

UNDERSTANDING DRIVING VENGEANCE FROM
THE SCOPE OF BASIC INDIVIDUAL VALUES

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ABSTRACT

UNDERSTANDING DRIVING VENGEANCE FROM THE SCOPE OF BASIC INDIVIDUAL VALUES

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The present study aims to investigate the driving vengeance behavior from the scope of basic individual values for the first time in the literature. Values as guiding principles of individuals have been studied in relation to various behaviors. However, the current study is the first study to use the refined theory of basic individual values for the investigation of driving aggression. In the present study, a total of 226 drivers (98 male, 128 female) have participated. Demographic questions were directed to participants, and Driver Vengeance Questionnaire is used to measure the vengeance behavior of the drivers. Refined Portrait Values Questionnaire were used to measure the participants' value orientations. Overall, four hypotheses were established to investigate the expected relationships between values and vengeance behavior in traffic settings. Bivariate Correlation Analyses were conducted to test the Hypothesis-1, Hypothesis-2 and Hypothesis-3. Regression analysis have provided partial support for Hypothesis-1 and Hypothesis-2, and revealed that Achievement and Power-Dominance were positively related; Conformity-Rules were negatively related to driving vengeance. Lastly, one-way ANOVAs provided partial support for Hypothesis-4, and showed that prioritizing

Conformity-Rules may inhibit vengeance behavior especially for male drivers. Results of the study were discussed with their potential implications and future directions.

Keywords: refined basic individual values theory, driving vengeance, driving aggression, power-dominance, conformity-rules.



ÖZ

TEMEL BİREYSEL DEĞERLER ÜZERİNDEN İNTİKAMCI SÜRÜŞÜ ANLAMAK

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Bu çalışma, intikamcı sürüşü temel beşeri değerler üzerinden alanyazında ilk kez incelemeyi amaçlamaktadır. Bireylere rehberlik eden ilkeler olarak değerler, alanyazında birçok davranışla birlikte çalışılmıştır. Fakat bu çalışma, saldırgan sürücülüğü sadeleştirilmiş temel beşeri değerler teorisi ile araştıran ilk çalışmadır. Bu çalışmaya, toplam 226 sürücü (98 erkek, 128 kadın) katılmıştır. Katılımcılara demografik sorular yöneltilmiş, sürücülerin intikam davranışını ölçmek için “Sürücü İntikam Ölçeği” kullanılmıştır. Katılımcıların değer yönelimlerini ölçmek için “Sadeleştirilmiş Portre Değerler Anketi” kullanılmıştır. Değerler ve trafik ortamındaki intikam davranışını araştırmak için toplamda dört farklı hipotez kurulmuştur. Hipotez-1’i, Hipotez-2’yi ve Hipotez-3’ü test etmek için korelasyon analizi yapılmıştır. Regresyon analizi Hipotez-1 ve Hipotez 2 için kısmi destek sağlayarak; intikamcı sürüş ile Başarı ve Güç-Baskınlık değerlerinin olumlu, Uyma-Kurallar değeriyle de olumsuz ilişkili olduğunu ortaya koymuştur. Son olarak, tek yönlü ANOVA’lar Hipotez-4 için kısmi destek ortaya koymuş; Uyma-Kurallar

değerine önem vermenin trafikteki intikam davranışını özellikle de erkekler için engelleyebileceğini göstermiştir. Çalışmanın sonuçları, olası katkıları ve gelecek çalışmalar için önerileriyle birlikte tartışılmıştır.

Anahtar Kelimeler: sadeleştirilmiş temel beşeri değerler teorisi, intikamcı sürüş, saldırgan sürücülük, güç-baskınlık, uyma-kurallar.





To kindness, grace and genuineness...

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CHAPTER I

INTRODUCTION

1.1 Aggression: A General Introduction to the Concept

Derives from the latin word *aggređi*, which means “to approach”, aggression is a type of primitive act that could be observed from variety of situations and contexts within the course of human history. The fact that humanoid bones that carry the marks of club wounds (Trinkaus & Zimmerman, 1982) indicates that the history of aggression and violence have deep roots in evolution (Buss & Shackelford, 1997). In addition to these archeological findings, the historical records of countless wars between civilizations and large-scale conflicts between social groups have point to the notion that aggression is one of the most fundamental behavior of human beings. Within the close history of humanity, the two world-wars and numerous genocides have only confirmed the rise of aggression over the recent years (Rummel, 1994).

As a type of behavior that aims at causing immediate harm towards others, aggression manifests itself within different contexts and through different types of outcomes. In the present study, after defining and understanding the basic nature of the concept of aggression; vengeance, as a specific form of aggression was studied as a specific concept and as being in relation to specific variables that were thought to be critical to have more detailed understanding on aggression in general, and vengeance in specific. More clearly, driving vengeance is aimed to be investigated as being related to the basic individual values. The following sub-sections are organized to mention about the basic and related concepts, in addition to the aims of the study in detail.

1.2 Definitions of Aggression and its Related Constructs

The aggression of human beings is not limited with the all-out wars or societal conflicts. In fact, aggression is a type of behavior that shows itself typically from the individual level. As Buss (1961, p. 1) have proposed one of the first definitions of aggression, which is “response that delivers noxious stimuli”, some scholars have objected to this definition by finding it deficient (Tedeschi & Felson, 1994). Buss’s (1961) definition is indeed a consequence oriented, behaviorist approach that disregards non-behavioral processes such as emotions and thoughts. In addition, this particular definition considers accidents and involuntary harmful actions as aggressive, since it solely focuses on the consequences of an action.

The limitations of this definition have dispersed by Baron and Richardson (1994) as they have referred to the *intentionality* aspect in their definition. Not only the intentionality of the perpetrator, they have also considered the target agent’s motivation to avoid the behavior. Thus, they defined aggressiveness as any kind of behavior that is “intended at harming another who is motivated to avoid such treatment” (p.7). With this expansion of the definition, involuntary acts and accidents that cause harm for others have been differentiated from aggressive behaviors. At the same time, this definition of aggression has included the voluntary harmful acts that did not end up with harmful consequence. Hence, for example, the action of a driver who intends to ram his/her vehicle to another, but fails to do so is still considered as aggressive by this definition.

This clear definition of aggressiveness have widely accepted within the literature (Parrott & Giancola, 2007). The addition of intentionality and the target’s motivation to avoid the action have led researchers to investigate aggressive tendencies according to their differentiating aspects. For example, aggression has various ways to be expressed, and these different expressions were clustered under the *response modality* aspect. According to this aspect, *verbal*, *physical*, *postural* and *relational* categories (Krahé, 2013, p. 20) The physical aggression is the classic type of harmful behavior in which the perpetrator aims for physically damaging the target agent. While on the other hand, verbal aggression is the type in which the aggression brings psychological harm towards the target through the means of insulting or

swearing. Postural aggression, for example, is the aggressive behavior type in which the perpetrator express aggression through body language and mimicry. Lastly, relational aggression is the kind of aggressive expression where the individual passively shows off aggression just by his/her posture or silence.

Instigation is another important aspect of aggression that is clustered within two different groups: reactive vs. proactive aggression (Dodge & Coie, 1987). According to their distinction, reactive aggression is the type of aggression that is expressed in response to a perceived hostility or provocation. It is an impulsive type of aggression that usually accompanied by hostile gestures and facial expressions, also referred as *hot-blooded* type of aggression in the literature (Runions, Salmivalli, Shaw, Burns, & Cross, 2018). Proactive aggression, on the other hand, is the type of harmful behavior that have emerged independent from a provocation. Most proactive aggression behaviors have an ulterior motive and reason behind it, such as gaining resources or establishing dominance over someone. Because of the planned and non-impulsive nature of proactive aggression, it is also referred as *cold-blooded* aggression within the literature.

The typical example for proactive aggression is bullying, as it is a type of repeated aggression towards another, without being a consequence of provocation (Runions et al., 2018). This type of aggression appears in consequence of power imbalance between adolescents and it is an example of goal-directed aggression for the sake of popularity and status among peers (Caravita & Cillessen, 2012). As in the case of bullying, proactive aggression does not depend upon impulsivity, but rather on planned actions. Thus, other kinds of aggressive actions such as robbery, kidnapping and taking hostage are typically kinds of behaviors that promote aggression for the sake of achieving a particular goal.

Reactive aggression, on the other hand, is an impulsive and hot-blooded as previously stated. Thus, types of aggressive behaviors that occurs as a response to a provocation is the typical examples for reactive aggression. Instantaneous retributions, fighting back to a threat and rage murders are all examples of reactive aggression, since the occurrence of the aggressive behavior is dependent upon a provocation in these examples. Among the types of reactive aggression behaviors, revenge or vengeance is the one that is closely entitled with reactive type of aggression.

However, taking revenge from another individual can become a complicated act of aggression that may entail a planning procedure that determine how exactly the aggression is going to be directed. Thus, when particularly investigating vengeance and its consequences, it is important to distinguish and specify the revenge behavior under the types of aggressive behaviors.

In general terms, *revenge* is defined as an intended act of aggression in response to a perceived injustice (Stuckless & Goranson, 1992; Uzun, 2018). Vengeful attitude in general is linked with a variety of destructive behaviors such as vandalism (Wiesenthal, 1990), arsoning (Pettitway, 1987) or spousal abuse (Hydén, 1995). *Vengeance* is characterized with malevolent behaviors that very much exceeds the boundaries of reciprocity. It is very much similar to the concept of revenge thus; concepts of revenge and vengeance is used interchangeably in this study. Vengeance is a complicated type of behavior that can manifest itself in different ways. On the one hand, planning and executing revenge is similar to a proactive type of aggression, in which the perpetrator implements the harmful behavior rather in a cold-blooded method (Holmes & Holmes, 1998). This type of avenging often appears when an individual faces perceived injustice and proceeds on plotting harmful actions behind the transgressor. One of the studies that examined how revenge is predicted by personality traits related to reactive aggression (e.g., emotionality) have found that revenge is more in relation with proactive aggression (Book, Visser, Volk, Holden, & D'Agata, 2019). More specifically, their study has found a negative relationship between the emotionality trait, which is positively associated with reactive aggression, and revenge. Thus, their findings clusters revenge much more as a planned behavior that can even have an ulterior motive through the means of harming the target agent.

On the other hand, vengeance can also be identified as a reactive type of aggression when it appears as an immediate response towards a provocation or perceived injustice. This specific type of revenge is often referred as retribution or retaliation in the literature. Retaliation differs from vengeance in the sense that it is grounded more rationally and appears much more immediately in response to a provocation (Stuckless, 1990). In the same line with this distinction, Schmid (2005) have also referred retaliations as acts of vengeance that are in balance with the

provocation while being morally justified. However, retaliative responses can easily turn into a hostile aggression, hence reactive aggression, if the retaliator inflicts more harm than the transgressor did. The typical examples of this type of vengeance could be observed within the driving setting. Road users, especially drivers, may end up taking vengeance from other road users impulsively in response to a perceived injustice. The general concept used for these types of aggressive tendencies within the driving setting is referred as *driving aggression* within the literature.

1.3 Driving Aggression and Driving Vengeance

Traditionally, driving aggression have been defined as any kind of behavior that intends to harm other road user through psychological, physical or verbal means (Ellison-Potter, Bell, & Deffenbacher, 2001; Hennessy & Wiesenhal, 1999; McGarva & Steiner, 2000). These behaviors could range from mild aggressive behaviors (e.g., honking to another driver) to extreme acts of roadway violence (e.g., murdering another road user). Although a straightforward definition of driving aggression has been suggested, there exists a contradiction regarding the conceptualization of certain terms related to driving aggression, such as aggressive driving. As previously stated, Buss's (1961, p. 1) definition of aggression have disregarded intention as a component of the harmful behavior. Linked with this deficiency of the definition, a public perception that refers any potentially harmful acts of drivers as "aggressive" has appeared (Hennessy & Wiesenhal, 2002, 2005). Thus, potentially dangerous driving behaviors and violations of drivers such as speeding, cutting off another driver or red-light violations have been perceived as "aggressive driving". However, it is important to I these concepts from one another, as violations and reckless acts of drivers lacks the intention to harm the other road users. Therefore, regarding these potentially harmful behaviors as "aggressive" would be inconsistent with Baron and Richardson's (1994, p. 7) definition of aggression that considers intentionality aspect of aggressiveness. Alternatively, Hennessy (1999) have suggested the term *assertive driving* in reference to the potentially dangerous and irresponsible acts of drivers that may bring harm to other road users. For the sake of consistency, reckless driver behaviours that disregards

others safety will be referred as *assertive driving* or as *aberrant driving*, instead of *aggressive driving*.

Driving aggression can take a specific form when it is motivated by a perceived injustice. Wiesenthal, Hennessy, and Gibson (2000) have conceptualized this form of driving aggression as *driving vengeance* with the development of Driving Vengeance Questionnaire (DVQ). Driving vengeance is a unique type of revenge that it is sophisticated and difficult to cluster. On the one hand, it is similar to a retaliation in the sense that it appears immediately in front of a provocation. On the other hand, it is close to the traditional type of revenge as it is most often not rationalized and involves impulsive, anger-driven responses. It is appropriate for driving vengeance to be identified as an immediate response since the driving setting is a dynamic environment that is not suitable for a plotted type of vengeance to be executed. Rather, the vengeful individual focus upon taking immediate revenge, for example, by tailgating the transgressor, as another chance at getting revenge might not appear again. Considering these aspects of driving vengeance, it appears as a reactive type of aggression that is retaliative, but it is a kind of retaliation that may exceed the severity of provocation.

A concept that is closely related to driving aggression and driving vengeance is *road rage*. Although, it was not distinguished properly and therefore put into erroneous usage by media; after the 1990's, the concept of road rage has gained increasing attention from various media sources (Brewer 2010; Săucan, Micle, Popa, & Oancea, 2012). Some sources of media have been referring to road rage as any form of destructive driving behaviors, including willfull violations (Hennessy, 1998). This presentation of road rage is erroneous since willfull violations that may potentially bring harm to other road users do not necessarily express a period of "rage". Even if an emotional period in which an explosive type of anger (i.e., rage) may be triggered in certain driving events, it does not necesarrily incite an act of violence. Therefore, what the concept of road rage refers in actuality is the *roadway violence* according to Hennessy and Wiesenthal (2005). Nevertheless, the concept of road rage has been consistently referred as any sort of extreme violence and aggressiveness that took place within the traffic environment within various studies (see Brewer 2010; Britt & Garrity, 2006; Galovski & Blanchard, 2004; Lupton,

2002; Sagar et al., 2013; Sullman, Stephens, & Yong, 2015). As a result, the traffic psychology scholars have been using road rage interchangeably with driving violence. It is also important to note that driving violence is a separate construct from mild driving aggression in terms of frequency and severity (Hennessy & Wiesenthal, 2005). Behaviours such as ramming to another vehicle deliberately, confronting, or even murdering other road users are all examples of roadway violence. On the other hand, mild driver aggression could be exemplified with behaviors such as honking, making obscene gestures or signaling with flashers. In conclusion, road rage could at most be referred as a specific type of driving aggression that is characterized by extreme forms of violence that take place within the driving setting. Nevertheless, this study will refer extreme acts of violence as *roadway violence* or *driving violence*, instead of *road rage*.

The conceptualization of driving vengeance is very much similar to driving aggression and roadway violence, in terms of expressing anger and aggressive behavior towards other road users. However, unlike driving aggression and roadway violence, driving vengeance specifically emphasizes a motivational source for the aggressive behavior. In essence, this motivation is the perception of the vengeful individuals that they have experienced an unjust action that warrants correction or punishment (Hennessy & Wiesenthal, 2005; Stuckless & Goranson, 1992; Wickens, Wiesenthal, & Roseborough, 2015). The motivation to seek vengeance from another road user frequently results with mild driving aggression and less frequently with extreme forms of roadway violence (Hennessy & Wiesenthal, 2002b). Therefore, driving vengeance stands out as a broad concept for anger expression in terms of severity of the aggressive behavior. As a result, any kind of aggressive response from honking to confronting another road user would be regarded as driving vengeance, as long as it is motivated by a wrong-doing that needs to be “punished”.

As discussed previously, driving vengeance is a unique type of revenge in the sense that it is an emotion-driven retributinal action. It is mostly characterized by a reactive type of aggression so that it appears immediately, but it is also a purpose-driven, proactive aggression as the individuals aim at punishing the unjust behaviour they have just exposed to. One of the main reasons behind the unique appearance of this aggression construct is linked with the exclusive nature of the traffic

environment. First of all, traffic and driving setting is a social environment where people who are unrelated to each other needs to co-operate in order to reach their transportation goals (Rothe, 1994). As a result, traffic environment is bound to certain societal rules and norms in which the violation of these informal rules would provoke anger among drivers (Wickens et al., 2015). Secondly, the accident risks within the traffic environment are both life-threatening and financially costful for the road users. Therefore, drivers may perceive risky behaviors of others as warranting for punishment, which would intensify both the hot-blooded emotions (i.e., rage, anger) and the desire to “teach a lesson” to the transgressor for their wrong-doings (Cota-McKinley, Woody, & Bell, 2001). There are also other factors that contribute to the prevalence of vengeance within the traffic environment. Drivers perceiving their vehicle as their personal space (Marsh & Collet, 1987) or the sense of anonymity that driving a vehicle brings (Ellison-Potter et al., 2001; Ellison, Govern, Petri, & Figler, 1995) are the other factors that contributes to the prevalence of the driving vengeance. By perceiving own vehicle as a personal space, individuals feel much more threatened and behave defensively in front of a potential danger. In addition to the intensified defensiveness, they also might tend to feel anonymous inside the vehicle, which results them to behave more aggressively in return (Ellison-Potter et al., 2001; Ellison et al., 1995).

Driving vengeance is a prevalent phenomenon among drivers, and the conditions of the traffic environment encourages vengeance behavior to appear among road users. It is essentially a maladaptive behavior that can robust the appereance of driving violations (Hennessy & Wiesenthal, 2005), and other negative consequences in the driving setting. Therefore, investigating this specific type of vengeance is important to to enhance the road traffic safety.

The vengeance behavior within the driving setting is related to individual and situational factors, as well as certain traffic outcomes. The literature has especially elaborated the role of personality factors on the individuals’ tendency to seek vengeance from other road users. However, individual related factors do not contribute to the prevalence of vengeance behavior solitarily. Rather, situational factors like traffic congestion could also contribute to the vengeance behaviors of the

individuals. The following section is going to elaborate on the factors related to driving vengeance, through the detailed examination of the literature.

1.3.1 Factors Related to Driving Aggression and Driving Vengeance

Driving aggression and driving vengeance are behavioral constructs that are in direct relation with human factors in traffic. Naturally, scholars that investigate driving vengeance and its related constructs have directed their attention towards individual related variables. These variables include demographic differences such as age and gender. More importantly, researchers have also accounted for factors like emotions, more specifically driving stress and anger. Finally, the majority of the research have focused on individual differences and personality variables when predicting driving vengeance and its related constructs.

1.3.1.1 Gender

Research on driving vengeance and related variables have consistently reported that driving aggression, especially driving violence, is much more prevalent among men than woman (Deffenbacher et al., 2003; Deffenbacher, White, & Lynch, 2004; & Wiesenthal, 2005; Jovanović, Lipovac, Stanojević, & Stanojević, 2011; Săucan et al., 2012; Uzun, 2018). Although male and female drivers do not differ much in expressing mild driving aggression, males were found to exhibit severe acts of violence (Hennessy & Wiesenthal, 2005; Săucan et al., 2012), as well as showing greater driving vengeance (Hennessy & Wiesenthal, 2002a, 2002b, 2005; Li et al., 2004; Wickens et al., 2015; Wiesenthal et al., 2000). On the other hand, men and women were found to express their angers in different ways. Deffenbacher et al.'s (2002) study have demonstrated that men have preferred to physically express their anger in comparison to women. Similar results were also achieved by Eşiyok, Yasak, & Korkusuz (2007), in which men were higher in expressing their anger physically as well as through vehicle. Women, on the other hand, have preferred adaptive/constructive expressions (e.g., thinking through before responding) of anger more. As for the verbal expressions of anger, the two groups did not differ. Gender is also an important variable in terms of its predictive and interactive role. Sümer et

al.,'s (2019) study have found that being male and having a Machiavellianist attitude have predicted traffic violations through the mediation of driving vengeance. Similarly, Hennessy and Wiesenthal (2005) have identified a three way interaction of gender, violations and vengeance on violence. This finding indicates that male drivers who have a vengeful attitude in addition to higher violation of traffic rules will show driver violence more as compared to female drivers. In conclusion, gender is a vital variable for the studies of driving aggression and driving vengeance. The findings within the literature points that male drivers are more prone to exhibit aggressive behavior that can endanger other road users physical and psychological health.

