Needs-Based Justification***	
	1	"When you're in a hurry to get to the hospital for a family member it's ok to cross the continuous lines."	.59
	2	"Speeding above the limit when you're in a hurry to get to a hospitalized family member is justified."	.68
	3	"It's acceptable to cross the red lights when you're in a hurry to get to a hospitalized family member."	.67
	4	"It's reasonable to overtake another car on the continuous line when you're in a hurry to get to an important meeting."	.76
2		***Minimizing Risks***	
	5	"Driving drunk for a short distance doesn't create any significant danger."	.58
	6	"It's not so serious if you don't let pedestrians cross."	.68
	7	"Not using the seatbelt when there's no traffic is not dangerous."	.65
3		***Displacement of Responsibility***	
	8	"The poor quality of many roads in this country often obliges you to over speed in order to recover the time lost."	.52
	9	"Since the parking places are insufficient, it's ok to park illegally."	.58
	10	"Those who cross a speed limit that is not justified in that situation should not be charged."	.55
4		***Outcome-Based Justification***	
	11	"It's reasonable not to allow pedestrians to cross the street if it could lead to blocking the intersection."	.63
	12	"If braking could lead to a sideslip, it's reasonable to cross the red lights."	.43

3.4. Construct Validity

In order to test the construct validity of Driving Moral Disengagement Scale and Justifications of Traffic Violations Scale, their relationships between anger expression index, driving anger, adaptive/constructive anger expression, aggressive violations, moral disengagement, the number of traffic fines, total kilometers driven in the last year, age, and years of driving license ownership were examined (see Table 4). Bivariate correlation analysis showed that driving moral disengagement associated with anger expression index (r = .58, p<.001), driving anger (r = .28, p<.001), aggressive violations (r = .53, p<.001), moral disengagement (r = .54, p<.001) and the number of traffic fines (r = .17, p = .007) positively and adaptive/constructive anger expression (r = -.28, p<.001), driver's age (r = -.21, p<.001), and years of driving license ownership (r = -.17, p = .008) negatively.

Results also showed that personal needs-based justification (i.e., first factor of Justifications of Traffic Violations Scale) associated with anger expression index (r = .28, p<.001), aggressive violations (r = .34, p<.001) and moral disengagement (r = .43, p<.001) positively, adaptive/constructive anger expression (r = -.16, p= .009), driver's age (r = -.24, p<.001), and years of driving license ownership (r = -.19, p = .002) negatively.

Similarly, minimizing risks (i.e., second factor of Justifications of Traffic Violations Scale) associated

with anger expression index (r = .35, p<.001), aggressive violations (r = .33, p<.001) and moral disengagement (r = .50, p<.001) and the number of traffic fines (r = .13, p = .03) positively, adaptive/constructive anger expression (r = -.25, p<.001), driver's age (r = -.18, p<.01), and years of driving license ownership (r = -.15, p = .02) negatively.

Third factor of Justifications of Traffic Violations Scale (i.e., displacement of responsibility) associated with anger expression index (r = .45, p<.001), driving anger (r = .14, p = .02) aggressive violations (r = .40, p<.001) and moral disengagement (r = .62, p<.001) and the number of traffic fines (r = .14, p = .03) positively, adaptive/constructive anger expression (r = -.15, p = .02), driver's age (r = -.22, p<.001), and years of driving license ownership (r = -.16, p = .01) negatively.

Lastly, fourth factor of Justifications of Traffic Violations Scale (i.e., outcome-based justification) associated with anger expression index (r = .25, p<.001), driving anger (r = .20, p = .001) aggressive violations (r = .24, p<.001) and moral disengagement (r = .32, p<.001) positively, driver's age (r = -.23, p<.001), and years of driving license ownership (r = -.21, p<.001) negatively.