1.3.1.2 Age

Another demographic variable, age, is also an important factor in determining both the characteristics and the prevalence of driving vengeance. It is well documented in the literature that age is negatively associated with risk taking (Reason, Manstead, Stephen, Baxter, & Campbell, 1990; Rhodes, Brown, & Edison, 2005) and impulsive behaviors (Pearson, Murphy, & Doane, 2013) within the driving setting. As driving vengeance and driving aggression is associated with hot-blooded emotions and involves a degree of risk taking, driving aggression researchers have predicted that age will be negatively associated with the drivers' age. Indeed, past studies have reported that vengeance is negatively associated with age (Hauber, 1980; Stuckless & Goranson, 1992). Hennessy and Wiesenthal (2000) have also reported that driving vengeance scores were higher among younger drivers than older drivers. A further research focused by Hennessy and Wiesenthal (2004) have studied the relationship between mild driving aggression, driving vengeance and age with a Canadian sample. Their results showed that mild driving aggression was in decrease with age among low and moderate vengeance driver groups. However, they strikingly found that the mild driving aggression of vengeful individuals have actually increased with age. Therefore, age is another significant variable that influences and get influenced by driving vengeance.

1.3.1.3 Anger, Frustration and Congestion Related Driving Stress

Studies that focused on driving aggression have also focused on the emotional periods and its consequences. Anger (Deffenbacher, Stephens, & Sullman, 2016; Deffenbacher, Lynch, Oetting, & Yingling, 2001; Deffenbacher et al., 2004; Yasak & Eşiyok, 2009), traffic congestion related driving stress (Butters, Mann, & Smart, 2006; Hennessy, 2013; Hennessy & Wiesenhal, 1997, 1999; Hennessy, Wiesenhal, & Kohn, 2000) and driving frustrations (Lupton, 2002; McGarva & Steiner, 2000; Stephens & Groeger, 2009) have been the primary research focus for the emotional periods related to driving aggression and driving vengeance. Deffenbacher, Oetting, and Lynch's (1994) study that developed the driving anger scale (DAS) is one of the first studies that suggested elevated anger levels' potential influence upon driver's performance and the tendency to aggress to other road users. They specifically discussed that increased anger levels might result with assertive and reckless driving. A further study that developed "Driver Anger Expression Inventory" (DAX) have also revealed that expressing anger within the roadway environment may result with certain assertive driving behaviors such as speeding (Deffenbacher et al., 2002). Specifically, DAX is a tool for measurement that consists of four dimensions of anger expression: *Verbal Aggressive Expression*, *Personal Physical Anger Expression*, *Use of the Vehicle to Express Anger* and finally *Adaptive/Constructive Expression*. The expression of anger through the means of using one's own vehicle includes actions like driving lot faster than normal, for the sake of expressing the anger felt. As a result, Deffenbacher et al. (2002) have revealed that anger expression may result with assertive driving behaviors and vengeful behavior that puts safety of the traffic environment in jeopardy while elevating negative affect in the traffic at the same time.

A simulator study from Stephens and Groeger (2009) have also revealed how feeling anger behind the wheel can lead drivers to behave recklessly. Their study has tested drivers' reactions and driving behavior within the anger provoking scenarios. Results revealed that people with high trait-anger have driven more recklessly within the low-anger provoking scenarios, which once again shows how trait-anger (which is measured by DAS) and anger expression plays a role in assertive driving. Finally,

Bogdan, Măirean, and Havârneanu's (2016) comprehensive meta-analysis have investigated 51 studies and concluded that there is a positive association between driving anger and “aggressive driving”. Their definition of “aggressive driving” has included any kind of maladaptive driving behavior such as expressing mild aggression, driving recklessly or even roadway violence. Specifically, they have included articles that measured “aggressive driving” with DAX and found a moderate positive relationship between driving anger expression and maladaptive driving behavior.

As discussed previously, the emotion of anger is one of the significant sources of motivation for individuals to inflict harm on other road users. A fair amount of quantitative (e.g., Bogdan et al., 2016; Dukes, Clayton, Jenkins, Miller, & Rodgers, 2001; González-Iglesias, Gómez-Fraguela, & Luengo-Martín, 2012; King & Parker, 2008; Lajunen, Parker, & Stradling, 1998), and qualitative (e.g., Ergin, Findik, & Öz, 2020; Lupton, 2002; O'Brien, Tay & Watson, 2002) studies have revealed the striking effects of anger felt behind the wheel. A recent qualitative study conducted by Ergin, Findik, and Öz (2020) have interviewed a group of young drivers (i.e., drivers who are below age 25) who were asked to remember a single incident in which they have felt anger whilst driving. Most of the responses have included either a driving violence, or a mild driving aggression experience. In fact, a thematic analysis has revealed a theme called “Long-term Emotional Effects”, which represents the traumatic incidents that the participants have experienced within their incidents. This study is an important example in terms of how anger felt behind the wheel can lead to driving vengeance events, which in turn threatens the well-being of road-users. Another study that focused on the emotional responses of drivers is conducted by Mesken, Hagenzieker, Rothengatter, and de Waard (2007). The study has tested the emotional and physiological responses of the participants during a test drive. The results of the study have revealed that anger is associated with blaming others during the driving incidents. The tendency to blame others can result with the attribution of responsibility, which in turn can provoke driving vengeance and aggression (Wickens, Wiesenthal, Flora, & Flett, 2011).

Other studies that have investigated the emotional responses' effect on vengeance behaviors in roadway have focused on the driving stress and frustration.

Research in this area has studied traffic congestion in its association with such negative affect of drivers (Hennessy, 2000). This specific factor is vital to emphasize, as it shows how driving vengeance behavior is also in relation with the situational conditions that driving environment constitutes. In this sense, high traffic congestion (i.e., traffic situations in which vehicles are high in number and at slow pace) is noted to be related to irritation, frustration and goal blocking (Broome, 1985). As these situational factors are in direct relation with driving stress and aggression, a study conducted by Hennessy and Wiesenthal (1999) have investigated the traffic congestion's influence upon driver stress and driving aggression. The results have revealed that traffic congestion is indeed an important factor that is associated with driving stress. Specifically, high traffic congestion is positively associated with driving aggression as it leads drivers to feel irritated and frustrated under a demanding environment. Driver stress is reported to be in relation with mild driver aggression, specifically behaviors like honking, swearing and yelling at other drivers (Gulian, Matthews, Glendon, Davies, & Debney, 1989). A study by Hennessy and Wiesenthal, (2001) have reported that both male and female road users that perceived the driving environment as stressful have indicated higher tendency to engage in mild driving aggression. In addition to these findings, road users with high driving stress indicated higher number of past driving violence. These results and previous research have shown how driving stress and the factors that relate with feeling stress during driving (i.e., frustration, irritation) can have the potential to ignite driving vengeance behavior within the roadway environment.

1.3.1.4 Personality Related Variables

Among the aforementioned variables, personality is one of the most prevalent factors that was studied in relation to driving vengeance and its related concepts. Driving vengeance behaviors are aggressive behaviors in core, and the emergence of aggressive behaviors are reflected in individual related factors (see Krahé, 2013). The personality related conceptualizations that are studied with driving vengeance and aggressiveness has a wide scope. From certain individual differences like trait-anger (e.g., Blanchard, Barton, & Malta, 2000) and impulsivity (Smith, Waterman, & Ward, 2006) to maladaptive personality orientations like dark *Dark Triad*

(Burtăverde, Chraif, Aniței, & Mihăilă, 2016; Sümer et al., 2019), driving aggression and vengeance behaviors in driving setting have been studied with various factors. Although studies that focus directly on the relationship between Big Five Personality traits and driving vengeance is less prevalent, it is nevertheless studied with driving anger and its expression, which is associated to driving vengeance as previously stated (Dahlen & White, 2006; Demir, Demir, & Özkan, 2016). Finally, it is important to note that narcissism as a maladaptive personality orientation has received a specific attention from the researchers, despite it is a component of Dark Triad.

Antisocial personality orientations are another widely studied variables with driving aggression and driving vengeance. For example, the *dark triad* (i.e., machiavellianism, psychopathy and narcissism) construct that have been introduced by Paulhus and Williams (2002), is associated with violence and aggression in general (Pailing, Boon, & Egan, 2014). Therefore, the construct has also been applied to the driving setting with various studies that investigated the influence of psychopathy (i.e., pervasive trait that is associated with antisocial behavior and impulsivity) Machiavellianism (i.e., manipulative attitude towards people and environment) for and narcissism (i.e., having grandiose opinion for the self) on driving aggression. A study conducted by Ball, Tully, & Egan, (2018) have found that general aggression have mediated the relationship between dark triad and driving anger, which suggests that people who show the characteristics of the dark triad will also show driving anger if they are tended to behave aggressively. The study of Sümer et al. (2019) have studied both driving anger and driving vengeance as mediators for the relationship between certain dark triad personality variables and motor vehicle crashes (MVC). Their correlational analysis has also revealed a significant positive relationship between driving anger and driving vengeance ($r = .24, p < .01$) as well as driving vengeance and traffic violations ($r = .47, p < .01$). In addition, driving vengeance have revealed an indirect (mediated) effect between machiavellianism, gender and traffic violations, providing evidence for the important role that driving vengeance play in understanding driving safety. Another interesting finding from Sümer et al. (2019) have emphasized the potential role that Machiavellianism can play in predicting driving violence, through the mediation of

driving vengeance. These findings imply that the construct of dark triad as a pervasive personality tendency can indeed be related to a potentially malevolent behavior such as driving vengeance.

Aside from its implementation within dark triad studies, narcissism have gained a special attention within driving aggression studies (Wickens et al., 2015). It is thought that the contingent self-esteem that narcissists hold themselves can be easily threatened within driving situations, which can provoke anger and aggression in return (Baumeister, Smart, & Boden, 1996; Hennessy, 2016; Horvath & Morf, 2009; Kernis, 2003; Stucke & Sporer, 2002). This view has gained support from several studies as narcissistic individuals have been reported to exhibit higher levels of anger and aggression within traffic (Bushman, Steffgen, Kerwin, Whitlock, & Weisenberger, 2018; Demir et al., 2016; Lustman, Wiesenthal, & Flett, 2010) as well as vengeance (Wickens et al., 2015). A study conducted by Schreer (2002) have revealed that the exhibitionism (i.e., behavior that asks for attention) aspect for women and entitlement (i.e., the perception of rightfulness) aspect for men have predicted aggressive driving behavior. As driving vengeance is an act that responds to a perceived injustice, narcissistic males can show higher driving vengeance according to these results. In line with this proposition, Lustman et al., (2010) have found that among male narcissists, the effect of vengeance upon driving aggression was higher than female narcissists. However, Wickens et al. (2015) have failed to find the same interaction of gender and narcissism, which implies that the effect of narcissism on driving vengeance may not be bound to gender after all. In conclusion, narcissistic tendencies and the fragile self-esteem of individuals can become a risk factor for exhibiting driving aggression and vengeance as these tendencies are related to defending personal space and to exhibit control and dominance over others (Hennessy & Wiesenthal, 2002b; Stuckless & Goranson, 1992).

Research in the domain of personality and individual differences is quite significant in terms of identifying the personality traits' (e.g., trait-anger) and antisocial tendencies' (e.g., Machiavellianism) proneness to vengeful behaviors within the roadway setting. However, investigating, for example, the narcissistic individuals' tendencies to exhibit aggression and to seek vengeance within the driving settings discloses the narcissistic properties' relationship with driving

vengeance only. Likewise, other research topics related to individual differences, such as trait-driving stress or impulsivity, reveals only the relationship between driving vengeance and these specific constructs. As a consequence, it is difficult for researchers to understand the motivational aspects of individuals to decide to take vengeance from other road users. Thus, studying driving vengeance from a comprehensive point of view, rather than a trait-focused, singular point of view may be much more efficient in understanding the motivational aspects that drives individual to perform vengeance behaviors.

In conclusion, the literature showed that, a concept that is appropriate for researchers to enlighten the motivational aspects behind vengeance behaviors are values (Rokeach, 1973; Schwartz & Bilsky, 1987) which have been studied in various studies and at different contexts. Specifically, the concept of values have been studied for the motivational basis of various behaviors such as consumer behavior (Kim, Forsythe, Gu, & Moon, 2002; Sheth, Newman, & Gross, 1991; Vinson, Scott, & Lamont, 1977), environmental behavior (Corraliza & Berenguer, 2000; De Groot & Steg, 2007; Dietz, Fitzgerald, & Shwom, 2005; Milfont, Duckitt, & Wagner, 2010; Poortinga, Steg, & Vlek, 2004; Schultz et al., 2005; Steg, Bolderdijk, Keizer, & Perlaviciute, 2014; Steg, Perlaviciute, van der Werff, & Lurvink, 2014; Ünal, Steg, & Gorsira, 2018; Verplanken & Holland, 2002), organizational behavior (Dowling & Pfeffer, 1975; Posner & Munson, 1979; Zwetsloot, Scheppingen, Bos, Dijkman, & Starren, 2013) prosocial behavior (Roccas & Sagiv, 2017; Schwartz, 2009) and communication behavior (Sotirovic & McLeod, 2001). Alongside the aforementioned behaviors, values have been studied to investigate the motivational aspects of aggression. However, these studies have focused mostly on adolescent aggression (see, Benish-Weisman, 2015, 2019; Benish-Weisman, Daniel, & Knafo-Noam, 2017; Knafo, Daniel & Khoury-Kassabri, 2008). There are limited number of studies that investigate the relationship between driving aggression and values, and the current research have aimed to fill this gap by studying the vengeance behaviors of drivers specifically. The investigation of driving vengeance through the scope of values may bring significant insights in terms of comprehending the motivational basis of vengeance behavior in traffic setting.

1.3.1.5 Basic Values as a Psychological Structure

One of the most fundamental research of interest within psychology literature is the concept of behavior and the processes, predictors and origins that play a role for the emergence of human behavior. With regards to exploring the basic and indirect factors that shapes the behavior on both societal and individual level, Rokeach (1973) was one of the first conceptualizers of the *values* that aimed to find a culturally universal instigator of human attitudes and behaviors. In his definition, values are enduring beliefs (i.e., terminal values) and modes of conduct (i.e., instrumental values) that are purposed for achievement of personal motivational goals. He established a measurement tool that introduced 36 values and conceptualized his own approach to values (Rokeach, 1973).

As influential as it may be, Rokeach's (1973) tool for measurement had its own shortcomings despite its general acknowledgment within the value literature (Braithwaite & Law, 1985). In general, Braithwaite and Law (1985) have argued that Rokeach's conceptualization of values have neglected values related to physical and general well-being. In addition, they argued that basic human rights were not represented adequately in the survey. They have also criticized the rank ordering task of the value survey by arguing that a single rank ordering task fails to demonstrate the value priorities of individuals. Lastly, Braithwaite and Law (1985) have argued that the term of terminal value is a misnomer since the distinction of values in terms of their end-state goals and behavioral goals is inadequate. In line with this argument, their factor analysis has revealed that three of the terminal values in the Rokeach's (1973) value survey (freedom, happiness, pleasure) could not fit in the newly derived factors.

In the following years, the constitution of a new structure for human values have been started (Schwartz & Bilsky, 1990; Schwartz & Bilsky, 1987). Schwartz and Bilsky's (1987) investigation of values have revealed a distinction between values in terms of their end goals. Specifically, the value types according to their end goals occupy different regions in a projection space that represented the relationships between values. A following replication study have revealed similar results, thus providing further evidence for the distinction of values in terms of their end-goals. In

addition to representing the end-goal distinction, Schwartz and Bilsky (1987, 1990) have identified 7 distinct value constructs, which were the fundamentals of a comprehensive upcoming theory.

With another comprehensive study, Schwartz (1992) have finally structured the basic individual values, and gained empirical evidence for the universality of these values. Specifically, he had researched among samples of 20 countries and identified 10 basic types of human values. He called this new structure of the values as *Theory of Basic Individual Values*, which is also referred as Schwartz's Value Theory (SVT; 1992). He defined these 10 values as abstract beliefs and guiding principles that shape the individuals' motivation towards any desired goals. According to Schwartz (1992), the main reason for the emergence of these guiding principles are (a) biological needs, (b) requirement of coordinated social interactions and (c) demands of efficient group functioning. In line with these fundamental needs, values are the conscious representation of unconscious motivations of individuals. Therefore, they act as the guiding principles of individuals and motivate them to take actions according to their desired goals.

Although the main purposes of individual values are to serve societal harmony and group enhancement, the very nature of these abstract beliefs is individualistic and do not focus on expressing a cultural aspect but rather express an individual difference. When conceptualizing the theory, Schwartz and Bilsky (1987) have referred values as a concept that influences the behavior of humans from an individual level. After SVT have been proposed in 1992, a subsequent study has clearly distinguished the basic individual values from cultural value orientations (Schwartz, 1994, 2006). According to his study, culture level values functions to regulate a society in a nation level, whereas individual-level values represent a psychological dynamic within the individual and differentiate him/her from other individuals. Although this differentiation, he acknowledges the conceptual similarity between the two levels and identified separate constructs exclusively for culture-level values. However, according to Schwartz (1994), culture-level values should be referred when institutions or symbols of society is being studied. Individual-level values, on the other hand, should be studied if a research investigates the differences between attitudes, beliefs or behaviors of the individuals. As a result, the present

study will refer to the individual-level values, as it aims to investigate the motivational factors behind the emergence of the driving vengeance behavior.

Table 1. Conceptual Definitions of 10 Basic Individual Values

Value Type	Conceptual Definitions
Self-Direction	Independent thought and action – choosing, creating, exploring
Stimulation	Excitement, novelty, and challenge in life
Hedonism	Pleasure and sensuous gratification for oneself.
Achievement	Personal success through demonstrating competence according to social standards
Power	Social status and prestige, control or dominance over people and resources
Security	Safety, harmony, and stability of society, of relationships, and of self
Conformity	Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms
Tradition	Respect, commitment, and acceptance of the customs and ideas that traditional culture or religion provides
Benevolence	Preservation and enhancement of the welfare of people with whom one is in frequent personal contact
Universalism	Understanding, appreciation, tolerance and protection for the welfare of <i>all</i> people and for nature

(Source: Schwartz et al., 2012)

As previously stated, Schwartz (1992) have identified 10 fundamental individual value types that serve for the aforementioned purposes. They could be listed as: *Stimulation, Self-Direction, Universalism, Benevolence, Conformity, Tradition, Security, Power, Achievement and Hedonism*. Each of these value types represents a set of motivational goals that individuals wish or avoid to attain. The conceptual definitions of each value types' motivational goals are shown in Table 1. Each of these values, their representations of motivational goals and their higher-order dimensions will be elaborated next.

The theory of basic individual values not only enounce a list of value types that are shared across different cultures, but also accomodates the very nature of values. One of the basic assertions regarding the values of individuals is that every person has their own hierarchical precedence of them (Schwartz, 1992). The same idea was also presented by Rokeach (1973), in which he claimed that human beings have their own prioritizations of values and plan their actions according to those

priorities. Another key proposition of SVT is the ten value types' circumplex motivational continuum. According to his research, each of these value types can be demonstrated within a circular structure while certain value types that represents contradictory goals are stationed against each other (see Fig. 1). Related to this conflict between values, individuals may emphasize certain value types over their conflicting counterparts. For example, Power and Benevolence are two conflicting values that are stationed against each other within the motivational continuum (see Fig. 1). Certain individuals may emphasize Power over Benevolence or Benevolence over Power. This preference between conflicting values is referred as *value orientations*. Value orientations can be essential for certain behaviors to be enhanced or to be inhibited (Schwartz, 1996).

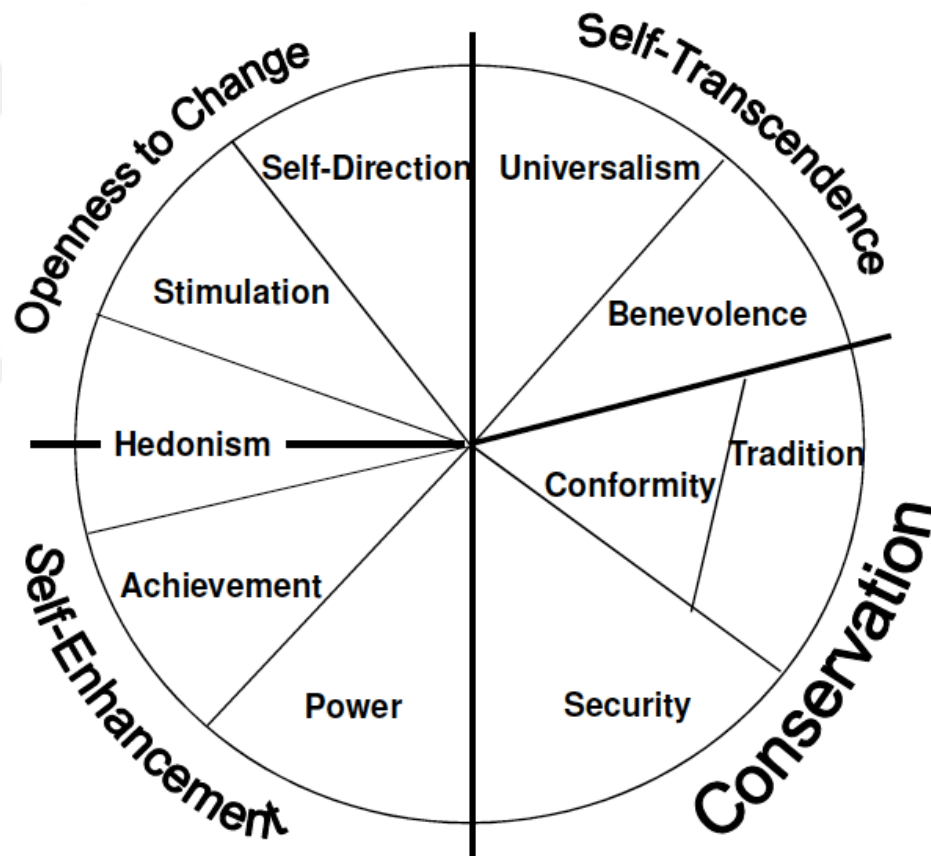


Figure 1. The theoretical model of basic individual values and their circular arrangement (Adapted from Schwartz, 1992)

The circumplex continuum organization of the 10 value types is theoretically important because it, first of all, suggests that values are engaged within a competition and their trade-off could be observed as an important factor related to

certain behaviors (Schwartz, 1992, 1996). Second of all, the circular arrangement of the 10 value types according to their representation of motivational goals have resulted with coherent value types being clustered together. As a consequence, Schwartz (1992) have defined two higher-order dimensions, which emphasizes the opposition of the groups of value types. Finally, it should be noted that the circumplex continuum of the value types, together with their higher order dimensions forms a coherent *value system*, in which the entirety of the value system guides individuals to prefer the behavior they are going to demonstrate. The first higher-order dimension, *Self-Transcendence vs. Self-Enhancement*, represents the conflict between *Universalism & Benevolence* and *Achievement & Power* value types. Among the Self-Transcendence values, Universalism is the value type that expresses the motivation for understanding, tolerance and appreciation towards nature and other human beings. Individuals who prioritize Universalism have the tendency to preserve the welfare of unrelated others. Right next to Universalism, Benevolence stands out as the second Self-Transcendence value. On the opposite site, Power motivates individuals to attain and maintain dominance and authority over resources and other people. Achievement on the other hand, focuses more on personal successes and competence rather than the dominancy aspect that Power value holds (Seddig & Davidov, 2018). Lastly, Hedonism the pleasure-oriented value type that individuals seek in order to fulfill their organismic needs (Schwartz, 1992).

It is important to note that Schwartz (1992) have argued that Hedonism is a value type that shows both Self-Enhancement and Openness-to-Change properties. As the value types that Self-Enhancement and Self-Transcendence encapsulates are motivationally distinct from one another, Schwartz (1992) have argued that the motivations that these value types may confront one another especially for certain behaviors. An empirical evidence regarding this conflict between values comes from Schwartz (1996). Specifically, Schwartz have argued that aiming to determine a behavior through prioritization of specific value types (i.e., single-value approach) may be inefficient. Rather, researchers should focus on the conflict between the value types (i.e., value orientations) as trade-offs among competing values may play a significant role for the emergence of that behavior.

In his study, Schwartz (1996) have reported a study that measured the value priorities of university students through a decision-making process (Natan, 1993). In the study, each individual is paired with one another, and a matrix had been shown to them. The matrix consisted of various options, which are based on taking and giving off money to the paired participant. Each option in the matrix have represented a “cooperation”, “non-cooperation” choice. The cooperation option is represented by the decision to take almost the same money as the paired participant. While on the other hand non-cooperation choice is represented by the decision to take considerably higher money than the paired participant. Schwartz (1996) have hypothesized that the trade-off between power and benevolence values will determine the cooperative decision making. Indeed, the results showed that individuals who have scored high on Universalism and scored low in Power were the most prevalent group to decide the cooperative action. On the other hand, individuals who have prioritized Power over Universalism have shown the lowest proportion to take cooperative decision. This specific study is important in terms of presenting how Self-Transcendence and Self-Enhancement values may engage in trade-offs in the determination of specific behaviors such as cooperation behavior.

The second of these higher-order dimension that presents a similar opposition, is *Conservation vs. Openness-to-Change*. The Conservation dimension involves *Tradition*, *Conformity* and *Security* values, which are important for the maintenance of societal harmony and efficiency. It is important to note that statistical analysis of Schwartz (1992) has led them to consider Tradition and Conformity as similar in terms of their motivational goals. However, Tradition value prioritizes the societal or religious rituals that are passed down from older generations whereas Conformity values refer more to the compliance to general rules and norms that function for coordinated interactions among people. Lastly, Security value refers to the prioritization of the physical well-being of self, close others and the stability of society in general. The opposite value cluster, Openness-to-Change motivates individuals to seek and acquire their own intellectual and emotional characteristics (Schwartz, 1992). As also being a part of Self-Enhancement, Hedonism value is derived from sensual gratification and motivates individuals to pleasure themselves by various means. As a result, the value of Hedonism motivates individuals to act

according to their own self-interest, in addition their gratification for stimulus arousal. Therefore, the value of Hedonism is associated with both Self-Enhancement and Openness-to-Change dimensions. Another value type, Stimulation, focus more on the arousal and seek for excitement or novelty. The final value of this dimension is Self-Direction, which is the value that drives individuals' actions for their intellectual development and search for independence. The freedom-oriented and novelty seeking motivational goals of Openness-to-Change values may threaten people who prioritize Conservation values. Therefore, Schwartz (1992) have argued that the value trade-off between these two clusters may determine the emergence of some behaviors.

An example study that Schwartz (1996) have reported exclusively focuses on the value trade-offs that take place for the voting behavior. Specifically, the study has investigated the the relationship between values and voting preferences for liberal political parties. Parties that differed in their liberal ideologies have been presented to participants, and participants' value priorities were measured. Schwartz (1996) have hypothesized that voters who prioritize Tradition over Self-Direction will prefer to vote for conservative parties, whereas individuals who prioritize Self-Direction over Tradition will prefer to vote for liberal parties. The results have revealed that individuals who prioritize Tradition have indeed voted for the non-liberalistic party whereas individuals who prioritize Self-Direction have preferred to vote for the liberalistic party. These results are important in terms of providing evidence for the value trade-off between Openness-to-Change and Conservatism, especially for certain behaviors.

A final study that Schwartz (1996) have reported have provided empirical evidence regarding the value trade-off between Conservation and Self-Transcendence (Sagiv & Schwartz, 1995). Specifically, Sagiv and Schwartz (1995) have measured the Israeli and Arab individuals' readiness to contact with the outgroup members of the society. Arabs are a minority group in Israel who may be perceived as threatening among individuals who prioritize Conservation values. Thus, they hypothesized that prioritizing Tradition will negatively associate with being ready for out-group contact while on the other hand prioritizing Self-Direction will be positively associated with being ready for out-group contact. In line with the

usual circular placement of values, they have expected a value trade-off between Conservation and Openness-to-Change values, which are stationed against each other (see Fig 1). Their results have revealed the expected relationships. However, they found that Universalism value type is more strongly associated with being ready for out-group contact ($r = .40$) than Self-Direction ($r = .32$) and Tradition was negatively associated ($r = -.41$) with readiness to contact with the out group). In addition to these correlations, they have also found that individuals who were high on Universalism but low on Tradition have scored higher on readiness to contact with the out-group members, compared to individuals who were high on Tradition but low on Universalism. These results are important in terms of demonstrating that value trade-offs could occur among different value types depending on the behavior that is studied.

To summarize, the SVT have set an important ground the research that investigates the motivational aspects of behaviors and attitudes. Value types as representation of specific motivational goals or end-states, and their confrontation for the emergence of specific behaviors are important for gaining insights regarding the motivational factors behind certain type of behaviors. After the initial proposal of the theory, Schwartz et al. (2012) have refined his theory and splitted some of the value types into subfacets while adding two new value types to the construct. In addition, he has also identified different higher-order dimensions that clustered the value types further.

After two decades of Schwartz's (1992) proposal of Basic Individual Values had passed, he has refined his theory with the data of ten countries. In his research, Schwartz et al., (2012) have identified and partitioned some value types into finer subtypes and proposed two separate value types (*Humility* and *Face*) to serve better prediction of outcome variables. The Face value type refers to the motivation of securing one's public appearance and avoiding shame, and Humility value type is defined as the recognition of the individual's minority in comparison with the grand scheme of things. Within the refined theory, Schwartz et al. (2012) have labeled the Face value between Self-Transcendence and Conservation values, placing just the opposite side of Hedonism value at the circular continuum chart. Similarly, Humility value was placed between Conservation and Self-Transcendence since Humility

could be motivated by both conforming to social expectancies (i.e., Conservation) and concern for others (i.e., Self-Transcendence).

In addition to the latter joined value types, the refined theory also elaborated some of the original 10 value types by dividing them in terms of the specific goal that a particular value type aims. The entirety of the 19 Values and their conceptual definitions are shown in Table 2. For instance, the Self-Direction has been divided into two sub-domains: *Self-Direction-Thought* and *Self-Direction-Action*. Thus, the theory has been refined to be much more specific in terms of the motivational goal of the value type. For this example, prioritizing Self-Direction could either represent a goal of freedom for choosing and living for one's own thoughts and beliefs, or it can refer to the freedom of choosing one's own actions and behaviors. Similarly, Power has been divided into two facets, namely *Power-Dominance* and *Power-Resources*. Like Self-Direction, Power can be represented through either with one's high number of resources (i.e., economic wealth) or with one's symbolic power over others (e.g., a symbolic power of a judge within a court). Another value type, Security, has also been split into *Security-Personal* and *Security-Societal* sub-domains. Security-Personal refers to the motivational goal of preserving one's own physical and psychological well-being. Security-societal, on the other hand is associated with prioritizing the well-being of the commune. Conformity value type has been refined as *Conformity-Rules* and *Conformity-Interpersonal*. Conformity-Rules is simply representing one's obedience towards rules, while on the other hand the value of Conformity-Interpersonal aims at avoiding to offend others by adhering to norms. Lastly among values that divided into two, Benevolence is refined as *Benevolence-Dependability* and *Benevolence-Caring*. Benevolence-Dependability refers to an individuals' level of becoming a trustworthy member of the society and to close others. Benevolence-Caring is simply feeling concern and sympathy for close others. The only refined basic value that was reorganized with three sub-domains is Universalism, which Schwartz et al. (2012) labeled them as "Universalism-Concern", "Universalism-Nature" and "Universalism-Tolerance". Universalism-Concern is the value that prioritizes concepts such as humanism, equality and general well-being of every member in the society. Universalism-Nature is an environment focused value which essentially aims at preserving the

nature from pollution and destruction. The final facet of this broad theory, Universalism-Tolerance represents the motivational goal of being patient and tolerable towards different members of the society that may be perceived as a threat among society.

Schwartz et al. (2012) have not only added and refined values, but also created other higher-order groups that emphasize values' different characteristics. For example, values under the "Self-Enhancement" and "Openness-to-Change" were regarded as values that have *Personal Focus*, whereas Self-Transcendence and Conservation values were regarded as values with *Social Focus*, thus accentuating what the value enhances in essence. Personal Focus values typically center the "self" and the "individual" at the core. Indeed, values such as Stimulation, Self-Direction

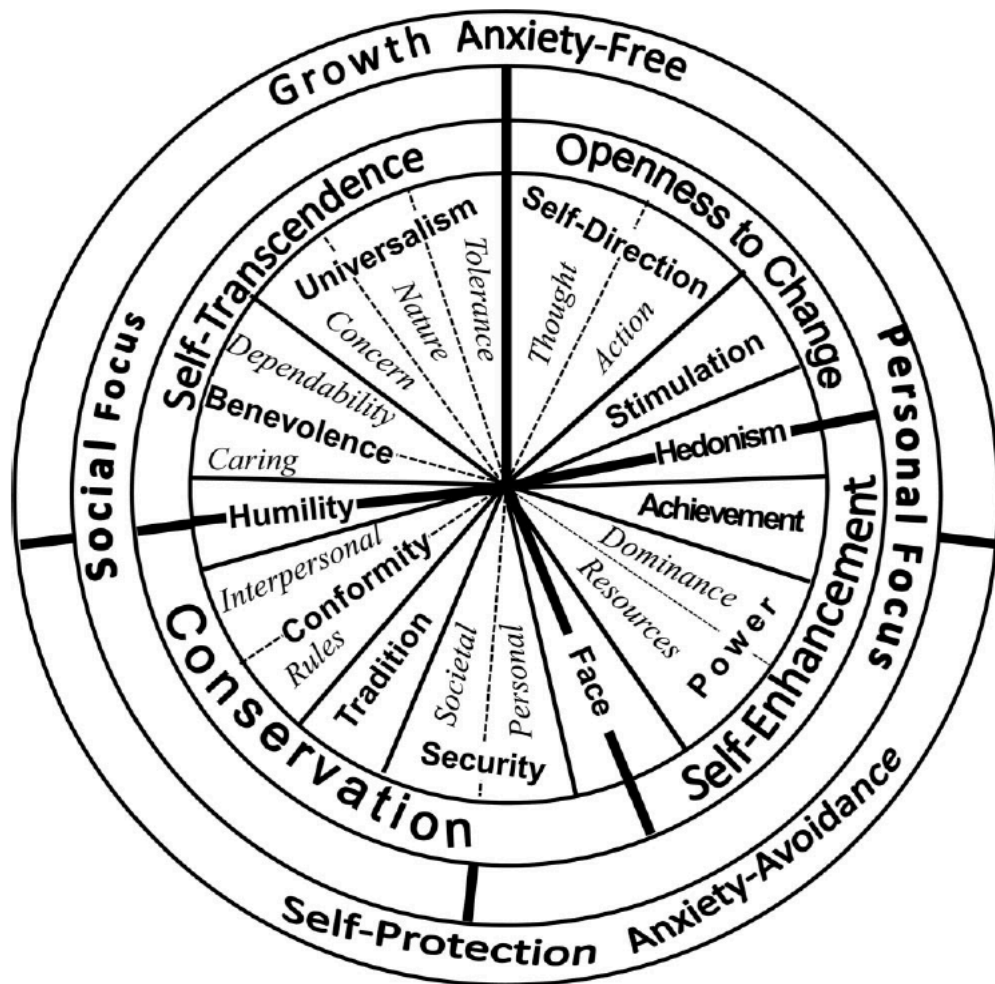


Figure 2. Motivational continuum of Refined Basic Individual Values (Adapted from Schwartz et al., 2012).

and Power prioritizes the actions that promotes self-related desires such as freedom or desire to dominate other individuals. Social Focus, on the other hand, elevates the well-being and the harmony of the other people or society in general. Values such as Tradition, Conformity or Universalism prioritizes “others” rather than the “self”. The addition of Social Focus vs. Personal Focus of the values are important for the interpretations of the relationship between certain behaviors and 19 values in general.

With another perspective, Schwartz et al. (2012) have grouped the value types further, in which they have highlighted the general function of values. First of these groups, *Growth & Anxiety-Free*, encapsulates Self-Transcendence and Openness-to-Change values. These set of values mostly prioritize individuals’ self-expansion and associated with behaviors that does not entail anxiety. Their counterparts, *Self-Protection & Anxiety-Avoidance*, involves Conservation and Self-Enhancement values. These group of values prioritizes Security of the self over expansion, which can include a certain level of threat for the individual. Likewise, these group of values are focused on avoiding the anxiety whereas the anxiety-free group of values do not be concerned with such avoidance. For the complete circular arrangement of the refined value theory, please see Figure 2. The refined theory of basic individual values is probably the most comprehensive theory that conceptualizes the content for abstract beliefs that individuals hold for attaining their desired goals. However, some fields of research may not need such a comprehensive theory to study their particular variables. In addition, some studies within the certain fields which might include traffic psychology have elaborated the concept values not from an individual, but rather from a cultural level (e.g., Gaygısız, 2010). To sum up, Schwartz et al.’s (2012) Refined Theory of Basic Individual Values is adequate to study the motivational aspects of certain behaviors. Schwartz’s Value Theory is a model that has the potential to reveal the Indirect influencers that enable a specific behavior to happen. In this sense, the motivational reasons behind seeking vengeance or resorting to violence may also be enlightened through the 19 value types. The following sections will elaborate how aggressive tendencies in general, driving aggression have been studied with SVT; in addition to identifying potential relationship between values and driving vengeance.

1.3.1.6 Values, Aggression, Driving Aggression and Driving Vengeance

Most of the insights regarding the aggressive tendencies-values relationship comes from adolescent samples (see, Benish-Weisman, 2015, 2019; Benish-Weisman et al., 2017; Cole et al., 2007; Knafo et. al., 2008; Ungvary, McDonald, & Benish-Weisman, 2018). Adolescents have gained specific attention from value researchers, as their tendency to exhibit aggression is a major concern for both educators and researchers (Benish-Weisman, 2019). The studies that have targeted adolescent aggression have recorded that adolescents who attribute more importance to Self-Enhancement values (e.g. Power) were more likely to exhibit aggression (Benish-Weisman, 2015; Benish-Weisman et al., 2017; Knafo et al., 2008). On the contrary, adolescents who prioritize Self-Transcendence values (e.g., Benevolence), which are identified with concern for others, have less tendency to show aggression. The results obtained from adolescents may also be applied to other groups of individuals such as road users. As discussed previously, drivers are prone to aggressive tendencies (see Lupton, 2002; Sharkin, 2004). The tendency to exhibit aggression within the driving setting is a serious threat for the well-being of the other road users. In most of the cases, aggressive tendencies of individuals are a reaction towards a perceived injustice, thus directing individuals to take vengeance from other road users. As a result, identifying the guiding principles that motivates drivers to harm-inflicting behavior for others is vital to understand, and to intervene with this rising phenomenon.

Previous studies focusing on SVT and aggression relationship have provided specific patterns of motivational factors and personality tendencies behind the maladaptive behaviors. For example, it has been consistently revealed in the literature that prioritizing Self-Enhancement values, especially Power, is associated with adolescent aggression (Benish-Weisman, 2019). Likewise, a relationship between Self-Enhancement values and driving aggression could also be expected. It is important to note that the empirical findings regarding this relationship is limited. However, there is enough theoretical basis to expect the relationship between Self-Enhancement values and driving vengeance in general.

On the other hand, the vengeance behavior is discussed to be characterized by establishing control and dominance over others (Stuckless & Goranson 1992). This characterization of vengeance behavior seems to be motivated by prioritization Power-Dominance value type. Although they are conceptually similar to one another, prioritization of Power-Resources is more characterized by establishing control over resources and preserving them. Power-Resources could be associated with driving vengeance, since driving vengeance is a behavior that occurs in response to the driving situations that threatens road user financially (i.e., a near miss caused by the inattentiveness of a driver). Therefore, individuals who prioritize preserving and maintaining their material belongings (i.e., their own private vehicle) could react aggressively in front of a specific situation that may have caused a financial cost. In conclusion, both facets of the Power value (i.e., Power-Dominance, Power-Resources) could be expected to be related to driving vengeance. Lastly, the final Self-Enhancement value type, Achievement represents motivational goals that are related to competence and personal success. Like other Self-Enhancement values, it is a Personal Focus value type that can potentially lead to aggressive tendencies. An empirical support to this notion is the positive association between driving vengeance behavior and Machivalleianism, which is characterized by opportunistic and manipulative attitudes, for the sake of enhancement of the self (Sümer et al., 2019).