Besides, an independent samples t-test was conducted to determine whether the scores obtained from the DMDS and the subscales of the JTVS differed according to gender. It was found that participants' DMDS scores did not differ based on being female (M = 2.58, SD = .57) or male (M = 2.72, SD = .69); t = -1.80, p = .07. Similarly, no gender differences were found in the first (M_{diff} = -.06, t = -.54, p = .59), second (M_{diff} = -.09, t = -1.22, p = .22), and fourth (M_{diff} = -.03, t = -.24, p = .81) factors of the JTVS. A significant difference between females (M = 2.17, SD = .75) and males (M = 2.45, SD = .86) was detected only in the third factor; t = -2.80, p = .01.

Table 4. Bivariate Correlations Between Study's Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. DMDS	—													
2. JTVS (Factor 1)	.34***	—												
3. JTVS (Factor 2)	.43***	.27***	—											
4. JTVS (Factor 3)	.48***	.39***	.56***	—										
5. JTVS (Factor 4)	.33***	.32***	.43***	.44***	—									
6. Anger Expression Index	.58***	.28***	.35***	.45***	.25***	—								
7. Driving Anger	.28***	.11	.07	.14*	.20**	.33***	—							
8. A/C Anger Expression	-.28***	-.16**	-.25***	-.15*	-.03	-.19**	.02	—						
9. Aggressive Violations	.53***	.34***	.33***	.40***	.24***	.63***	.26***	-.35***	—					
10. Moral Disengagement	.54***	.43***	.50***	.62***	.32***	.45***	.11	-.23***	.47***	—				
11. Number of Traffic Fines	.17**	.05	.13*	.14*	.07	.28***	.14*	-.15*	.19**	.14*	—			
12. KMs Driven Past Year	-.07	-.06	-.00	.02	-.03	.16*	.03	-.01	.12*	-.09	.16**	—		
13. Age	-.21***	-.24***	-.18**	-.22***	-.23***	-.11	-.09	.08	-.08	-.20**	.07	.17**	—	
14. Year of Driving License	-.17**	-.19**	-.15*	-.16*	-.21***	-.02	-.09	.04	-.04	-.15*	.13*	.21***	.95***	—

Note. * p < .05, ** p < .01, *** p < .001; DMDS = Driving Moral Disengagement Scale; JTVS = Justifications of Traffic Violations Scale; A/C = Adaptive/Constructive

4. Discussion

The findings of this study (e.g., confirmatory factor analyses, reliability analyses, correlation analyses) which aims to examine how Turkish-speaking drivers legitimize their traffic violations (i.e., moral disengagement strategies) and the variables associated with such legitimization in the Turkish context, as well as to adapt two related scales into

Turkish culture indicate that the Turkish versions of both scales are valid and reliable measurement tools. Specifically, in the 13-item unidimensional Driving Moral Disengagement Scale (DMDS) developed by Swann et al. (2017), items 8 ("Flashing headlights to get someone to move over doesn't really hurt anyone") and 9 ("If you are getting honked at while driving you probably deserve it") were removed due to low factor loadings (i.e., < .32), resulting in an 11-item Turkish version of the scale. The Justifications of Traffic Violations Scale (JTVS), developed by Holman and Popusoi (2018), retained its original four-factor structure with 12 items in the Turkish adaptation.

The driver's age and experience (i.e., years since obtaining a driving license) were, as expected, negatively correlated with both the DMDS and the JTVS. Previous research has similarly found that younger and novice drivers are more inclined to justify traffic violations (Sheykhfard et al., 2022; Swann et al., 2017; Watling, 2014). Although identifying the underlying factors of this finding is not the primary focus of the present study, earlier studies have shown that young and novice drivers often fail to adequately anticipate the risks associated with rule violations (e.g., being involved in a traffic accident, receiving a traffic fine) (Deery, 1999) and that risk perception in traffic increases with age (Budak et al., 2021). In addition, drivers in this group are known to be more influenced by peers who adopt a risky driving style (Guggenheim et al., 2020; Trogolo et al., 2022). In a context where risky driving is perceived as an in-group norm (e.g., "Everyone around me breaks the rules"), violations of traffic rules are more likely to be legitimized. Varet et al. (2021) further note that the perceived legitimacy of traffic rules tends to increase with age and that younger drivers hold more negative attitudes toward such rules.