Another important variable regarding the relationship between basic individual values and driving vengeance is the narcissistic attitudes. It has been discussed within the literature that narcissists hold a fragile self-esteem, which results them to respond aggressively towards any kind of threat towards their grandiose self-image (Bushman & Baumeister, 1998; Horvath & Morf, 2009). Related to this notion, several studies have found a relationship between narcissism and driving aggression (Sümer et al., 2019; Wickens et al., 2015). This pattern of behavior might be motivated by the Face value of Schwartz et al. (2012). As discussed previously, Face value represents the behaviors that aims at preserving one's own public image. In addition, it also prioritizes avoiding humiliation. Although this study did not investigate the narcissistic attitudes, the Face value may

nevertheless be associated with driving vengeance, especially if an individual feels humiliation over the perceived injustice they have experienced.

The studies that have directly investigated the relationship between SVT and driving aggression is limited. However, a study by Fındık et al., (2020) have tested the relationship between SVT and driving aggression. Hierarchical regression analysis revealed an association between higher-order dimensions of values and aggressive driving. Specifically, Conservation was negatively associated with aggressive warnings in Greek sample whereas Self-Transcendence was negatively associated with hostile aggression and revenge in Russian and Turkish samples. In addition, investigation of another higher-order dimension, Personal Focus vs. Social Focus has revealed a positive association between Personal Focus and driving aggression. On the other hand, Social Focus was negatively associated with driving aggression in the Greek sample. In addition, Social Focus was also negatively associated with driving aggression within the Russian sample. Finally, the Growth Anxiety-Free dimension of SVT has found to be negatively related to driving aggression in both Turkish and Russian samples. These results are vital for presenting a relationship between driving aggression and values in different countries. However, it is also important to take into consideration that Fındık et al. (2020) could not find a correlation between specific values and driving aggression. The authors suggested that further studies should take Schwartz et al.'s (2012) Refined Theory of Values that presents 19 values into consideration, which is one of the aims of this study. To the knowledge of the author, there are not any studies that have investigated driving aggression or driving vengeance with the refined theory of basic individual values. Therefore, the current study will be the first example of a study that have investigated driving vengeance behavior through the scope of refined theory of basic individual values.

The findings from previous research suggest a positive relationship between Self-Enhancement and driving vengeance, and a negative relationship between Conservation and driving vengeance. Therefore, these value types might engage in a value trade-off within the expression of driving vengeance. Specifically, prioritizing Conservation values over Self-Enhancement might inhibit the vengeance behavior that may potentially emerge in certain traffic situations. Although there is not a direct

evidence for this value-prioritization and driving vengeance relationship, Schwartz's (1996) study provide important insights. Specifically, the study that investigate the cooperation behavior have shown that how the prioritization of Power over Benevolence is associated with an increase in noncooperative behavior. Likewise, for the vengeful attitude within the driving setting, Power values and its subdomains may engage in a value trade-off with Conservation values.

The Refined Basic Individual Values are not limited with Self-Transcendence and Self-Enhancement values. However, when investigating a specific behavior through SVT, it is important to consider the specific behavior as well as the context that the behavior took place (Schwartz, 1996). For example, the value types of Self-Transcendence, specifically Benevolence-Dependability and Benevolence-Caring, represents motivational goals that are mainly related to the concerns of welfare of close others. Traffic environment, on the other hand, involves social interactions with stranger others. Therefore, a relationship between sub-domains of Benevolence and driving vengeance should not be expected. Just like Benevolence value, the sub-domains of Universalism are also irrelevant with traffic environment with the exception of Universalism-Tolerance. Universalism-Nature and Universalism-Concern represents the motivational goals to preserving nature and giving importance to concepts related to society in general. Therefore, it is expected that their involvement in the association with driving vengeance is not relevant. However, Universalism-Tolerance might be related to the driving environment as it is represented my motivational goals that accepts different others. Since driving environment consists of individuals who are unrelated to each other, individuals who prioritize the value of Universalism-Tolerance might be less tended to engage in seeking vengeance within the roadway environment.

Likewise, Openness-to-Change values, Self-Direction-Thought and Self-Direction-Action is expected to be not relevant to the vengeance behaviors that took place within the driving environment. In addition, Stimulation and Hedonism and Humility values are other irrelevant guiding principles in terms of motivating individuals to take vengeance in the driving setting (Findık et al., 2020). Hedonism, for example, is related to sensual gratification and pleasure, however, the act of taking vengeance is associated mainly with negative affect (Hennessy & Wiesenthal,

1997, 1999b; Wickens et al., 2015). Lastly despite it is a Conservation value, the sub-domain of Tradition is not expected to be significantly related to vengeance behaviors. The reason is that, Tradition value represents preserving social rituals and applying them in one's life, which are unrelated to aggressive tendencies in the roadway (Schwartz et al., 2012).

1.4 Aim of the Study and Hypothesized Relationships

Based on the explanations being made so far, in the current study, the relationship between basic individual values as and driving vengeance was aimed to be investigated. First of all, the value types that represents dominance and enhancement of the self is expected to positively related to driving vengeance behavior. Therefore, the first hypothesis of the study is that

Hypothesis-1: Face, Achievement, Power-Dominance and Power-Resources, will be positively related to Driving Vengeance Behavior

On the other hand, the aforementioned empirical findings imply a negative association between driving vengeance and Conservation values. Conformity, with its Conformity-Rules and Conformity-Interpersonal sub-domains, is related to obeying to rules and avoiding upsetting others. Driving vengeance is in direct contradiction with what Conformity values represents, as seeking vengeance and resolving to violence is an anti-social behavior on its own. Finally, the Security value and its sub-domains of Security-Personal and Security-societal is expected to be negatively correlated to driving vengeance. As discussed previously, vengeful attitude is a pattern of behavior that is risky for both the perpetrator and the target individual (Stuckless & Goranson, 1992; Wiesensthal et al., 2000). Individuals might be aware of this notion, as media channels frequently presents driving aggression incidents that ends up with severe violence (Brewer, 2010). Thus, individuals who prioritize Security of themselves might avoid engaging in conflict with other road users, let alone seeking vengeance from them. Likewise, people who prioritize the safety and harmony of the society may refrain from taking vengeance, as aggressive tendencies within the roadway environment potentially harms the harmony and operation of the traffic system. Lastly, acceptance and tolerance towards different

others would be an important guiding principle that might refrain road users to take vengeance from others.

In line with the previous research's findings and theoretical basis, the second hypothesis of the study is:

Hypothesis-2: Security-Personal, Security-Societal, Conformity-Rules, Conformity-Interpersonal and Universalism-Tolerance will be negatively related to Driving Vengeance Behavior

Overall, among the 19 values, 9 of them are expected to be related to driving vengeance. Other value types have not been included in the hypothesis, mainly because they represent motivational goals that are either irrelevant with the driving setting, or with the seek of vengeance. Based on the previous explanations regarding the irrelevant value types, the third hypothesis of the study is:

Hypothesis-3: Self-Direction-Thought, Self-Direction-Action, Stimulation, Hedonism, Tradition, Universalism-Concern Universalism-Nature, Benevolence-Caring and Benevolence-Dependability will not be related to Driving Vengeance.

It is important to note that the current study will investigate the relationship between SVT and driving vengeance in reference to the motivational continuum of value types. Therefore, the value types that are expected not to be related to driving vengeance behavior was also included in the current study as a null hypothesis. This notion is essential to understand the relationship between whole value system and driving vengeance behavior, as well with the entire value types.

Investigating the value orientation's relationship with driving vengeance is another aim of this study. As driving vengeance is a behavior that endangers the safety of the perpetrator and the society, the prioritization of Conformity-Rules is expected to decrease the vengeance behavior that occurs in the traffic, as it is associated with obeying rules. On the other hand, showing off aggression and taking vengeance seems to be positively associated mainly with Power-Dominance and other Self-Enhancement values. Therefore, conservation values, specifically Conformity-Rules is expected to engage in a value trade-off with Power-Dominance, which will decrease the driving vengeance behavior among individuals who prioritize one over another. Therefore, the fourth and final hypothesis of the study is:

Hypothesis-4: The driving vengeance behaviors will be observed in lower frequency among individuals who prioritize Conformity-Rules over Power-Dominance and Achievement.

To summarize, the current study is aimed at revealing the potential relationship between vengeance behavior that took place in the driving environment and Schwartz et al.'s (2012) Refined Basic Individual Values. In addition to their relationships, the current study also aims at the value orientations' influence on driving vengeance behavior. It is important to note that this research is the first study investigating driving vengeance behavior or driving aggression in general through the refined theory of basic individual values. These investigations are important in terms of determining the basic values being related to driving vengeance and driving aggression. By this way, the theoretical explanations of the mentioned relationship variables could be clarified, and their harmful consequences such as driving violations or direct assaults would be intervened.

Table 2. 19 Values, Conceptual Definitions in terms of their Corresponding Motivational Goal, Reliability Coefficients in this Study and their Hypothesized Direction of Relationship with Driving Vengeance

Value	Conceptual Definitions in terms of Motivational Goal	Cronbach's α	Hypothesized Relationship
Self-Direction-Thought	Freedom to cultivate one's own ideas and abilities	.59	None
Self-Direction-Action	Freedom to determine one's own actions	.66	None
Stimulation	Excitement, novelty and change	.72	None
Hedonism	Pleasure and sensuous gratification	.71	None
Achievement	Success according to social standards	.56	+
Power-Dominance	Power through exercising control over people	.68	+
Power-Resources	Power through control of material and social resources	.79	+
Face	Security and power through maintaining one's public image and avoiding humiliation	.66	+
Security-Personal	Safety in one's immediate environment	.52	-
Security-Societal	Safety and stability in the wider society	.84	-
Tradition	Maintaining and preserving cultural, family, or religious traditions	.89	None
Conformity-Rules	Compliance with rules, laws, and formal obligations	.83	-
Conformity-Interpersonal	Avoidance of upsetting or harming other people	.72	-
Humility	Recognizing one's insignificance in the larger scheme of things	.45	None
Benevolence-Dependability	Being a reliable and trustworthy member of the ingroup	.75	None
Benevolence-Caring	Devotion to the welfare of ingroup members	.77	None
Universalism-Concern	Commitment to equality, justice, and protection for all people	.70	None
Universalism-Nature	Preservation of the natural environment	.75	None
Universalism-Tolerance	Acceptance and understanding of those who are different from oneself	.75	-

Source: Schwartz et al. (2012)

CHAPTER II

METHOD

2.1 Participants

A total of 573 participants from various cities of Turkey have initiated to fill an online survey that is established within Qualtrics. Among those 573 participants, 291 of them were removed from dataset since they did not see the end of the survey. Lastly, 56 participants who were not active drivers were removed. In conclusion, a total of 226 participants were included within the dataset. Among those 226 participants, 98 (43.4%) of them were male and 128 (56.6%) of them were female. Age of the participants ranged from 19 to 66 with a mean of 32.77 and a standard deviation of 12.85.

2.1.1 Descriptive Statistics of the Participants

The descriptive statistics of demographic variables, including number of participants, means, standard deviations, standard errors, range and minimum & maximum values were indicated in Table 3. Among those who reported their age, 43,1% of the participants were young drivers (i.e., drivers who are not older than 25).

Participants' mean for possessing driving license in years is 12.20 ($SD = 10.97$). 7 participants did not indicate how long they have been in possession of a driver license. The mean of kilometers covered through participants' whole life was varied from was 87,866 ($SD = 127,867$). Thirty-five participants did not report their covered kilometers. Participants' mean kilometers covered within last year was 8,133 ($SD = 10,857$). Thirty-three participants did not indicate any information regarding kilometers covered in last year.

Among participants who reported their accidents, 42.8% percent reported to be involved in 1 to 3 accidents within previous three years ($M = 0.93$, $SD = 1.7$) and 51.8% of the participants have reported that they did not involve in any active accident in last three years. Only a small proportion of participants (3.3%) reported to involve in more than 3 active accidents. Half of the participants have reported that they did not involve in a kind of accident where another road user has crashed to their vehicle ($M = .69$, $SD = .95$) Majority of the participants have reported that they did not receive a parking ticket (76.2%). Likewise, 63.6% of the participants have reported that they did not received any speeding tickets in last three years. Lastly, 20.8% of the participants have reported having received other kinds of tickets.

2.2 Procedure

Ethical consent for the study was granted from Middle East Technical University's Human Subjects Ethics Committee and TED University's Human Subjects Ethics Committee. An online survey formed via Qualtrics, and data distributed using snowball technique, through various network platforms. These distribution platforms include Social Media (Instagram, Facebook etc.) and WhatsApp in addition to e-mail. Participants were presented with a voluntary participation form at the start of the survey. The form briefed them about the aim of the study and how the data will be used for scientific purposes, in addition to assuring participants' confidentiality. Finally, participants were informed that they can quit the survey anytime they want. At the end of the survey, participants were shown a post-participation briefing form which described the true nature of the study with a brief literature review and they were asked not to reveal the details of the study to others.

The only requierement to participate in the study was to possess a driver license, in addition to being an active driver. Other than these restrictions such as age, gender, educational status were not included in the study. After the aimed number of participants were reached, raw data is collected, sorted and organized for the convenience of the statistical analysis.

2.3 Materials

The materials used for this study is based on self-report. Specifically, participants were introduced with a set of demographic questions, Revised Portrait Values Questionnaire (PVQ-RR) and Driving Vengeance Questionnaire (DVQ)

At the start of the survey, participants were asked standard demographic questions such as age, gender and whether they possess a driving license or not. Note that participants who answered “No” to the driving license question were directed to the end of the survey, therefore participants who do not possess a driving license could not answer other measures in the study.

Other than standard demographics, participants were also asked to report traffic related demographic information. These questions include how much time do the participant possess the driving license (in year), how many kilometers did the participants approximately have last year, how many kilometers did the participants approximately have in his/her own life, how many passive accidents (the type of accident in which another pedestrian or vehicle have crashed to the participants' vehicle) did the participant made within last three years, how many active (the type of accident in which participant have crashed to another vehicle or pedestrian) accidents did the participants made within last three years and finally, how many tickets (parking and speed exceedance) did the participants received within last three years. These questions were asked to measure the participants experience, accident involvement and traffic violation tendencies.

Table 3. Descriptive Statistics of Demographic Variables

Variables	N	Range	Minimum	Maximum	Mean	Std. Deviation
Age	188	46	19	65	32.77	12.85
Driving License (Year)	219	46	1	47	12.20	10.97
Kilometers Driven (Last Year)	193	100,000	0	100,000	8,134	10,858
Kilometers Driven (Whole Life)	191	799,900	100	800,000	87,867	127,867
Active Accidents	218	21	0	21	.93	1.78
Passive Accidents	218	5	0	5	.69	.95
Parking Tickets	197	4	0	4	.34	.71
Speeding Tickets	204	20	0	20	.72	1.68

2.3.1 Revised Portrait Values Questionnaire (PVQ-RR)

Originally developed by Schwartz et al. (2012) including Turkish samples, value priorities were measured with the Turkish version of Revised Portrait Values Questionnaire. Each PVQ-RR item is consisted of a sentence that presents a hypothetical person that deems a certain action as important. Participants were asked to rate how much that person resemble themselves via score ranged from 6 (*very much like me*) to 1 (*not like me at all*).

A sample example for these items would be the eighth item of the questionnaire, an item which is designed to measure the Universalism-Nature value type, states that: “It is important for him/her to protect the nature.” Another item, “It is important for him/her to be wealthy” aims to measure the Power-Resources value type. In the current study, Cronbach’s α coefficients for the 19 values were observed as .45 (Humility) and .89 (Tradition). For the reliability coefficients of the entirety of the 19 values, please see Table 2.

2.3.2 Driving Vengeance Questionnaire (DVQ)

This specific measurement tool had been designed to assess the vengeance behavior that drivers tend to show during common driving situations. Originally, Wiesenthal et al.'s (2000) structure for this questionnaire presents 15 common traffic scenarios that has the potential to provoke anger and vengeance behavior. In this questionnaire, participants were asked to indicate the possible behavior that they would most likely show. For example: “A slowly moving vehicle is occupying the left lane on an expressway, slowing traffic. You would: (a) Tailgate the vehicle until it moves, (b) Give the driver an obscene gesture, (c) honk your horn, (d) do nothing, I other (please specify).”

To properly utilize this questionnaire, original DVQ was translated into Turkish and 6 new scenarios were added. These scenarios were carefully selected so that they would be driving scenarios that Turkish drivers typically experience. For example, one of the added scenarios was: “A fast moving vehicle is trying to overtake you from right lane. You would: (a) Block the vehicle so it can’t get in, (b)

Give the driver an obscene gesture, (c) honk your horn (d) do nothing, I other (please specify).”

In order to assess the vengeance behavior of participants, answers were coded from 4 (i.e., most vengeful option/response) to 1 (i.e., least vengeful option/response). Participants who have chosen the “other” choice and specify an alternative response was coded from 1 to 4, according to their resemblance of the existing answer options (i.e., from “a” to “d”). To secure the reliability of this scoring procedure, all alternative answers were coded independently by two separate coders from the traffic and transportation psychology field (Wickens et al., 2015). These coders have reached an agreement upon 503 out of 608 responses, thus generated a Cohen’s $\kappa = .70$ and representing good interrater reliability. Reliability measures of DVQ in other studies have demonstrated a Cronbach’s α ranging from .75 to .84, which represents a high internal consistency (Hennessy, 2008, 2013; Hennessy & Wiesenthal, 2001, 2002a, 2002b, 2004; Wiesenthal et al., 2000). On the other hand, Turkish Version of DVQ have demonstrated a Cronbach’s α of .78, which is essentially a reliable score.

CHAPTER III

RESULTS

3.1 General Information on Organization and Analysis of Data

Statistical analyses were conducted in the SPSS v.26 program. In order to test the Hypothesis-1, Hypothesis-2 and Hypothesis-3, the related variables were put into Pearson's zero-order correlations. Before the execution of the analysis, the data of the portrait values were organized and transformed according to the Schwartz's coding instructions manual (Schwartz, 2016). Specifically, the means for the participants' score over the entirety 57 items have been computed. After the mean was subtracted from the scores for each of the items, centering of the items was completed. The Pearson's zero-order correlations were computed with the centered scores, in order to test the Hypothesis-1, Hypothesis-2 and Hypothesis-3.

In the next step, stepwise regression with forward selection of value types was run so that which values would remain as significant associates of driving vengeance would be revealed, while the shared variances among the value types are controlled. The specified value types that are expected to be related to driving vengeance in Hypothesis-1 and Hypothesis-2 were entered into the regression analysis as Independent Variables (IV) with the forward selection method. In line with Hypothesis-1 and Hypothesis-2, Achievement, Power-Dominance, Power-Resources and Face is expected to be positively related; Security-Personal, Security-Societal, Conformity-Rules and Conformity-Interpersonal and Universalism-Tolerance is expected to be negatively related to driving vengeance. Finally, two One-Way AVOVA's were conducted to understand the differences on driving vengeance between the groups that scored low or high on value types that are revealed to related to driving vengeance. By this way, Hypothesis-4, which expects lower driving

vengeance frequencies among individuals who prioritize Conformity-Rules over Power-Dominance and Achievement, was tested. The participants were grouped according to their high or low scores on the Conformity-Rules, Power-Dominance and Achievement value types. The high and low groups were determined according to participants' median score for the specified value types. If a participant's score is less than the median, then that participant has been labeled as "low", and if a participant's score were equal to or higher than the median, that participant was labeled as "high" on that value type. Conformity-Rules is expected to engage in a value trade-off with Power-Dominance and Achievement. Therefore, two one-way ANOVAs that investigate the difference between mean driving vengeance scores for the high and low groups of Conformity-Rules – Power-Dominance and Conformity-Rules – Achievement were performed.

Additionally, Hennessy and Wiesenthal, (2002b) has revealed an interaction of mild driver aggression x vengeance when predicting driver violence, exclusively for male drivers. This might suggest a different pattern for males and females to exhibit aggressive tendencies behind the wheel. Therefore, auxiliary analyses were conducted in order to determine whether males and females differ in their mean driving vengeance scores according to their value orientations.

3.2 Bivariate Correlation Analysis

In order to investigate the relationship between value types, driving vengeance and demographic variables, Pearson zero-order correlations have investigated. Table 4 presents the correlations between driving vengeance and 19 value types. Table 6 presents the bivariate correlations of driving vengeance and demographic variables. The bivariate correlations between entireties of the 19 values and total driving vengeance scores of the participants were presented at Table 5.

3.2.1 Correlations of the Main Variables of the Study

In order to identify the relationships between demographics and driving vengeance, Pearson zero-order correlation analysis was conducted. None of the demographic variables have revealed a significant relationship with driving vengeance. The results for the driving vengeance and 19 value types' associations revealed important insights regarding the research question of whether certain value types associate with vengeance behavior in traffic settings. Firstly, the bivariate correlation analysis has revealed that driving vengeance is positively associated with the value types of Achievement ($r = .16, p = .02$), Power-Dominance ($r = .16, p = .02$), Power-Resources ($r = .16, p = .02$) and Face ($r = .13, p = .05$). In addition to supporting Hypothesis-1, these results suggest that as scores of Self-Enhancement values increase, driving vengeance scores increase as well.