Consistent with the relevant literature (e.g., Lennon & Watson, 2011; Swann et al., 2017), bivariate correlation analyses revealed that both the subscales of the DMDS and the JTVS were positively correlated with the driver anger expression index and negatively correlated with adaptive/constructive anger expression. Previous studies have shown that adaptive/constructive anger expression is positively associated with empathy toward other drivers (Kolburan et al., 2019) and negatively associated with traffic violations (Nordfjærn & Şimşekoğlu, 2014). Although there is no direct research on this specific link, it can be inferred that drivers with lower levels of empathy may be more likely to legitimize their violations through moral disengagement strategies. Lennon and Watson (2011) also found that the motivation to "teach other drivers a lesson" is related to a more aggressive driving style.

In parallel with previous research (e.g., Lv et al., 2024; Swann et al., 2017), driving anger was found to be positively associated with DMDS. Driving anger was also related to the third (i.e., displacement of responsibility) and fourth (i.e., outcome-based justification) factors of JTVS. Although the studies by Swann et al. (2017) and Lv et al. (2024) directly examined the relationship between driving anger and moral disengagement in traffic, the broader literature (Demir et al., 2016; Iversen & Rundmo, 2002; Lucidi et al., 2010) suggests that the belief that socially disapproved behaviors are sometimes necessary to achieve certain goals (i.e., normlessness) is linked to both driving anger and risky driving. Similarly, positive attitudes toward violating traffic rules (Jovanovic et al., 2011) have been shown to correlate positively with driving anger and expressions of driving anger. In addition, anger can lead drivers to interpret others' actions as deliberate provocations (e.g., "He was deliberately trying to cut me off"), making retaliation or rule-breaking seem justified (Machado et al., 2024).

4.1. Limitations and Implication for Theory and Practice

Although this study contains theoretically and practically important findings, its results should be interpreted within certain limitations. First, the cross-sectional design used makes it difficult to establish causal relationships between variables. As noted in the review by Basiyd-Fellahi et al. (2025), which addresses moral disengagement in traffic, findings related to the justification of traffic violations are largely based on participants' self-reports and cross-sectional designs. Although there are ethical (i.e., concerns about experimental manipulations that might encourage risky driving) and financial (i.e., higher costs associated with laboratory experiments) constraints, future studies could achieve stronger results through the use of driving simulators. In one of the experimental studies examining moral disengagement in traffic, Lv et al. (2024) presented participants with various road scenarios (e.g., pedestrians suddenly stepping onto the road) and

found that anger rumination mediated the relationship between moral disengagement and driving anger.

Additionally, the data in this study are based on participants' self-reports and were collected entirely via an online survey. While Taubman-Ben Ari et al. (2016) argue that self-report measures provide reliable results in the field of traffic and transportation psychology, they also highlight certain limitations of these instruments. Specifically, participants may engage in self-presentation strategies to portray themselves in a more positive light, which may raise concerns about the validity of these measures. In addition, future research could combine online and face-to-face data collection methods to achieve a more representative sample.

Previous literature (e.g., Shinar, 1998) indicates that adopting a risky driving style and committing traffic violations are influenced by both individual factors (e.g., personality) and contextual factors (e.g., social norms). Although the cultural, social, and contextual factors affecting tendencies to justify traffic violations are not the primary focus of this study, findings show that individuals who conform to social norms related to traffic rule compliance (Cestac et al., 2011) and those who perceive traffic rules and enforcers (e.g., police) as more legitimate tend to comply more with traffic regulations (Bautista et al., 2015; Demir et al., 2020). Conversely, those who argue that traffic rules are unrealistic (Havârneanu & Havârneanu, 2012) are more prone to violate them. This suggests that the process of justifying violations cannot be explained solely by individual factors (see also Varet et al., 2021; Varet et al., 2024).