On the other hand, certain value types have revealed a negative correlation with driving vengeance. Namely, Security-Personal ($r = -.17, p = .01$) Security-societal ($r = -.16, p = .01$) and Conformity-Rules ($r = -.18, p = .008$) were negatively correlated to driving vengeance. In addition to partially supporting Hypothesis-2, these results suggest that as the scores for the most of the Conservation value types and Universalism-Tolerance decrease, driving vengeance face an increase.

The bivariate correlation analysis did not reveal any significant correlation with the value types of Benevolence-Dependability, Benevolence-Caring, Universalism-Concern, Universalism-Nature, Self-Direction-thought, Self-Direction-Action, Hedonism, Tradition, Conformity-Interpersonal and Humility. These results partially support the Hypothesis-3, which did not anticipate any relationship between driving vengeance and aforementioned value types. The only exception is Conformity-Interpersonal, which was expected to correlate negatively with driving vengeance.

Table 4. Correlations between Driving Vengeance and Refined Value Types

Value Type	Driving Vengeance
Self-Direction-Thought	.02
Stimulation	.07
Hedonism	.11
Achievement	.16*
Power-Dominance	.16*
Power-Resources	.16*
Face	.13*
Security-Personal	-.17*
Security-Societal	-.16*
Tradition	-.02
Conformity-Rules	-.18**
Conformity-Interpersonal	.12
Humility	.03
Benevolence-Caring	.01
Benevolence-Dependability	.08
Universalism-Concern	.02
Universalism-Nature	.06
Universalism-Tolerance	-.14*

* $p < .05$, ** $p < .01$

Table 5. Bivariate Correlations of Driving Vengeance, and 19 Value Types

Variables	1	2	3	4	5	6	7	8	9	10
1. Driving Vengeance	1									
2. Self-Direction-Thought	-.02	1								
3. Self-Direction-Action	.01	.55**	1							
4. Stimulation	.07	.12	.08	1						
5. Hedonism	.11	.18**	.17*	.36**	1					
6. Achievement	.16*	.13	.07	.05	.16*	1				
7. Power-Dominance	.16*	-.20**	-.14*	.15*	.08	.14*	1			
8. Power-Resources	.16*	-.02	-.07	.07	.21**	.30**	.46**	1		
9. Face	.13*	-.21**	-.18**	-.09	-.11	.07	.21**	.15*	1	
10. Security-Personal	-.17*	-.02	-.10	-.34**	-.24**	-.03	-.01	-.01	.09	1
11. Security-Societal	-.16*	-.14*	-.08	-.16*	-.28**	-.18**	-.15*	-.09	.03	.01
12. Tradition	-.02	-.44**	-.46**	-.26**	-.42**	-.23**	.03	-.13	.05	.03
13. Conformity-Rules	-.18**	-.30**	-.32**	-.40**	-.36**	-.18**	-.14*	-.17*	-.07	.26**
14. Conformity-Interpersonal	-.12	-.19**	-.20**	-.27**	-.25**	-.28**	-.25**	-.32**	.08	.15*
15. Humility	-.03	-.11	-.01	-.22**	-.22**	-.29*	-.30**	-.41**	-.09	0
16. Benevolence-Caring	.06	-.04	.05	-.03	.01	-.09	-.19**	-.26**	-.16*	-.22**
17. Benevolence-Dependability	.02	.11	.05	-.05	.12	.06	-.10	-.12	-.04	-.16*
18. Universalism-Concern	-.08	.11	.12	-.10	-.15	-.23**	-.32**	-.43**	-.19**	-.04
19. Universalism-Nature	-.01	.07	.16*	.01	-.01	-.16*	-.39**	-.34**	-.28**	-.10
20. Universalism-Tolerance	-.14*	.21**	.13	.05	.02	-.03	-.37**	-.28**	-.40**	-.17*

Note. $P < .05^*$, $p < .01^{**}$.

Table 5. (Continued)

Variables	11	12	13	14	15	16	17	18	19	20
11. Security-Societal	1									
12. Tradition	.14*	1								
13. Conformity-Rules	.16*	.27**	1							
14. Conformity-Interpersonal	-.03	.08	.29**	1						
15. Humility	-.05	.11	.17**	.24**	1					
16. Benevolence-Caring	-.11	.03	-.15*	0	.02	1				
17. Benevolence-Dependability	-.24**	-.14*	-.29**	-.11	.04	.38**	1			
18. Universalism-Concern	.12	-.14*	-.07	0	.14*	-.01	-.06	1		
19. Universalism-Nature	-.07	-.16*	-.13*	0	-.06	.15*	.09	.35**	1	
20. Universalism-Tolerance	-.10	-.17*	-.09	.06	.21**	.01	.12	.27**	.06	1

Note. $p < .05^*$, $p < .01^{**}$.

Table 6. Bivariate Correlations of Driving Vengeance and Demographic Variables

Variables	1	2	3	4	5	6	7	8	9	10
1. Driving Vengeance	-									
2. Age	-.03	-								
3. Gender	.07	.06	-							
4. Driver Licence (Year)	.02	.96**	.10	-						
5. Km Covered (Last Year)	.09	.03	.15*	.10	-					
6. Km Covered (Whole Life)	.05	.53**	.29**	.61**	.45**	-				
7. Active Accidents	.12	-.01	.05	-.03	.03	-.14*	-			
8. Passive Accidents	.11	-.13	.04	-.10	.05	0	.17*	-		
9. Parking Tickets	.03	.29**	.08	.26**	0	.10	.11	.11	-	
10. Speed Tickets	.10	.02	.17*	.02	.14	.12	.13	.15*	.02	-

Note. $P < .05$ * $p < .01$ **

3.3 Stepwise Regression Analysis

The Hypothesis-1 and Hypothesis-2 stated that certain value types, namely Achievement, Power-Dominance, Power-Resources and Face positively; Security-Personal, Security-Societal, Conformity-Rules and Conformity-Interpersonal is negatively related to driving vengeance. In order to determine which value types are related to driving vengeance, a stepwise regression analysis, using forward selection method was conducted. The specified value types were identified as independent variables (IV) and driving vengeance was identified as the dependent variable (DV). In order to reveal the most relevant values with driving vengeance; Achievement, Power-Dominance, Power-Resources Face, Security-Personal, Security-Societal, Conformity-Rules, Conformity-Interpersonal and Universalism-Tolerance value types were entered using the forward selection method. The results revealed a model with three steps (see Table 7.) Within the first step, Achievement have contributed significantly to the model by accounting for 4% of the variation in driving vengeance, $F(1, 223) = 8.098, p = .005, R^2 = .04$. Within the second step, Conformity-Rules have explained an additional 2% variance $F_{change}(1, 222) = 4.75, p = .03, R^2 = .06, R^2_{change} = .02$. Finally, Power-Dominance have explained an additional 2% variance within the third step $F_{change}(1, 221) = 4.43, p = .03, R^2 = .07, R^2_{change} = .02$. Together the three value types have explained a total variance of 7%. The value type of Achievement was positively ($\beta = .19, p = .005, 95\% \text{ CI } [.63, 3.44]$); Conformity-Rules was negatively related to driving vengeance ($\beta = -.14, p = .03, 95\% \text{ CI } [-2.02, -.10]$). Finally, the value type of Power-Dominance was positively related to driving vengeance ($\beta = .14, p = .04, 95\% \text{ CI } [.06, 2.07]$). Overall, these results are in partial support of the Hypothesis-1 and Hypothesis-2, since Achievement and Power dominance is the only value types to be positively related and Conformity-Rules is the only value type to be negatively related to driving vengeance.

Table 7. Stepwise Regression of the Eight Value Types on the Driving Vengeance

Variable	β	p	R^2	ΔR^2
Step 1		.005	.04	.04
ACH	.19	.005		
Step 2		.03	.06	.02
ACH	.19	.002		
COR	-.14	.03		
Step 3		.04	.07	.02
ACH	.19	.02		
COR	-.14	.02		
POD	.20	.03		

Note: $N = 226$; ACH = Achievement, COR = Conformity-Rules, POD = Power-Dominance. Dependent Variable = Driving Vengeance

3.4 One-Way ANOVA

The Hypothesis-4 expected that individuals who prioritize Conformity-Rules over Power-Dominance and Achievement will report less driving vengeance. In order to test this hypothesis, two one-way ANOVAs were conducted between low and high conditions of specified values. In addition, contrast analyses were conducted in order to further investigate whether high and low conditions of the specified values differed in their mean driving vengeance scores. However, the results did not reveal significant differences within the entire sample. In order to determine the gender's role in these results, auxiliary analyses were conducted. Specifically, the contrast analyses were repeated for male and female participants separately.

3.4.1 Conformity-Rules vs. Power-Dominance

The first one-way ANOVA was conducted in order to compare the mean driving vengeance scores of groups who differ in their level of Conformity-Rules and Power-Dominance value types. The test of equal homogeneity of variances were not significant, thus confirming the assumption. The results did not reveal a significant difference between mean driving vengeance scores among different levels

of Conformity-Rules and Power-Dominance. In order to investigate the mean driving vengeance difference between High Conformity-Rules – Low Power Dominance group and Low Conformity-Rules – High Power-Dominance group, a contrast analysis was also conducted. However, the contrast analysis also did not reveal a significant difference between these two groups.

In order to investigate whether driving vengeance scores differed among males and females for their value orientations of Conformity-Rules and Power-Dominance, the results of the one-way ANOVAs were obtained for males and females separately. The results revealed that difference between mean driving vengeance scores were not significant for the different levels of Conformity-Rules vs. Power-Dominance of females. A further contrast analysis has revealed that for females, mean driving vengeance scores did not differ significantly among High Conformity-Rules – Low Power-Dominance group and Low Conformity-Rules – High Power-Dominance group. On the other hand, mean driving vengeance scores did not differ significantly for different levels of Conformity-Rules vs. Power-Dominance of males either. However, a contrast analysis revealed that mean driving vengeance scores differ significantly among High Conformity-Rules – Low Power-Dominance group and Low Conformity-Rules – High Power-Dominance group ($t = 2.50, p = .01$). The mean driving vengeance scores of high and low Conformity-Rules – Power-Dominance groups of males were presented in Table 8. Lastly, the effect size of prioritization of Conformity-Rules over Power-Dominance on driving vengeance for males have revealed a Cohen's d of .72. However, the effect of prioritizing Conformity-Rules over Power-Dominance have revealed a Cohen's d of .20 for females. These results indicate that males who scored low on Conformity-Rules and high on Power-Dominance have reported greater driving vengeance than males who score high on Conformity-Rules and low on Power-Dominance. However, the same pattern of results was not revealed for females.

Table 8. Mean Driving Vengeance Scores for the High vs. Low Conditions of Conformity-Rules and Power-Dominance for Males

CONFORMITY-RULES		
	Low	High
POWER-DOMINANCE	Low	38.80 (N = 22)
	High	38.85 (N = 20)

3.4.2 Conformity-Rules vs. Achievement

A second one-way ANOVA was conducted in order to compare the mean driving vengeance scores of groups who differ in their level of Conformity-Rules and Achievement value types. The test of equal homogeneity of variances were significant, thus violating the assumption. The results have revealed a significant difference between mean driving vengeance scores among different levels of Conformity-Rules and Power-Dominance [$F(3, 222) = 2.58$, $p = .05$]. On the other hand, a contrast analysis revealed that mean driving vengeance scores differ significantly among High Conformity-Rules – Low Achievement group and Low Conformity-Rules – High Achievement group ($t = 2.23$, $p = .04$). These results indicate that individuals who scored low on Conformity-Rules and high on Achievement have reported greater driving vengeance than individuals who score high on Conformity-Rules and low on Achievement.

In order to investigate whether driving vengeance scores differed among males and females for their value orientations of Conformity-Rules and Achievement, the results of the one-way ANOVAs were obtained for males and females separately. The results revealed that difference between mean driving vengeance scores were not significant for the different levels of Conformity-Rules

vs. Achievement of females. A further contrast analysis has revealed that for females, mean driving vengeance scores did not differ significantly among High Conformity-Rules – Low Achievement group and Low Conformity-Rules – High Achievement group. However, the mean driving vengeance scores differed significantly for different levels of Conformity-Rules vs. Achievement of males [$F(3, 94) = 3.59, p = .02$]. A further contrast analysis revealed that for males, mean driving vengeance scores differ significantly among High Conformity-Rules – Low Achievement group and Low Conformity-Rules – High Achievement group ($t = 2.99, p = .004$). The mean driving vengeance scores of high and low Conformity-Rules – Achievement groups of males were presented in Table 9. Lastly, the effect size of prioritization of Conformity-Rules over Achievement on driving vengeance for males have revealed a Cohen's d of .76. However, the effect of prioritizing Conformity-Rules over Achievement have revealed a Cohen's d of .02 for females. These results indicate that males who scored low on Conformity-Rules and high on Achievement have reported greater driving vengeance than males who score high on Conformity-Rules and low on Achievement. However, the same pattern of results was not revealed for females.

Overall, the results of the two one-way ANOVAs supported Hypothesis-4 partially. The mean driving vengeance scores did not differ according to prioritization of Conformity-Rules over Power-Dominance and Achievement for the entire sample. However, the mean driving vengeance scores were differed significantly among males who prioritize Conformity-Rules over Power-Dominance and Achievement, which emerges as an important finding in addition to partially supporting the Hypothesis-4.

Table 9. Mean Driving Vengeance Scores for the High vs. Low Conditions of Conformity-Rules and Achievement for Males

		CONFORMITY-RULES	
ACHIEVEMENT		Low	High
	Low	39.96 (N = 26)	38.33 (N = 27)
	High	45.77 (N = 26)	39.05 (N = 19)

CHAPTER IV

DISCUSSION

4.1 General Discussion

The aim of the current study was to investigate the relationship between vengeful driver behaviors and basic individual values as explained by Schwartz theory (SVT, 1992). The previous research on driving aggression and driving vengeance have focused on the indirect influencers of driving aggression and vengeance like traffic congestion (e.g., Hennessy & Wiesenthal, 1997); as well as direct influencers such as emotions (e.g., Demir et al., 2016) and individual differences and personality variables (e.g., Sümer et al., 2019). To the knowledge of the author, the only study that investigated the relationship between SVT and driving aggression was Findik et al., (2020), while there is no study that have investigated the relationship between values and driving vengeance behavior. In addition, investigating driving vengeance and values' relationship specifically through the Refined Theory of Basic Values (Schwartz et. Al., 2012) is another original contribution of the current study. As a consequence, filling the value – driving vengeance relationship gap is aimed in the current study in the literature. By studying driving vengeance with SVT's value types. Therefore, filling the gap through studying a specific type of driving aggression, that is, driving vengeance, with the Refined Theory of Baic Values is the main contribution of the current study to the traffic psychology literature.

It is important to point out that driving vengeance behavior in this study has been regarded as a specific form of driving aggression. More clearly, driving vengeance has been referred as a concept that emphasizes the motivation and the goal behind expressing driving aggression, which is perceived injustice. Driving

aggression on the other hand, is a general concept that focus on the behavioral response of the driver who wishes to harm the other road users. Therefore, this study has investigated the relationship between the SVT and a specific form of driving aggression, which is driving vengeance.

Specifically, the current study questioned the potential relationship between driving vengeance and refined value types by conducting a set of correlation analyses, hierarchical regression analysis and one-way ANOVAs, which have supported the notion that specific value types are in association with driving vengeance. The following sections will discuss the findings of these analyses as well as the potential implications. Lastly, some critical remarks concerning the study, and future directions and implications are discussed.

4.2 Interpretation of the Findings

4.2.1 Associations Between Values and Driving Vengeance

The Bivariate Correlation Analyses were conducted in order to investigate the relationship between demographic variables' and specific value types' relationship with driving vengeance. Overall, the results have yielded support for Hypothesis-1 and Hypothesis-3, and partial support for the Hypothesis-2.

The Hypothesis-1 expected positive associations between Achievement, Power-Dominance, Power-Resources and Face value types and driving vengeance. According to these results, aggressive tendencies and vengeance behaviors in driving setting seems to be associated with establishing control over others and enhancing the self. Therefore, prioritizing the act of dominance over other people seems to be reflected into the driving setting through driving vengeance behavior. The revealed relationship between Face and driving vengeance is also noteworthy, as Face is a newly added value type to the refined value theory. This specific correlation suggest that preserving dignity and public image is associated with taking vengeance in the traffic setting, which is a motivational pattern that narcissistic individuals are especially prone to (Britt & Garrity, 2006; Stucke & Sporer, 2002). On the other hand, value types of Achievement and Power-Resources were also revealed positive

correlations, in line with the expectations. These specific value types' relationship with driving-vengeance is intriguing, since these value types represent motivational goals that are not in direct relation with the driving environment. However, the results suggest that as preserving material resources and valuing competence increase, driving vengeance also increases. Overall, the results imply that driving vengeance increase among individuals with a Personal Focus value profile that is motivated mainly by the enhancement of the self. These results are in line with the previous literature that showed positive relationship between Self-Enhancement values and aggressive tendencies in an adolescent sample (Knafo et al., 2008) as well as an adult sample (Seddig & Davidov, 2018). Likewise, Findik et al. (2020) have also find that Self-Enhancement values were in relation with driving aggression. In this sense, these results were in line with the previous literature in terms of the relationship between Self-Enhancement value types and aggressive tendencies. For example, the study of Sümer et al. (2019) have showed a positive relationship between Machivellianist attitude and driving vengeance. In addition, The Machiavellianist attitude is shown to be correlated positively with Achievement and Power values (Kajonius, Persson, & Jonason, 2015). As machivallianism is characterized by opportunist behavior that prioritizes enhancement of the material self, these results further support the findings of previous research through the relationship between basic individual values and driving vengeance.

Hypothesis-2 which expected a negative relationship between Security-Personal, Secutiy-societal, Conformity-Rules, Conformity-Interpersonal and Universalism-tolerance with driving vengeance is partially supported. Specifically, when the value types of Security-Personal, Secutiy-societal, Conformity-Rules and Universalims-tolerance have decreased, driving vengeance have increased. These results indicated that giving importance to preservation of own well-being, as well as the preservation of society's well-being inreases when seeking vengeance from other road users. As previously discussed, vengeance behavior endangers the physical and psychological well being of the transgressor, as well as the victim (Stuckless & Goranson, 1992; Wiesenthal et al., 2000). The current results were also in line with

this notion so that giving importance to the security of the self and the others, as well as conforming and obeying to rules is associated with decreased vengeance behavior.

In addition to the two facets of Security, driving vengeance were also increased when Conformity-Rules decreased. This association was also expected considering the aggressive behavior as a result of seeking vengeance, is a direct violation of societal norms and state laws. Especially for the case of severe driving violence, when giving importance to obeying the rules decreases, seeking vengeance within the driving setting increases. Although an increase in driving vengeance is also expected when Conformity-Interpersonal decrease, the results did not reveal such a relationship. Although it is speculative, the sense of anonymity that driving a car brings might prevents individuals to refrain from hurting or disturbing others (Ellison-Potter et al., 2001). The anonymity that a car brings may lead individuals to take aggressive actions against road users in front of an anger-provoking situation. Therefore, the association between Conformity-Interpersonal and driving vengeance would not be revealed, since individuals may not refrain themselves to hurt others, depending on the sense of ananymity.

Another important finding was the decrease of Universalism-Tolerance in front of the increase in driving vengeance. This result suggests that, when giving importance towards the acceptance of different others were decreased, vengeance behaviors in driving setting increased. These negative associations were in line with the expectations, as Self-Transcendence and Conservation values were revealed to be in negative relationship with aggressiveness (Benish-Weisman et al., 2017; Knafo et al., 2008; Seddig & Davidov, 2018), as well as driving aggression (Fındık et al., 2020). However, it is still important to note that Universalism-Tolerance is the only Self-Transcendence value type that is when revealed to be in decrease, driving vengeance increase. This notion is important as the previous research on adolescent aggression have found negative association between aggression and Benevolence as well (Benish-Weisman, 2015). However, the current study did not reveal such association probably due to the conditions of the traffic environment. As discussed previously, driving setting is a joint environment in which people who are stranger to each other must contact and compromise, most of the time for short periods of time,

with the main aim of reach their transportation goals. However, the value types of Benevolence-Concern and Benevolence-Dependability is mainly concerned with the well-being of the others. Therefore, it is not surprising to be unable to observe a relationship between facets of Benevolence and driving vengeance behavior.

Finally, Hypothesis-3 did not expect any relationship between the other 10 value types (Self-Direction-Thought, Self-Direction-Action, Stimulation, Hedonism, Tradition, Humility, Benevolence-Caring, Benevolence-Dependability, Universalism-Tolerance and Universalism-Concern) and driving vengeance was supported. These specific value types are not relevant either with the driving environment or the aggressive tendencies. For example, the Openness-to-Change values are mainly associated with the freedom to cultivate one's own ideas and actions, which is not expected to be related to expressing aggression in the traffic setting. While hedonism is related to sensual gratification, humility is associated with modesty. On the other hand, Self-Transcendence values focus on preserving the well-being of close others or concepts that are related to the general notions of humanity, such as justice or equality. As discussed previously, traffic is a social environment that requires collobaration of individuals who are stranger to each other (Rothe, 1994). Therefore, the value types that does not provide a significant association with driving vengeance provide certain insights regarding the characterization of the traffic environment. In order to adequately understand a specific behavior and the context that specific behavior took place through value types, revealing and interpreting every significant and non-significant relationship possess its own importance.

4.2.2 Value Types that are in Relation with Driving Vengeance

In the current study, a stepwise regression analysis with forward selection method was conducted in order to determine the value types that are related to driving vengeance. Overall, the results revealed additional partial support for the Hypothesis-1 and Hypothesis-2 and showed that Achievement and Power-Dominance is the only value types that are positively related; Conformity-Rules is

the only value type that is negatively related to driving vengeance. According to the mentioned results, increases in prioritizing competence and exhibiting control over others brings increase in individuals' vengeful behavior within the roadway setting. Although the correlation analysis has revealed that, as Power-Resources and Face value types increase, driving vengeance increase as well, this specific result emphasizes how Achievement and Power-Dominance is mainly associated with the driving vengeance behavior. The previous research has consistently reported the Self-Enhancement value types' positive relationship with aggressive tendencies of adolescents (Benish-Weisman et al., 2017; Knafo et al., 2008), adults (Seddig & Davidov, 2018) and drivers (Findik et al., 2020). However, the previous research has not used Refined Basic Individual Values with respect to their research. Thus, the specific sub-domains of value types related to the aggression of certain groups have remained unclear. However, this specific result may provide a certain insight in terms of how prioritizing to establishing dominance on others is related to taking vengeance from other road users.

Previous research have discussed that one of the main motivation for drivers to seek vengeance from other road users is to exhibit control and dominance over others (Stuckless & Goranson, 1992; Wiesenthal et al., 2000). In addition, Seddig and Davidov (2018) have revealed that Power value is partially mediated by attitudes for the emergence of aggressive behavior. Thus, the relationship between Power-Dominance and driving vengeance in this study is in line with the previous findings that suggest aggressive behavior is a behavior that aims at exhibiting dominance over others. On the other hand, the relationship between Achievement and driving vengeance is not emphasized by the previous literature like the Power value type. The current results for the Achievement and driving vengeance relationship may suggest that vengeance behaviors in the driving setting is motivated by individuals' tendency to demonstrate competence. It could be that individuals who prioritize Achievement may perceive certain driving situations as direct challenges to themselves in which they feel the obligation to react aggressively to such challenges. The results of the current stepwise regression analysis suggest that, these two specific value types should be emphasized more than other Self-Enhancement values

like Face and Power-Resources, as they are the main contributors to predict driving vengeance behavior.

Finally, the negative association between Conformity-Rules and driving vengeance provides important insight regarding the structure of seeking vengeance within the driving environment. The previous literature have mainly emphasized a negative relationship between Self-Transcendence values and aggression (Benish-Weisman, 2019; Benish-Weisman et al., 2017) However, this specific result, along with the results of correlation analysis suggest that Conservation values, mainly Conformity-Rules, is associated negatively with driving vengeance behavior. As driving vengeance behavior may consist of behaviors that are in direct conflict with state laws or societal norms, individuals who are tended to prioritize obeying these rules may be less motivated to seek vengeance from other road users.

4.2.3 Driving Vengeance Differences Between Different Groups

Overall, the results of the one-way ANOVA analyses give partial support for the Hypothesis-4 of the study which expects that the prioritization of Conformity-Rules value type over Self Enhancement value types, specifically Achievement and Power-Dominance, will result in less reported driving vengeance behavior. The current results have failed to reveal a significant difference in driving vengeance among prioritization of obeying to rules (Conformity-Rules) over expressing dominance (Power-Dominance). On the other hand, driving vengeance behavior differed among individuals who prioritize conforming to rules (Conformity-Rules) over personal competence (Achievement). However, gender is noted to be an important variable in terms of determining how driving aggression can occur (see, Hennessy & Wiesenthal, 2002a, 2002b). In line with this, further auxiliary analyses have revealed important insights regarding how males and females differ in exhibiting driving vengeance. Specifically, the results suggest that driving vengeance is a value driven phenomenon typical among males, at least for the participants in the sample of the present study.

The previous literature have consistently reported that driving aggression and driving vengeance behavior is more prevalent among males than females (González-Iglesias, Gómez-Fraguela, & Luengo-Martín, 2012; Hennessy & Wiesenthal, 2002a). In addition, it has been discussed in the literature that males were more prone to exhibiting physical expressions of anger than females in the driving setting (Deffenbacher et al., 2002). Males have also reported higher driving violence compared to females (Hennessy & Wiesenthal, 2002a, 2002b). The current results of this study are in line with these findings as these results emphasize the driving vengeance as a male specific behavior. In addition, the current results provide additional insights regarding how males' vengeance behaviors in the driving setting are motivated by exhibiting control over others as well as demonstrating competence. On the other hand, male driver vengeance behavior could be inhibited by obedience towards rules of the state and norms of the society. More specifically, prioritization of conforming and obeying towards rules over the prioritization of exhibiting control over others is a vital factor that may result in a decrease in vengeance behaviors of males.

4.3 Critical Remarks Concerning the Current Study

The study at hand is not without its limitations. First of all, the methodology of the current study is based on the self-report measurement. Collecting data through self-report measures can result in biased answers from the participants, especially considering the current study have aimed to measure a socially undesirable behavior. Specifically, Driving Vengeance Questionnaire may provide unreliable results since the portion of the scale has been coded by two independent coders. In addition to its measurement tools, the current study is cross-sectional in nature, which is not a design that is suitable for inferring causal relationships. Lastly, the current study's sample size is relatively small. A bigger sample size might provide the opportunity to conduct more complex analyses at once and end up with more detailed results.

Another important issue regarding the current study is its monocultural sample. Schwartz (1992) and Schwartz et al. (2012) have argued that values are

guiding beliefs of individuals that are universal and they are applicable for all cultures. His works were a result of different data from various countries, including Turkey (Schwartz et al., 2012). Although universality is an important aspect of SVT, the current study had no chance to validate the relationship between value types and driving vengeance across different cultures. Therefore, the results of the current study represent only a Turkish sample's relationship between specific value types and driving vengeance. Future studies should conduct research with cross-cultural samples, considering the SVT's universal quality.

4.4 Implications of the study and Future Directions

The results of the current study are important since they give significant insights regarding how values as an individual difference variable are related to driving vengeance behavior. The current study also demonstrated the specific value types that are in relation with the driving vengeance, while revealing the other value types that are not engaged in such a relationship. With an unusual hypothesizing style of the third hypothesis, the current study has aimed to consider the vengeance behaviors of the drivers by how they are related to each of the basic individual value types, regardless of their significance in relationship. Therefore, an understanding towards the specific guiding principles behind the occurrence of driving vengeance could be established more clearly. Additionally, one of the most critical findings of the current study is the gender differences in value orientation's influence upon self-reported driving vengeance behavior. The current study gives important insights for future studies to investigate gender differences in value orientation and how value orientation of males and females affect certain behaviors differently. Furthermore, the future studies should take into account the potential value trade-off between Conservation and Self-Enhancement values when investigating the value-driving aggression relationship, as the current study provides empirical evidence regarding these relationships.

Additionally, young male drivers have always been attended by traffic psychology literature (Schuman, Pelz & Ehrlich 1967). Young male drivers often

characterized by impulsive, reckless and risky driving behaviors, and they are often driven by sensation seeking (Jonah, 1997). Thus, this specific group of drivers were at target in terms of their maladaptive driving behaviors. The findings of the current study that refers to the value orientations of males might be an important start-point for the driving vengeance behavior of young male drivers. Future studies should specifically investigate the value orientations of young male drivers, and how these value orientations affect maladaptive driving behaviors such as driving vengeance.

When investigating human factors in driving behavior, driving skills is another key human factor for the emergence of driving related behaviors (Martinussen, Møller & Prato, 2014). The future studies that focus on the relationship between values and driving vengeance behavior or driving aggression should also take driving skills into consideration.

The findings of the current study have emphasized Conformity-Rules as an inhibitory value type for the emergence of driving vengeance behavior. This finding could be applied to campaigns and public service advertisements that emphasize the importance of obeying to the rules and societal norms. Additionally, Öz and Demirutku (2018) have discussed the importance of value transmission to children through parenting styles. It appears that value transmission to children is significant for the internalization of safety-oriented behaviors. According to the results of the current study, the value transmission that emphasizes the prioritization of conforming and obeying to rules over demonstrating competence and exhibiting dominance within the traffic setting would be influential for children to avoid driving vengeance behavior in the future. Finally, parents are discussed to be important role models for children which affect their safety behaviors in the future. Therefore, establishing campaigns that targets parents' attitudes towards safety and conformity behaviors would be influential for children to avoid unsafe behaviors and vengeance behaviors in the future.

4.5 Conclusion

This study is the first study that investigated the vengeance behavior that took place in the driving setting with values as an individual difference. It is also the first study that investigated the Schwartz's Refined Basic Individual Values (2012) within the domain of the vengeance behavior that took place in the driving setting. The current study provides important insights regarding the guiding principles that motivates individuals to take vengeance from other road users. *Overall, it has been evidenced that, driving vengeance seems to be typically a male phenomenon at least partially driven by expression of values which emphasize superiority over others and competence in the traffic context. The driving vengeance enhancing influence of such values might possibly be attenuated by prioritizing adherence to rules, norms and laws over them.* These results may be applied to the other constructs that are in relation with driving vengeance (eg., driving anger expression) which would be an important suggestion for the conceptual replications of the current results.

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APPENDICES

A. ETHICAL PERMISSION

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER



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Konu: Değerlendirme Sonucu

21 Ocak 2020

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi: İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın Bahar ÖZ

Danışmanlığını yaptığınız **Uluğhan ERGİN**'in "**Temel İnsani Değerler ve Sürücü İntikamı: Kendini Ayarlama Becerisinin Yönlendirici Rolü**" başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülmüş ve **017-ODTU-2020** protokol numarası ile onaylanmıştır.

Saygılarımızla bilgilerinize sunarız.

Doç. Dr. Mine MISIRLISOY

Başkan

Prof. Dr. Tolga CAN

Üye

Doç. Dr. Pınar KAYGAN

Üye

Dr. Öğr. Üyesi Ali Emre TURGUT

Üye

Dr. Öğr. Üyesi Şerife SEVİNÇ

Üye

Dr. Öğr. Üyesi Müge GÜNDÜZ

Üye

Dr. Öğr. Üyesi Süreyya Özcan KABASAKAL

Üye

B. INFORMED CONSENT FORM / GÖNÜLLÜ KATILIM FORMU

Bu araştırma, ODTÜ Psikoloji Bölümü Yüksek Lisans öğrencisi Uluğhan Ergin tarafından Doç. Dr. Bahar Öz ve Doktora Öğretim Üyesi Kürşad Demirutku danışmanlığındaki yüksek lisans tezi kapsamında yürütülmektedir. Bu form sizi araştırma koşulları hakkında bilgilendirmek için hazırlanmıştır.

Çalışmanın Amacı Nedir?

Araştırmanın amacı, çeşitli kişisel özelliklerin trafikte bireyler üzerindeki potansiyel etkisini incelemektir.

Bize Nasıl Yardımcı Olmanızı İsteyeceğiz?

Araştırmaya katılmayı kabul ederseniz, sizden toplamda yaklaşık 15 dakika sürecek bir dizi anketi cevaplamanız beklenmektedir. Bu anketlerde size kişisel özellikleriniz ile ilgili bilgileriniz, trafikte karşılaşılabileceğiniz çeşitli durumlarda vereceğiniz tepkileriniz ve bazı demografik bilgileriniz istenecektir.

Sizden Topladığımız Bilgileri Nasıl Kullanacağız?

Araştırmaya katılımınız tamamen gönüllülük temelinde olmalıdır. Çalışmada sizden kimlik veya kurum belirleyici hiçbir bilgi istenmemektedir. Cevaplarınız tamamıyla gizli tutulacak ve sadece araştırmacılar tarafından değerlendirilecektir. Katılımcılardan elde edilecek bilgiler toplu halde değerlendirilecek ve bilimsel yayımlarda kullanılacaktır.

Katılımınızla ilgili bilmeniz gerekenler:

Anketler, genel olarak kişisel rahatsızlık verecek sorular içermemektedir. Ancak, katılım sırasında sorulardan ya da herhangi başka bir nedenden ötürü kendinizi rahatsız hissederseniz anketi yarıda bırakıp sonlandırmakta serbestsiniz. Böyle bir durumda çalışmayı yürüten kişilere mail atarak anketi yarım bıraktığınızı söylemeniz yeterli olacaktır. **Araştırmayla ilgili daha fazla bilgi almak isterseniz:**

Anket sonunda, çalışma hakkında bilgilendirileceksiniz. Bu çalışmaya katıldığınız için şimdiden teşekkür ederiz. Çalışma hakkında daha fazla bilgi almak için Psikoloji Bölümü öğretim üyelerinden Doç. Dr. Bahar Öz (E-posta: ozbahar@metu.edu.tr), TED Üniversitesi öğretim üyelerinden Doktora Öğretim Üyesi Kürşad Demirutku (E-posta: demirutku.kursad@tedu.edu.tr) ya da yüksek

lisans öğrencisi Uluğhan Ergin (E-posta: ulughanergin@gmail.com) ile iletişim kurabilirsiniz.

Yukarıdaki bilgileri okudum ve bu çalışmaya tamamen gönüllü olarak katılıyorum.

(Formu doldurup imzaladıktan sonra uygulayıcıya geri veriniz).

İsim Soyad

Tarih

İmza



C. INFORMATION FORM AFTER PARTICIPATION / KATILIM SONRASI BİLGİLENDİRME FORMU

Bu araştırma, daha önce de belirtildiği gibi, ODTÜ Psikoloji Bölümü Yüksek Lisans öğrencisi, Uluğhan Ergin ve tarafından Doç. Dr. Bahar Öz ve Dr. Öğretim Üyesi Kürşad Demirutku danışmanlığında yürütülmektedir. Araştırmanın amacı, başta temel insani özellikler olmak üzere çeşitli kişisel özelliklerin trafikteki öç alma davranışlarını nasıl etkilediğini anlamaktır.

Narsisizm ile ilgili literatür bulguları, narsisizmi yüksek olan bireylerin çeşitli alanlarda narsisizmi düşük olanlara göre daha agresif davranışlar gösterdiğini ortaya çıkarmıştır. Aynı zamanda trafik ortamında da narsisizm kişilik özelliğinin yüksek olmasının agresif sürücü davranışları üzerindeki etkisi gösteren bulgular mevcuttur. Ancak bu konuyu başka kişilik özellikleriyle ve öç alma davranışıyla beraber inceleyen bir araştırma henüz bulunmamaktadır. Bu araştırma sonucunda bulunacak bulgular, bu ilişkilerin ortaya çıkması için yardımcı olacaktır ve literatüre katkı sağlayacaktır.

Bu çalışmadan alınacak ilk verilerin Aralık 2018 sonunda elde edilmesi amaçlanmaktadır. Elde edilen bilgiler sadece bilimsel araştırma ve yazılarda kullanılacaktır. Çalışmanın sağlıklı ilerleyebilmesi ve bulguların güvenilir olması için çalışmaya katılacağını bildiğiniz diğer kişilerle çalışma ile ilgili detaylı bilgi paylaşımında bulunmamanızı dileriz. Bu araştırmaya katıldığınız için tekrar çok teşekkür ederiz.

Araştırmanın sonuçlarını öğrenmek ya da daha fazla bilgi almak için aşağıdaki isimlere başvurabilirsiniz.

Doç. Dr. Bahar Öz (ozbahar@metu.edu.tr)

Dr. Öğretim Üyesi Kürşad Demirutku (kursad.demirutku@tedu.edu.tr)

Uluğhan Ergin (ulughanergin@gmail.com)

Çalışmaya katkıda bulunan bir gönüllü olarak katılımcı haklarınızla ilgili veya etik ilkelerle ilgi soru veya görüşlerinizi ODTÜ Uygulamalı Etik Araştırma Merkezi'ne iletebilirsiniz.

e-posta: ueam@metu.edu.tr

D. DEMOGRAPHIC INFORMATION FORM

Demografik sorular

A1. Yaşınız: _____ A2. Cinsiyetiniz: ☐ Erkek ☐ Kadın

A2. Kaç yıldır ehliyet sahibisiniz? _____

A3. Son bir yılda yaklaşık olarak toplam kaç kilometre araç kullandınız?
_____ km

A4. Bütün hayatınız boyunca yaklaşık olarak toplam kaç kilometre araç kullandınız?
_____ km

A5. Son üç yılda kaç kez araç kullanırken **aktif olarak** (sizin bir araca, bir yayaya veya herhangi bir nesneye çarptığınız durumlar) kaza yaptınız? (hafif kazalar dâhil) _____ kez

A6. Son üç yılda kaç kez araç kullanırken **pasif olarak** (bir aracın ya da bir yayanın size çarptığı durumlar) kaza geçirdiniz? (hafif kazalar dâhil) _____ kez

A7. Son üç yılda aşağıdaki trafik cezalarını kaç kere aldığınızı belirtiniz.

Yanlış park etme : _____

Hız ihlali : _____

E. SAMPLE REVISED PORTRAIT VALUES QUESTIONNAIRE ITEMS

Burada farklı insanları kısaca tarif etmekteyiz. Lütfen her bir tarifi okuyunuz ve o kişinin size ne kadar benzeyip benzemediği hakkında düşününüz. Tarif edilen kişinin size ne kadar benzediğini sağdaki kutunun içine bir X koyarak gösteriniz.

	Bana hiç benzemiıyor	Bana benzemiıyor az	Bana çok benziyor	Bana az benziyor	Bana benziyor	Bana çok benziyor
12. Kuralları veya düzenlemeleri asla ihlal etmemek onun için önemlidir.	☐	☐	☐	☐	☐	☐
24. Toplumdaki imajını korumak onun için önemlidir.	☐	☐	☐	☐	☐	☐
34. Kendisinden farklı insanları dinlemek ve anlamak onun için önemlidir.	☐	☐	☐	☐	☐	☐
41. Başkalarına ne yapacaklarını söyleyen kişi olmak onun için önemlidir.	☐	☐	☐	☐	☐	☐
42. Bütün kanunlara itaat etmek onun için önemlidir.	☐	☐	☐	☐	☐	☐
45. Doğal çevreyi yok olmaktan veya kirlenmekten korumak onun için önemlidir.	☐	☐	☐	☐	☐	☐
53. Tehlikeli olan her şeyden kaçınmak onun için önemlidir.	☐	☐	☐	☐	☐	☐

F. SAMPLE DRIVING VENGEANCE QUESTIONNAIRE ITEMS

Aşağıda sürücülerin sık karşılaştıkları durumlar verilmiştir. Lütfen aşağıda verilen bu durumları dikkate alarak sizin muhtemelen hangi tepkiyi vereceğinizi işaretleyiniz.