Social norms, which are critical for maintaining social order and defined as "implicit or explicit rules or principles that are understood by members of a group and that guide and/or constrain behavior without the force of laws to engender proper conduct" (van Kleef et al., 2015, p. 25), are also highly important for traffic safety. Therefore, the absence of an examination of how the presence of social norms that promote either traffic safety or risky driving relates to the justification of traffic violations represents one of the limitations of this study. Accordingly, future research focusing on drivers' perceptions of norms and their effects on moral disengagement processes may enhance the effectiveness of interventions aimed at improving traffic safety (for more on the role of social context in shaping driver behavior, see Sümer, 2002).

Another limitation of the current paper is that it addresses the justification of traffic violations solely in the context of drivers. Although this limitation is not unique to this study (see Basiyd-Fellahi et al., 2025), future research could also investigate how other road users (e.g., pedestrians) employ strategies to justify their traffic violations (e.g., believing that crossing against a red light is not dangerous for themselves, or arguing that not only they but all pedestrians engage in similar violations).

An additional limitation of this study relates to the high standard deviation of participants' reported average kilometers driven over the past year. Participants indicated that they had driven an average of 20,915.25 km (SD = 75,835.13) in the past year. The unusually high standard deviation may stem from the nature of the sample. Specifically, the youngest participant in the study was 18 years old, while the oldest was 65. Within this wide age range, it is expected that participants' driving experience would vary considerably. Additionally, similar patterns have been observed in other studies in the field of traffic and transportation psychology (see Akşar et al., 2018; Bıçaksız, 2019).

Items 8 ("Flashing headlights to get someone to move over doesn't really hurt anyone") and 9 ("If you are getting honked at while driving, you probably deserve it") on the Driving Moral Disengagement Scale (DMDS) were removed due to low factor loadings. These items may have shown low loadings in the Turkish context for various cultural reasons. The widespread use of flashing headlights in Türkiye, and the perception that it is not problematic if no harm is caused, may have led participants not to view these behaviors as violations. Additionally, traffic congestion in major Turkish cities is quite high, which may increase drivers' stress levels (Yasak et al., 2016). Consequently, participants may have interpreted honking not as a violation, but as a way for other drivers to release traffic-related stress.

While acknowledging certain limitations, the present work sheds light on the determinants of moral disengagement in traffic within the Turkish context and has the potential to guide future academic studies aimed at addressing the identified limitations and further advancing this field of study. Previous research has shown that moral disengagement can be reduced through various strategies. For example, emphasizing the harm caused by behaviors (Kish-Gephart et al., 2014) and fostering empathy (Mateus

Francisco et al., 2024) have been found to decrease moral disengagement. Conversely, being under stress (Fida et al., 2015; Paciello et al., 2013), exposure to violent media content (Gabbiadini et al., 2012), and feeling close to individuals who engage in unethical behavior (Gino & Galinsky, 2012) have been shown to increase moral disengagement.

Therefore, future intervention programs could highlight the potential consequences of traffic violations (e.g., loss of life, financial loss) and raise awareness about what other drivers experience during driving through tools such as public service announcements. In such an approach, Austers et al. (2025) found that adopting the perspective of other road users (e.g., "When I see a cyclist, I wonder how I would act in his/her place") reduces traffic violations. Additionally, future interventions could aim to promote social norms that enhance traffic safety (e.g., Nicolls et al., 2024) (for further discussion on the use of intervention programs to reduce moral disengagement, see Moore, 2015; Yalçın & Aktaş, 2024).

As a conclusion, this paper explored the ways in which Turkish-speaking drivers justify breaking traffic rules (i.e., moral disengagement strategies) and the variables associated with such legitimization in the Turkish context. Also, two related scales (i.e., DMDS and JTVS) were adapted into Turkish. Our findings revealed that Turkish versions of both scales are valid and reliable measurement tools. Besides, findings suggested that legitimizing traffic violations correlated with driver anger expression index, driving anger, moral disengagement and aggressive violations positively, and associated with age and driver's experience and adaptive/constructive anger expression negatively. Although it has some limitations, it provides valuable insights into the factors driving moral disengagement in Turkish context. These findings can inform, and direct future research efforts aimed at overcoming current gaps and further developing road safety.