1. Sağa dönmek için “dur” işaretinde durduktan bir kavşakta öncelik sizinken bir sürücü geçişinizi engellediğinde siz;

- a) Hızlı bir şekilde önüne geçerek gitmesini engellerim.
- b) Sürücüye el kol hareketiyle tepkimi gösteririm
- c) Korna çalarım.
- d) Hiçbir şey yapmam.
- e) Diğer (Lütfen Belirtiniz): _____

2. Otoyolda araç kullanırken bir sürücü önünüze birden kırarak sizi ani fren yapmak sorunda bıraktığında siz;

- a) Önüne kırarak fren yapmasını sağlarım.
- b) Sürücüye el kol hareketiyle tepkimi gösteririm.
- c) Korna çalarım.
- d) Hiçbir şey yapmam.
- e) Diğer (Lütfen Belirtiniz): _____

9. Bir otoyolda sol şeridi yavaş giderek işgal edip, trafiği iyice yavaşlattığında, siz;

- a) Yakın takip ederek hızlanmaya zorlarım
- b) Sürücüye el kol hareketiyle tepkimi gösteririm.
- c) Korna çalarım.
- d) Hiçbir şey yapmam.
- e) Diğer (Lütfen Belirtiniz): _____

13. Önünüzdeki sürücü yeşil ışık yanmasına rağmen hareket etmediğinde siz;

- a) Arabasına arkadan çarparım (vururum).
- b) Sürücüye el hareketiyle tepkimi gösteririm.
- c) Korna çalarım.

- d) Hiçbir şey yapmam.
- e) Diğer (Lütfen Belirtiniz): _____

14. Kırmızı ışıktaki sağa döneceksiniz ancak önünüzdeki sağa dönecek araç yol boş olmasına rağmen hareket etmediğinde siz;

- a) Arabaya arkadan vururum.
- b) Sürücüye el kol hareketiyle tepkimi gösteririm.
- c) Korna çalarım.
- d) Hiçbir şey yapmam.
- e) Diğer (Lütfen Belirtiniz): _____

18. Sıkışık bir trafikte, emniyet şeridini kullanarak araç kuyruğunu atlatmaya çalışan bir araç gördüğünüzde siz;

- a) Önüme geçmesine izin vermem.
- b) Sürücüye el hareketi çekerim.
- c) Korna çalarım.
- d) Hiçbir şey yapmam.
- e) Diğer (Lütfen Belirtiniz): _____

21. Karayolunda araç kullanırken önünüzdeki araç iki şeridi ortalamadığında siz;

- a) Önüme geçmesine izin vermem.
- b) Sürücüye el hareketi çekerim.
- c) Korna çalarım.
- d) Hiçbir şey yapmam.
- e) Diğer (Lütfen Belirtiniz): _____

G. TURKISH SUMMARY / TRKE ZET

TEMEL BİREYSEL DEĞERLER ZERİNDEN İNTİKAMCI SRŞ ANLAMAK

GİRİŞ

Saldırganlık ve şiddet, evrimsel srece derin kk salmıř davranıřlardandır (Buss & Shackelford (1982). Gerek lkeler arası savařlar gerekse de soykırımlar olsun; saldırganlık, insanlık tarihi boyunca kendisine bir yer bulmuřtur. Bařkalarına zarar verme hedefinde olan bir davranıř olarak saldırganlık, pek ok farklı ierikte gzlemlenebilir. Saldırganlık ve onun belirli tipleri alanyazında farklı ieriklerde ve genellikle kiřilik deęiřkenleriyle alıřılmıřtır. Bu alıřmada; intikam davranıřının belirgin bir saldırganlık davranıřı olarak deęerler ile birlikte alıřılması hedeflenmiřtir.

Saldırganlık ve İlgili Kavramların Tanımı

Saldırganlık ilk olarak Buss (1961, s.1) tarafından “zararlı bir uyaran ileten her trl davranıř” olarak tanımlanmıřtır. Fakat bu tanım, davranıřcılık aęırlıklı bir tanım olduęu iin eleřtirilmiř, yerine Baron ve Richardson’ın (1997) tanımı alanyazında daha ok kabul grmřtr (Parrot & Giancola, 2007). Baron ve Richardson (1997), kiřinin davranıřının saldırgan olarak tanımlanabilmesi iin davranıřın *niyetli* olması gerektięini savunmuř; aynı zamanda da davranıřa maruz kalan kiřinin o davranıřtan kaınması gerektięini belirtmiřtir. Sonu olarak saldırganlık, “zarar verme niyetinde olan ve karřı tarafın kaınmaya alıřtıęı her trl davranıř” olarak tanımlanmıřtır (s.7).

Tanımlamadaki bu netlik ile birlikte, saldırganlık farklı yaklařımlarla alıřılmaya bařlanmıřtır. rneęin kimi alıřmalar saldırganlıęı *kıřkırtma* yaklařımı zerinden ele almıř ve saldırganlıęı *proaktif* veya *reaktif* olarak ikiye ayırmıřlardır.

Reaktif saldırganlık, algılanan bir tehdit sonucunda ortaya çıkarken, proaktif saldırganlık bir kışkırtmadan bağımsız olarak ortaya çıkan ve daha ziyade planlı olarak oluşan (örn., zorbalık) bir saldırganlık türüdür (Dodge & Coie, 1987). Ani karşılık verme veya bir tehdide cevap olarak yöneltilen saldırganlık davranışı, reaktif saldırganlığa örnektir. Reaktif saldırganlığın tipik bir örneği olarak *intikam* davranışı ele alınabilir. Buna rağmen intikam, bir kışkırtmaya yönelik gerçekleştirebileceği gibi; planlanarak, uzun bir süreç içerisinde gerçekleştirilebileceği için dikkatli ele alınması gereken bir saldırganlık davranışıdır.

İntikam, her türlü algılanan adaletsizliğe karşı ortaya konan, başkalarına zarar vermeye yönelik saldırgan davranışlar olarak tanımlanır (Stuckless & Goranson, 1992). İntikam davranışı, genellikle algılanan adaletsizlikten daha şiddetli gerçekleştirilerek karşı tarafa yoğun zarar veren bir davranış olarak nitelendirilir. İntikam davranışı saldırgan davranışlar içerisinde gruplandırması zor bir davranış türüdür. Planlı ve uzun bir süreç içerisinde gerçekleştirildiği zaman proaktif saldırganlık olarak nitelendirilebilecek bir intikam davranışı, bir kışkırtmaya yönelik çabukça karşılık verme olarak ortaya çıktığında reaktif saldırganlık olarak nitelendirilebilir. Reaktif saldırganlık olarak nitelendirilebilecek intikam davranışının en tipik örneği, trafikte ortamında gerçekleşen intikam davranışlarıdır. Trafikte gerçekleşen ve karşılık vermeye odaklı bu tip intikam davranışlarına genel olarak *saldırgan sürücülük* adı verilir.

Saldırgan Sürücülük ve İntikamcı Sürüş

Genel olarak saldırgan sürücülük, diğer yol kullanıcısına fiziksel, psikolojik veya sözel yollarla zarar vermeye niyetlenen her türlü davranış olarak tanımlanır (Ellison-Potter, Bell, & Deffenbacher, 2001; Hennessy & Wiesensthal, 1999; McGarva & Steiner, 2000). Bu davranışlar, hafif saldırgan sürücülükten (örn., korna çalmak), sürücülük şiddetine (örn., diğer yol kullanıcısını öldürme) kadar çeşitlilik gösterebilir. Saldırgan sürücülük, algılanan bir adaletsizlik tarafından teşvik edildiğinde, *intikamcı sürüş* olarak nitelendirilir. İntikamcı sürüş, genellikle belirli kışkırtmalara yönelik bir tepki olarak ortaya çıktığı için reaktif saldırganlık olarak değerlendirilebilir. Buna rağmen, sürücünün intikam alma davranışını kısa süre

içerisinde planladığı ve uyguladığı göz önünde bulundurulduğunda, bu davranışın proaktif saldırganlık özellikleri de taşıdığı söylenebilir.

Alanyazında, saldırgan sürücülük ve intikamcı sürüş ile değiştirilebilir olarak kullanılan birçok kavram vardır. Bunlardan biri olan *yol öfkesi*, medya tarafından sürücülerin trafikte sergilediği her türlü tehlikeli davranışlara atfedilerek yanlış kullanılmıştır (Brewer, 2010). Yol öfkesi kavramı, içerisinde patlayıcı tipte bir öfke nöbeti barındırdığı ve diğer yol kullanıcıları adına yıkıcı sonuçlar oluşturabileceği için Hennessy ve Wiesenhal (2005) tarafından *sürücülük şiddeti* olarak nitelendirilmiştir.

Intikamcı sürüşün kavramsallaştırılması saldırgan sürücülük ve sürücülük şiddeti ile benzerlikler göstermektedir. Buna rağmen intikamcı sürüş, saldırgan davranışının ardındaki motivasyonu göz önünde bulundurması bakımından bu iki kavramdan ayrılır. İntikamcı sürüş, bünyesinde sürücülük şiddetini ve hafif saldırgan sürücülük gibi kavramları da barındırarak, saldırgan sürücülük altında kendine yer bulur. Daha önce de belirtildiği gibi, intikamcı sürüş saldırgan davranışlar arasında hem reaktif saldırganlık hem de proaktif saldırganlık gösteren özel bir saldırganlık türüdür. Bunun sebebi, trafik ortamının sağladığı özel koşullardır. Örneğin, trafik ortamı, insanların birbirleriyle yabancı olduğu fakat ortak ulaşım hedeflerine ulaşabilmeleri için iş birliği yapmaları gereken müşterek bir ortamdır (Rothe, 1994). Dolayısıyla her müşterek ortamda olduğu gibi, trafik ortamı da belirli yazılı ve yazısız kurallara bağlıdır. Bu kuralların ihlaline bağlı olarak yaşanabilecek anlaşmazlıklar intikam davranışı ile sonuçlanabilir. Trafiğin akışı içerisinde intikam davranışını sergileyebilmek için kısa bir müddet olduğu göz önünde bulundurulduğunda, intikamcı sürüş, hızla ortaya çıkan bir saldırganlık türüdür. Bununla birlikte sürücülerin kişisel araçlarını özel alanları olarak algılaması (Marsh & Collet, 1987), ya da sürücülerin araçları içerisinde kendilerini anonim olarak hissetmeleri, intikamcı sürüşün artmasını sağlayacak faktörler arasında yer alabilir (Ellison-Potter ve ark., 2001).

İntikamcı Sürüş ile İlişkili Faktörler

Alanyazın, bu tip faktörlerin yanı sıra, kişilik unsurları ve bireysel farklılıkları da intikamcı sürüş ile ilişkisi boyutunda ele alınmıştır. Bu faktörler

arasında yaş, cinsiyet, gibi demografik faktörlerle birlikte, trafik sıkışıklığına bağlı sürücü stresi gibi çevresel odaklı faktörler de ele alınmıştır. Son olarak, narsisizm ve karanlık üçlü kişilik özellikleri gibi olumsuz kişilik özellikleri de intikamcı sürüş ile ilişkisi bakımından ele alınmıştır.

Önceki çalışmalar ağırlıklı olarak yaş ile intikamcı sürüş arasında olumsuz bir ilişki ortaya çıkarmıştır (Hennessy & Wiesenthal, 2000). Bununla birlikte, cinsiyet de intikamcı sürüşün ortaya çıkmasındaki bireysel farklılıklara ışık tutan önemli bir değişkendir. Genel olarak alanyazın, saldırgan sürücülük ile erkek olmak arasında olumlu bir ilişki raporlarken, aynı ilişki kadınlar arasında olumsuz olarak raporlanmıştır. Saldırgan sürücülüğün yanı sıra, aynı ilişki intikamcı sürüş için de geçerlidir. Buna göre, intikamcı sürüş alanyazında erkeklerin daha yatkın olduğu bir saldırgan davranış olarak kaydedilmiştir (Hennessy & Wiesenthal, 2002a, 2002b, 2005).

Yaş ve cinsiyetin yanı sıra, öfke ve trafik sıkışıklığına bağlı sürücü stresi de intikamcı sürüş ile olumlu ilişkilendirilen faktörler olarak karşımıza çıkmaktadır. Özellikle öfke duygusu, intikamcı sürüş ile birlikte olumsuz sürücü davranışlarını da ortaya koyan bir faktör olarak alanyazında yer almıştır (Deffenbacher ve ark., 2004). Öfkenin yanı sıra, trafik sıkışıklığına bağlı sürücü stresinin de intikamcı sürüş ile olumlu yönde ilişkisi raporlanmıştır (Hennessy & Wiesenthal, 1999). Bu bulgu, intikamcı sürüş ile ilişkili faktörler arasında durumsal faktörlerin de önemli bir yer alabileceğini göstermesi açısından önemlidir.

Son olarak kişilikle ilintili değişkenler de intikamcı sürüş ile birlikte çalışılan değişkenler arasındadır. Özellikle narsisizm, psikopati ve makyevalyanizm gibi bazı antisosyal kişilik özellikleri intikamcı sürüş ile olumlu bir ilişki içerisindedir (Sümer ve ark., 2019; Wickens ve ark., 2015). Özellikle narsisistik kişilik özelliğine sahip bireyler, kırılğan öz-saygılarına bağlı olarak olumsuz geri dönütlere karşı saldırgan davranışlarda bulunabilirler (Baumeister, Smart, & Boden, 1996). Bu tip kişilik özelliklerinin intikamcı sürüş ile ilişkisi, trafik ortamında intikam davranışı sergileyen bireylerin profili hakkında bize bir bilgi vermektedir. Fakat bu bilgi, trafikte ortaya çıkan intikam davranışının hangi unsurlar tarafından yönlendirildiği hakkında bize net bir fikir vermemektedir. Bu durumun araştırılması için, bu çalışma

değerleri bir kişilik değişkeni olarak intikamcı sürüş ile ilişkisini ele almıştır. Özellikle, Schwartz'ın (1992) oluşturduğu temel beşerî değerler teorisi bu çalışmada tanıtılarak, intikamcı sürüş ile değer tiplerinin ilişkisine odaklanılmıştır.

Temel Beşeri Değerler

Genel anlamıyla değerler, bireylerin isteklerini ve tercih ettikleri davranışları tanımlayan soyut inançlardır. Schwartz (1992), değerler üzerine kendisinden önceki araştırmaların da etkisiyle (Rokeach, 1973) kapsamlı bir teori oluşturmuş, insanların davranışlarını yönlendiren 10 farklı değer tipi ortaya koymuştur. Bu değer tipleri: Öz Yönelim, Uyarılma, Hazcılık, Başarı, Güç, Güvenlik, Geleneksellik, Uyma, İyilikseverlik, Evrenselcilik olarak sıralanmıştır. Bu değer tipleri, daha üst seviye değerler (Öz Aşkınlık, Değişime Açıklık, Öz Genişletim, Muhafazacılık) altında toplanırlar ve birbirleri ile çatışmaya girebilirler. Schwartz'ın tespit ettiği Öz Aşkınlığa karşı Öz Genişletim ve Değişime Açıklığa karşı Muhafazacılık değerleri birbirleriyle çatışmaya girerek belirli davranışların ortaya çıkmasına veya bastırılmasına yönelik rol oynayabilirler. Buna göre Schwartz'ın (1992) değer teorisindeki bir başka önemli nokta, değer tiplerinin bir çember etrafında temsil ettikleri amaçlara göre ve birbirleriyle çatışmalarına göre sıralanmasıdır.

Schwartz ve ark. (2012) ilerleyen yıllarda temel beşeri değerler teorisini detaylandırarak “Arındırılmış Temel Beşeri Değerler Teorisi”ni oluşturmuştur. Buna göre, asıl teoriye ek olarak Alçakgönüllülük ve Saygınlık değerleri teoriye eklenmiş, bazı değer tipleri de kendi içerisinde alt kesimlere ayrılmıştır. Buna göre, Güç değer tipi, Güç-Kaynaklar ve Güç-Baskınlık; Uyma değeri Uyma-Kurallar ve Uyma-Kişilerarası; Güvenlik değeri Güvenlik-Kişisel ve Güvenlik-Toplumsal ve Evrenselcilik değeri de Evrenselcilik-İlgi, Evrenselcilik-Doğa ve Evrenselcilik-Hoşgörü olarak ayrılmıştır. Teorinin bu şekilde detaylandırılması, değer tiplerinin öncülük ettiği davranışları netleştirmek açısından önemli olmuştur. Aşağıda arındırılmış temel beşeri değer teorisinde yer alan 19 değer tipinden her birinin temsil ettiği arzulanan davranışları listelenmiştir (Öz & Demirutku, 2018):

- *Evrenselcilik-Hoşgörü*: Bireyin kendisinden farklı olanlara anlayış ve kabul göstermesi

- *Evrenselcilik-Doğa*: Doğal çevrenin korunması
- *Evrenselcilik-İlgi*: Eşitliğe, adalete ve bütün insanların korunmasına bağlılık
- *İyilikseverlik-Güvenilirlik*: İç grubun güvenilir ve inanılır bir üyesi olmak
- *İyilikseverlik-Sevgi*: Bireyin kendini iç grup üyelerinin esenliğine adanması
- *Alçakgönüllülük*: Bireyin kendisinin anlamsızlığını fark etmesi
- *Uyma-Kişilerarası*: Diğer insanlara rahatsızlık veya zarar vermekten kaçınma
- *Uyma-Kurallar*: Kurallara, yasalara ve resmî yükümlülöklere uyma
- *Geleneksellik*: Kültürel, ailevî ve dinî gelenekleri sürdürmek ve korumak
- *Güvenlik-Toplumsal*: Toplumsal güvenlik ve istikrar yönelimi
- Toplumsal imajını sürdürme ve aşağılanmaktan kaçınma ile gelen güvenlik ve güç
- *Güç-Kaynaklar*: Toplumsal ve maddî kaynaklar üzerinde denetim kurarak elde edilen güç
- *Güç-Baskınlık*: İnsanlar üzerinde denetim kurarak elde edilen güç
- *Başarı*: Toplumsal standartlara göre başarılı olma
- *Hazcılık*: Zevk ve duyumlar aracılığıyla elde edilen doyum
- *Uyarılma*: Heyecan duyma, yenilik ve değışiklik arayışı
- *Öz Yönelim-Davranış*: Bireyin kendi davranışlarını belirleme özgürlüğü
- *Öz Yönelim-Düşünce*: Bireyin kendi fikirlerini ve yeteneklerini geliştirme özgürlüğü

Öte yandan, belirli değlerlerin diğler değlere göre öncelendirilmesi, birtakım davranışların ortaya çıkması veya bastırılması açısından önemlidir. Örneğin Schwartz'ın (1996) çalışması, güç değrine iyilikseverlikten daha fazla öncelik veren bireylerin, İyiliskeverliği Güç değrine göre öncelik veren bireylere göre daha az iş birliğine yönelik davranışta bulunduğunu ortaya koymuştur. Buna göre, değler öncelikleri, bireylerin intikamcı sürüş davranışının ortaya çıkmasında da önemli bir rol oynayabilir.

Değerler, Saldırganlık, Saldırgan Sürücülük ve İntikamcı Sürüş

Saldırganlık davranışına öncülük eden değer tiplerine yönelik bulgular, çoğunlukla ergenlerle yapılan çalışmalardan gelmektedir. Bu çalışmalar, ergenler arasında ortaya çıkan şiddet eğiliminin Güç gibi Öz Genişletim değerlerinin olumlu; İyilikseverlik gibi Öz-Aşkınlık değerleriyle ise olumsuz bir ilişkide olduklarını bulgulamıştır (Benish-Weisman, 2019). Diğer bir çalışma ise bazı değer tiplerinin, tutumlarla saldırgan davranış arasında aracı değişken olabildiğini göstermiştir (Seddig & Davidov, 2018). Bununla birlikte Stuckless ve Goranson (1992) intikam davranışının başkaları üzerinde kontrol sahibi olmak ve baskınlıkla ilintili olduğunu belirtmiştir. Öte yandan daha önceki bir çalışmada, Fındık ve ark., (2020) Öz-Genişletim değerlerinin saldırgan sürücülük ile olumlu ilişkide olduğunu bulgulamıştır. Buna göre, intikamcı sürüş da önceki çalışmaların gösterdiği gibi Güç-Baskınlık, Güç-Kaynaklar, Başarı ve Saygınlık değer tipleri, yani Öz-Genişletim değerleri ile ilişkili olabilir.

Bununla birlikte ergenlerle yapılan çalışmalar ve Fındık ve ark.'ın (2020) sürücü örneklemiyle yaptığı çalışma, saldırganlık ile Öz-Aşkınlık ve Muhafazacılık değerleri arasında olumsuz bir ilişki olduğunu ortaya koymuştur. Buna ek olarak, trafik ortamı kişinin mal ve can güvenliğini tehdit edebilecek yapıdadır. İntikam davranışı, diğer yol kullanıcılarına olduğu kadar, intikam alan kişinin kendisinin de güvenliğini tehdit eder (Stuckless & Goranson, 1992). İntikamcı sürüşün diğer yol kullanıcılarının ve trafik ortamının güvenliğini tehdit ettiği de göz önünde bulundurulduğunda, Güvenlik-Kişisel ve Güvenlik-Kişilerarası değer tiplerinin intikamcı sürüş ile olumsuz bir ilişkiye girmesi beklenebilir. Öte yandan özünde antisosyal bir davranış olduğu için, Sürücü İntikamının Uyma-Kişilerarası ve Uyma-Kurallar ile de olumsuz bir ilişkide olacağı beklenebilir.

Son olarak kalan diğer tipleri, trafik ortamıyla veya saldırganlık davranışı ile doğrudan ilintili olmadığı için intikamcı sürüş ile bir ilişkide olmayacağı beklenebilir. Örneğin İyilikseverlik değer tipi, alanyazında saldırganlıkla olumsuz bir ilişkidir (Seddig & Davidov, 2018). Dolayısıyla yakın çevresine ve sevdiklerine yardım etmeye önem verme davranışı saldırganlıkla olumsuz bir ilişki içindedir. Fakat trafik ortamı, çoğunlukla birbirine yabancı yol kullanıcılarının iş birliğine ihtiyaç duyar. Buna bağlı olarak, İyilikseverlik değerlerinin intikamcı sürüş

ile ilişkili olması beklenmeyebilir. İyilikseverlik gibi, Gelenekselcilik, Öz-Yönelim, Hazcılık ve Evrenselcilik gibi değerlerin de trafikteki intikam davranışıyla ilintili hedefleri temsil etmemesi bakımından, bu değer tiplerin intikamcı sürüş ile ilişki ortaya koyması beklenmeyebilir.

Öte yandan birbirleriyle çatışan değerlerden hangisine öncelik verildiği, belirli davranışların oluşumuna veya baskılanmasına yol açabilir. Birbirleriyle çatışan değerler, genel olarak Öz Genişlemeye karşı Öz Aşkınlık ve Muhafazacılık'a karşı Değişime Açıklık boyutları altındadırlar. Fakat Schwartz (1996), değer çatışmalarının yalnızca bu iki boyuta has bir durum olmadığını belirtmiş, değer tipleri arasındaki çatışmaların davranışa ve davranışın gerçekleştiği ortama göre değişiklik gösterebileceğini belirtmiştir. Trafik ortamında gerçekleşen intikamcı sürüş davranışı, bu çalışmada Öz-Genişletim değerleri ile olumlu ilişkide, Muhafazacılık değerleri ile de olumsuz ilişkide olması beklenmektedir. Dolayısıyla bu iki üst seviye değere ait değer tiplerinin intikamcı sürüş davranışının ortaya çıkması konusunda birbirleriyle çatışmaya girebilirler. Bu çalışmada, özellikle Uyma-Kurallar değer tipinin Güç-Baskınlık ve Başarı değerleriyle çatışmaya girmesi beklenmektedir.

Çalışmanın Amacı ve Hipotez Edilen İlişkiler

Alanyazının ortaya koyduğu deliller ve teorik arka planın ışığında, bu çalışmanın amacı, intikamcı sürüş ile temel beşeri değerler arasındaki ilişkiyi incelemektir. Buna göre 4 farklı hipotez oluşturulmuştur. Bunlar:

- **Hipotez-1:** Saygınlık, Başarı, Güç-Baskınlık ve Güç-Kaynaklar değer tipleri İntikamcı Sürüş ile olumlu ilişkide olacaktır.
- **Hipotez-2:** Güvenlik-Kişisel, Güvenlik-Toplumsal, Uyma-Kurallar, Uyma-Kişilerarası ve Evrenselcilik-Hoşgörü İntikamcı Sürüş ile olumsuz ilişkide olacaktır.
- **Hipotez-3:** Öz Yönelim-Düşünce, Öz Yönelim-Davranış, Uyarılma, Hazcılık, Geleneksellik, Evrenselcilik-İlgi, Evrenselcilik-Doğa, İyilikseverlik-Sevgi, İyilikseverlik-Güvenilirlik değer tiplerinin İntikamcı Sürüş ile ilişkili olmayacaktır.

- **Hipotez-4:** Intikamcı sürüş davranışları, Uyma-Kurallar değerine Güç-Baskınlık ve Başarı değerlerinden daha fazla önem veren bireyler arasında daha az sıklıkla gözlemlenecektir.

YÖNTEM

Katılımcılar

Bu çalışmaya toplamda 226 sürücü (98 Erkek 128 Kadın) katılmıştır. Katılımcıların yaş aralığı 19 ve 66 arası olup, ortalama yaş 32.77'dir. Tüm katılımcıların en az bir yıldır ehliyet barındırıyor olup, katılımcıların ortalama hayatları boyunca kullandığı kilometre 87,867'dir.

İşlem

Verileri toplamaya başlamadan önce ODTÜ Uygulamalı etik araştırmaları merkezinden ve TED Üniversitesi İnsan Hakları Etik Kurulu'ndan izin alınmıştır.

Anket, katılımcıların çeşitli sosyal medya platformları (Facebook, Instagram vb.) kullanılarak dağıtılmıştır.

Materyaller

Demografik Bilgi Formu

Bu form yaş, cinsiyet, kaç yıldır ehliyet sahibi oldukları, son üç yıldır ve hayat boyu yaptıkları kilometreleri ve yaptıkları kaza sayıları gibi çeşitli sorular yöneltmektedir. Bununla birlikte, katılımcılara son üç yılda aldıkları trafik cezalarının sayısı ve türü de sorulmuştur.

Revize Edilmiş Portre Değerler Anketi

Bu form, Schwartz ve ark., (2012) tarafından geliştirilmiş olup, bireylerin değer yönelimlerini ölçmeyi hedeflemektedir. Toplamda 57 madde içeren anket, 1 (Bana Çok Benziyor) ve 6 (Bana Hiç Benzemiyor) arasında kodlanır.

Sürücü İntikamı Anketi

Anket, Wiesenhal, Hennessy & Gibson (2000) tarafından oluşturulmuş ve sürücülerin intikam davranışlarını ölçmeyi hedeflemektedir. Sürücü İntikamı Anketi, sürücülerde intikam davranışına yol açabilecek 21 farklı trafik durumunu katılımcılara gösterir ve 4 farklı seçenek arasından hangi davranışı

gerçekleştireceğini sorar. Katılımcıların cevapları, 1 (en az intikam içeren davranış) ve 4 (en yoğun intikam içeren davranış) olarak kodlanır.

BULGULAR

Bu çalışmanın bulguları, üç farklı analiz üzerinden elde edilmiştir. Öncelikli olarak Hipotez-1, Hipotez-2 ve Hipotez-3'ü araştırmak için, değer tipleri ile diğer değişkenler arasındaki temel ilişkiyi hesaplayan iki değişkenli korelasyon analizi gerçekleştirildi. İkinci aşamada ise hangi değer tiplerinin intikamcı sürüş ile ilişkisi hesaplamak için ileri seçim metodu kullanılan aşamalı regresyon analizi gerçekleştirildi. Son olarak Hipotez-4'ü test etmek için, katılımcılar değer önceliklerine göre gruplandırıldı ve grupların ortalama intikamcı sürüş puanları ANOVA ve kontrast analizleri ile kıyaslandı. Intikamcı sürüş davranışı için cinsiyet farklılıklarının rolü alanyazında vurgulandığı için, yardımcı analizlerle ANOVA hem kadınlar hem de erkekler için ayrı ayrı hesaplandı. Tüm analizler SPSS v26. Kullanılarak yapılmıştır.

Çift Değişkenli Korelasyon Analizleri

Değer tipleriyle diğer değişkenler arasındaki temel ilişkiler, Öz-Genişleme Başarı ($r = .16, p = .02$), Güç-Baskınlık ($r = .16, p = .02$), Güç-Kaynaklar ($r = .16, p = .02$) ve Saygınlık ($r = .13, p = .05$) değer tiplerinin intikamcı sürüş ile olumlu ilişkili olduğunu ortaya çıkarmıştır. Bu bulgu Hipotez-1'i desteklemektedir. Öte yandan Güvenlik-Kişisel, ($r = -.17, p = .01$) Güvenlik-Toplumsal ($r = -.16, p = .01$) ve Uyma-Kurallar ($r = -.18, p = .008$) değer tiplerinin intikamcı sürüş ile olumsuz bir ilişkisi olduğunu bulmuştur. Bu bulgu, Hipotez-2'yi kısmen desteklemektedir. Öte yandan geri kalan değerlerin bir ilişki ortaya çıkarmaması da Hipotez-3'ü desteklemiştir.

Aşamalı Regresyon Analizi

Bu analiz, Hipotez-1 ve Hipotez-2'de yer alan değer tiplerinin intikamcı sürüş ile ilişkisini incelemek için yapılmıştır. Belirlenen değer tipleri bağımsız değişken, intikamcı sürüş bağımlı değişkendir. Buna göre analiz sonucunda üç aşamalı bir model elde edilmiştir. Birinci aşamada, Başarı %4 oranında bir varyans açıklayarak ve intikamcı sürüş ile olumlu bir ilişki ortaya çıkartarak modele dahil

olmuştur $F(1, 223) = 8.098, p = .005, R^2 = .04$. İkinci aşamada, Uyma-Kurallar ek olarak %2 oranında varyans açıklamıştır, $F_{change}(1, 222) = 4.75, p = .03, R^2 = .06, R^2_{change} = .02$. Son ve üçüncü aşamada Güç-Baskınlık %2' oranında bir varyans açıklayarak intikamcı sürüş ile ilişkili olmuştur. çıkartmıştır $F_{change}(1, 221) = 4.43, p = .03, R^2 = .07, R^2_{change} = .02$. Başarı ($\beta = .19, p = .005, 95\% \text{ CI } [.63, 3.44]$) ve Güç-Baskınlık ($\beta = .14, p = .04, 95\% \text{ CI } [.06, 2.07]$) olumlu; Uyma-Kurallar olumsuz ($\beta = -.14, p = .03, 95\% \text{ CI } [-2.02, -.10]$) olarak intikamcı sürüş ile ilişkilili olmuştur.

Tek Yönlü ANOVA

Hipotez 4'ü, ve değer önceliklerine göre intikamcı sürüş davranışının farklılaşacağı beklentisini test etmek için tek yönlü ANOVA gerçekleştirilmiştir. Buna göre ilk grup karşılaştırması, tüm örneklem içerisinde Kurallar-Uyma değerine Güç-Baskınlık değerinden fazla öncelik verenlerle, Güç Baskınlık değerine Kurallar-Uyma değerinden fazla önem verenlerin sürücülük intakamının anlamlı bir şekilde farklılaşmadığını göstermiştir. Kontrast analizleri de anlamlı bir farklılık ortaya koyamamıştır. Buna rağmen kadınlar ve erkekler ayrı ayrı test edildiğinde, erkeklerin kontrast analizleri anlamlı çıkmıştır ($t = 2.50, p = .01$). Buna göre Uyma-Kurallar değerine Güç-Baskınlık değerinden daha fazla öncelik veren erkek sürücüler, daha az intikamcı sürüş raporlamışlardır.

Diğer yandan ANOVA, örneklemdeki Uyma-Kurallar değerine Başarı değerine göre öncelik veren bireylerin intikamcı sürüşünün farklılaştığını göstermiştir [$F(3, 222) = 2.58, p = .05$]. Kontrast analizi de anlamlı çıkmış olup, Uyma-Kurallar değerine öncelik veren bireylerin Başarı değerine öncelik verenlere göre daha az intikamcı sürüş belirttiği ortaya çıkmıştır. Erkekler ve kadınlar için ayrıca uygulanan yardımcı analizler ise, erkek sürücülerin değer önceliklerine göre intikamcı sürüş puanlarının farklılaştığını göstermiştir [$F(3, 94) = 3.59, p = .02$]. Sonrasında uygulanan kontrast analizleri ise, erkekler arasında Uyma-Kurallar değerine, Başarı değerinden daha fazla öncelik verenlerin daha az intikamcı sürüş skorları belirttiğini ortaya koymuştur ($t = 2.99, p = .004$).

TARTIŞMA

Bu çalışmanın asıl amacı, intikamcı sürüş ile temel beşeri değerler arasındaki ilişkiyi ortaya koymaktır. Bu amaca yönelik dört farklı hipotez ortaya konmuş, Hipotez-1 Saygınlık, Başarı, Güç-Baskınlık ve Güç-Kaynaklar değer tipleri ile intikamcı sürüş arasında olumlu bir ilişki beklerken Hipotez-2 Güvenlik-Kişisel, Güvenlik-Toplumsal, Uyma-Kurallar, Uyma-Kişilerarası ve Evrenselcilik-Hoşgörü ile intikamcı sürüş arasında olumsuz bir ilişki beklemiştir. Öte yandan Hipotez-3 kalan değer tipleri ile intikamcı sürüş arasında bir ilişki beklemezken, Hipotez-4 Uyma-Kurallar değer tipini Güç-Baskınlık ve Başarı değer tiplerinden daha fazla öncelendirmenin intikamcı sürüşü azaltacağını beklemiştir. Bu çalışma, değer tipleri ile intikamcı sürüşü araştırması bakımından alanyazında bir ilktir. Öte yandan bu çalışma, arındırılmış temel beşeri değerler teorisini kullanarak (Schwartz ve ark., 2012) detaylandırılmış değer tipleriyle intikamcı sürüşü araştırmıştır. Dolayısıyla bu çalışma, arındırılmış beşeri değerlerin intikamcı sürüş ile araştırılması bakımından bir ilktir.

Temel İlişkilerin Yorumlanması

Korelasyon analizleri sonucu ortaya çıkan temel ilişkiler, Hipotez-1'i ve Hipotez 3'ü desteklerken Hipotez-2 kısmi olarak desteklenmiştir. Buna göre Hipotez-1'in beklediği Öz-Genişletim değerleri; Saygınlık, Güç-Baskıcılık, Güç-Kaynaklar ve Başarı İntikamcı Sürüş ile olumsuz bir ilişki ortaya koymuştur. Buna göre Hipotez-1 desteklenmiştir. Bu sonuçlar, bahsi geçen değer tiplerine yönelimi arttıkça trafikte ortaya çıkan intikam davranışının da artış gösterdiğini ima etmiştir.

Hipotez-2'nin beklediği Güvenlik-Kişisel, Güvenlik-Toplumsal, Uyma-Kurallar, Uyma-Kişilerarası ve Evrenselcilik-Hoşgörü değer tiplerinin Sürücü İntikamıyla olumsuz ilişki, korelasyon analizi sonucunda kısmi olarak desteklenmiştir. Bu sonuçlara göre, Uyma-Kurallar ve Güvenlik-Kişisel gibi Muhafazacılık değerleri ve Evrenselcilik-Hoşgörü değerlerine yönelim arttıkça, İntikamcı Sürüş Davranışı azalmaktadır. Bu sonuçlar, trafikte kişinin kendi güvenliğine ve kurallara riayet etmeye dikkat etme eğilimi oldukça Sürücü

İntikamı'nın azalacağını ima etmektedir. Bahsi geçen değer tipleri arasında, yalnızca Uyma-Kişilerarası ile İntikamcı Sürüş bir ilişki ortaya çıkarmamıştır.

Öte yandan Hipotez-3'te bahsi geçen diğer değer tipleri İntikamcı Sürüş ile ilişki ortaya çıkarmayarak Hipotez-3'ü desteklemiştir. Bu bulgu, değer tipleri arasından Hipotez-1 ve Hipotez-2'de bahsi geçenler dışında kalan değer tiplerinin trafik ortamı veya intikam davranışıyla doğrudan ilişkili olmadığı beklentisine destek olmuştur. Öte yandan bu bulgu, trafikte hangi üst seviye değerlerin intikam davranışına yol göstereceğine yönelik ipuçları sağlaması açısından önemlidir.

Aşamalı Regresyon Hipotezinin Yorumlanması

Korelasyon analizlerine ek olarak, Hipotez-1 ve Hipotez-2'de yer alan değer tipleri arasından, hangilerinin öne çıkacağını test etmek adına Aşamalı Regresyon analizi, ileri seçme yöntemiyle oluşturulmuştur. Buna göre, Başarı ve Güç-Baskınlık değer tiplerinin İntikamcı Sürüş ile olumlu ilişki ortaya çıkarması, Hipotez-1'i kısmi olarak desteklerken; Uyma-Kurallar değer tipinin olumsuz bir ilişki ortaya çıkarması da Hipotez-2'yi kısmi olarak desteklemektedir. Bu bulgular, trafikte intikam davranışına hakim değerlerin, başarıyı elde etmeye yönelik mücadeleci olmaya yönelmek ve başkaları üzerinde hakimiyet oluşturmak ile ilintili olduğunu göstermiştir. Öte yandan kurallara uymaya daha yatkın bir yönelme, diğer sürücülerden intikam alma davranışını azaltacak tipte bir yönelmedir. Bu bulgular, ilişki ortaya koyması beklenen değer tipleri arasından hangilerinin daha öne çıktığını anlayabilmek ve trafik ortamı hakkında daha çok öngörü edinebilmek adına önemlidir.

Tek Yönlü ANOVA Yorumlanması

Genel anlamıyla tek yönlü ANOVA, Hipotez-4'e kısmi destek vermektedir. Bu analizin ilk bulguları, değer önceliklerinin, intikamcı sürüş davranışında tüm örneklem için farklılaşmadığını ima etmektedir. Buna rağmen yardımcı analizler, cinsiyetin Sürücü İntikamı davranışının ortaya çıkması açısından önemli bir demografik değişken olduğunu ortaya koymuştur. Buna göre erkeklerin Sürücü İntikamı davranışının sıklığı, trafik ortamında öne çıkan hangi değer tipinin öncelendiğine göre değişiklik göstermektedir. Yani başka bir deyişle, trafikte kurallara uymaya yönelmeye, toplum içinde başarı elde etmek veya başkaları

üzerinde hakimiyet kurmaya yönelemeye göre daha çok önem veren erkekler daha az İntikamcı Sürüş gerçekleştirmiştir. Bu çalışmada kullanılan örneklemin yaş ortalaması ve trafik psikolojisi alanyazınındaki genç erkeklerin fevri davranışları göz önünde bulundurulduğunda, bu bulgu farklı bir önem kazanmaktadır. Buna göre, erkekler, Sürücü İntikamı davranışını değer önceliklerine göre baskılayabilmektedir. Bu bulgu, değerlerin genç erkek sürücüler üzerindeki potansiyel etkisini ve erkeklerin trafikteki fevri ya da olumsuz davranışlarını baskılayabilmesi adına önemli ipuçları sağlamaktadır.

Eleştirel Yorumlar

Tüm bunlarla birlikte, çalışmanın kişisel beyana dayanması önemli bir sınırlamasıdır. Bununla birlikte Schwartz (1992) değerlerin kültürler arası bir olgu olduğunu savunmuş ve ortaya koyduğu değer tiplerinin tüm toplumlar için geçerli olduğu görüşünü ortaya koymuştur. Bu çalışmanın örnekleminin tek bir kültür ile sınırlı olması, bu çalışmadaki bulguların evrenselliğine gölge düşürmektedir. Tüm bunların yanı sıra, Sürücü İntikamı davranışı, sürüş becerileri yüksek olan insanlar tarafından daha yoğun bir biçimde sergilenebilir. Dolayısıyla, sürüş becerilerinin bir değişken olarak bu çalışmaya dahil edilmemesi de çalışmanın önemli sınırlamalarındandır.

Çalışmanın Olası Etkileri ve Sonuç

Bu çalışma sonucunda ortaya çıkan bulgular, en başta trafikte gerçekleşen intikam davranışının hangi değerler tarafından yönlendirildiğini anlamak adına önemlidir. Özellikle cinsiyet farkına yönelik ortaya çıkan bulgular, genç erkek sürücülerin trafikteki olumsuz davranışlarına yönelik bir müdahalenin oluşturulabilmesi adına ipuçları taşımaktadır. Gelecek çalışmalar özellikle cinsiyet faktörüne dikkat etmelidir; değerlerle ilgili çalışmaları çok-kültürlü örneklemelerle gerçekleştirmeliler ve sürücü becerilerini de dikkate almalıdırlar. Bu çalışmanın bulguları, değerler gibi soyut ve inançla temellenen bir kavramdan aldığı için, çocuk bireylere yönelik değer aktarımının ve eğitiminin rolü kuvvetlenmektedir. Buna göre özellikle erkeklere trafik ortamı için kurallara uymaya yönelimin mücadeleciliğe ve başkaları üzerinde hakimiyet kurmaya yönelime göre artıracak bir eğitim programı düzenlenebilir. Bu tip bir eğitim programı, gelecekte ehliyet sahibi olacak

sürücülerin trafikte antisosyal davranışlarda bulunmasını önleyebilecek önemli bir eğitim programı niteliğinde olabilir.



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