Ethics Committee Approval Statement

Ethical approval for this study was obtained from the Scientific Ethics Committee of Selçuk University, Faculty of Letters (Decision Date: 06.03.2025 / Decision No: 2025-013).

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Appendix 1

Table 5. Turkish Form of Driving Moral Disengagement Scale (DMDS)

Item Number	Item Content
1	Yanınızdaki yolcuların hayatını tehlikeye atan diğer sürücülere bağırmanızda bir sakınca yoktur.
2	Yüksek sesle korna çalmak sinirinizi boşaltmanın bir yoludur.
3	Diğer sürücülere bağırmak, onlara saldıran insanlarla kıyaslandığında oldukça hafif kalır.
4	Sınırın biraz üzerinde hız yapılması, sınırın çok üzerinde hız yapılmasına kıyasla çok ciddi bir sorun değildir.
5	Bir sürücü diğer sürücülere karşı kaba davranmaya itilirse, bunun için suçlanmamalıdır.
6	Trafiğin geri kalanına ayak uyduruyorsanız hız sınırını aşmanızda bir sakınca yoktur.
7	Sürücüler kendilerine korna çalınmasına aldırmazlar çünkü bunun sadece 'acele et' anlamına geldiğini bilirler.
8	~~Öndeki aracı sollamak için selektör yapmak kimseye zarar vermez.~~
9	~~Araba kullanırken size korna çalınıyorsa muhtemelen bunu hak ediyorsunuzdur.~~
10	Nasıl araba kullanacağını bilmeyen insanlar, başkalarının kötü araba kullanmasına yol açarlar.
11	Aptalca davranan sürücüleri taciz etmekte bir sakınca yoktur.
12	Düşüncesiz bir sürücü normal bir insan gibi muamele görmeyi hak etmez.
13	Bazı sürücüler aptal muamelesi görmeyi hak eder.

Note. Item 8 and Item 9 were excluded from the scale based on the results of the analyses. Participants respond to the items on a scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.

Appendix 2

Table 6. Turkish Form of Justifications of Traffic Violations Scale (JTVS)

Item Number	Item Content
1	Bir yakınınızı hastaneye yetiştirmek için acele ederken sollama kurallarına (ör., devamlı yol çizgileri varken sollama yapılmaz) uymanız gerekmez.
2	Hastanede yatan bir yakınıza ulaşmak için acele ederken limitin üzerinde hız yapmak meşrudur.
3	Hastanede yatan bir yakınınıza ulaşmak için acele ederken kırmızı ışıkta geçmek kabul edilebilirdir.
4	Önemli bir toplantıya yetişmek için acele ediyorsanız sollama kurallarına (ör., devamlı yol çizgileri varken sollama yapılmaz) uymanız gerekmez.
5	Kısa mesafede alkollü araç kullanmak önemli bir tehlike oluşturmaz.
6	Yayaların karşıdan karşıya geçmesine izin vermemek ciddi bir sorun değildir.
7	Trafik yoğun değilse emniyet kemeri takmamak önemli bir tehlike oluşturmaz.
8	Bu ülkedeki bazı yolların kalitesizliği, kaybedilen zamanı telafi etmek için çoğu zaman aşırı hız yapmanıza neden olur.
9	Park yerleri yetersiz olduğu için yasa dışı park etmekte (ör., kaldırıma park etmek) bir sakınca yoktur
10	Makul olmayan bir hız sınırını aşanlar cezalandırılmamalıdır.
11	Kavşağın tıkanmasına yol açacaksa yayaların karşıdan karşıya geçmesine izin vermemek makuldür.
12	Fren yapmak bir kaymaya neden olabilecekse, kırmızı ışıkta geçmek mantıklıdır.

Note. Participants respond to the items on a scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree.