When do drivers conform? When do they deviate?

Sila Demir a,⇑, Başar Demir b, Türker Özkan c

a Department of Psychology, Final International University, Girne, Northern Cyprus
b Department of Psychology, Akdeniz University, Antalya, Turkey
c Department of Psychology, Middle East Technical University, Ankara, Turkey

A R T I C L E   I N F O

Article history:
Received 3 June 2016
Received in revised form 5 February 2018
Accepted 15 February 2018
Available online 2 March 2018

Keywords:
Deviance regulation theory
Conformity
Uniqueness
Group benefit
Message framing

A B S T R A C T

Traditional and dominant social influence strategies based on group research aim to motivate people towards compliance with the group norm for behaviours in general and in traffic in particular. Yet, deviance and dissent have the potential to motivate people towards action against group norm, as well. The deviance regulation theory (DRT) proposes that an individual might choose to deviate from the group norm to express his/her uniqueness. In addition, according to the normative conflict model, an individual might deviate because the target behaviour may serve for the group benefit. However, up to date no study has compared behaviours of different nature in terms of conformity and deviance motivations in traffic. The current study explores these motivations in the context of persuasive messages that aim to facilitate picking up hitchhikers, obeying speed limits on campus, and seat belt use, in three different samples. In the first study, we investigated the effectiveness of positive and negative message frames. These messages emphasized the attributes of people on uniqueness or group benefit who pick up or do not pick up hitchhikers with regard to the perceived group norms in a 2 (norm: picking up or not picking up a hitchhiker) by 4 (message frame: positive uniqueness, negative uniqueness, positive group benefit, negative group benefit) design among 249 participants. The results revealed that positive uniqueness frame is effective when the norm is picking up a hitchhiker, but not when the norm is not picking up a hitchhiker. In the second and third studies, we applied a 2 (norm) × 2 (uniqueness message frame: positive and negative) design for speeding on campus and seat belt use with 79 and 144 participants, respectively. The speeding study supports the DRT, as the negative frame in obeying the speed limit norm condition had a stronger effect on reducing speeding than the other conditions. Using seat belt emerged as impervious to norms and evaluation of group members, since none of the conditions differed from each other.

© 2018 Elsevier Ltd. All rights reserved.

1. Introduction

Social norms are the regulatory powers on society. Up to date, most of the studies focused on the power of social norms, and difficulty of deviating from these norms (for a review see Cialdini & Goldstein, 2004). Lately, researchers developed theories explaining individuals’ strong motive towards acting in a deviant manner (e.g., Blanton & Christie, 2003; Blanton, Stuart, & Van den Eijnden, 2001; Packer, 2008). Among those, the deviance regulation theory (DRT; Blanton & Christie,
2003: Blanton et al., 2001) suggested that individuals’ need for standing out from others in a meaningful way might be the driving force for performing less frequent behaviours. Indeed, when people need to decide between normative or counter-normative behaviours, the counter-normative one would come out if it is appraised by the group (Blanton & Christie, 2003). However, this motivation might depend on the nature of the behaviour, and conforming to the social norms might emerge as more desirable for some behaviours. To investigate this issue, the present study aims to understand the regulation of deviance in three traffic behaviours: hitchhiking, speeding, and seat belt use.

1.1. Deviance and basic motivations

Group is composed of at least two people interacting with each other, and perceiving themselves as a coherent unit and different from other groups (Dasgupta, Banaji, & Abelson, 1999; Shaw, 1981). Individuals belong to many groups at the same time (e.g., family, peers, neighbourhood, university, sport groups); but one individual’s identification level for different groups can vary. Deviance can be described as the violation of the norms of a group (Jetten & Hornsey, 2014). A recent review proposes five motivations behind deviance: desire of disengagement, group loyalty, moral rebellion, desire to express uniqueness, and tangible gains (Jetten & Hornsey, 2014). Among these, group loyalty explains that, contrary to common sense, people might deviate from the group norms when they believe that their actions will lead some gain for the group, namely a constructive deviance (Galperin, 2012). For instance, highly identified group members might deviate from group norms as their deviance is based on their concern for the group (Packer, 2008).

Conversely, the DRT places the individual’s desire to express uniqueness to its core and argue that individuals deviate from the group norms in line with their meaningful identities. If people believe that they will be presenting themselves as desirably different from others when they deviate, they will be motivated towards it. We are not aware of any study that investigated neither DRT nor concept of deviation from the norm in driver behaviours.

1.2. To conform or not to conform?

Conformity is aligning behaviours to the people around and the social norms (Cialdini & Goldstein, 2004). Conforming is fundamental since deviation from group is likely to be punished or made fun of, or likely to lead to exclusion from the group (Janes & Olson, 2000; Kruglanski & Webster, 1991; Levine, 1989). However, nonconformity has also some advantages in different cases (Blanton & Christie, 2003; Jetten & Hornsey, 2014). What is important here is to be able to determine when is conformity and when is deviance more likely, and what are the main determinants: the individuals, the context, the behaviour itself? Griskevicius and colleagues suggest that the active goals of the individual may determine which one is more likely (Griskevicius, Goldstein, Mortensen, Cialdini, & Kenrick, 2006). For that reason, a need for an investigation on whether the active goals can be influenced by the behaviour in consideration rises. While filling this gap in the literature, we expected that different types of behaviours would activate different goals. To our knowledge, no study has tested conformity and deviance motivations together in different behaviours to investigate which behaviours trigger conformity and which trigger deviation.

Nevertheless, for both conformity and deviance, group benefit motivation requires a good level of social identification with the referent group (Packer & Chasteen, 2010). If the individual feels no connection with the referent group, then the norm would not motivate the individuals towards the relevant behaviour. On the other hand, sometimes a highly-identified member may ignore all the possible advantages of deviation and decide to conform as in loyal conformity (Packer, 2008) if they do not experience a normative conflict. Therefore, the level of identification should not be ignored.

1.3. Normative influence: message framing

Blanton and Christie (2003) proposes that “people try to maintain positive public and private self-images by choosing desirable ways of deviating from social norms and by avoiding undesirable ways of deviating from social norms” (p. 115). Thus, when evaluating the possible social consequences of the behaviours, individuals focus on the latitude of acceptance for deviance, but not for conformity. Therefore, the persuasive message that departs from the deviant behaviour should be more powerful in influencing the future intentions. For example, in a study (Blanton et al., 2001), intentions to get a flu shot is higher when the norm is not to get a flu shot on campus and getting a flu shot is associated with positive images (e.g., being responsible). This is called positive framing – focusing on the positive attributes in messages. On the other hand, when the norm is to get a flu shot, emphasizing the negative attributes of individuals who do not get a flu shot increases individuals’ intentions to get a flu shot. This is called negative framing – focusing on the negative attributes while delivering messages. However, in each norm condition basing the message frame onto the group norm (i.e., praising the majority for getting flu shots, or belittling the majority for not getting flu shots) was not as influential as focusing on the deviation.
1.4. The present study

The main purpose of the current study is to compare and contrast different behavioural contexts for the motivations to deviate and conform. Therefore, behaviours for 2 different levels of analysis were selected: group-focused (Study 1 – Hitchhiking) vs. self-focused (Study 2 – Speeding and Study 3 – Seat belt usage). The group-focused behaviour was also examined across two motivations: uniqueness and group-concern. Moreover, 2 different self-focused behaviours were selected: active (Study 2 – Speeding) vs. passive behaviours (Study 3 – Seat belt usage). Each behaviour and why they are classified as group-focused vs. self-focused, and active vs. passive behaviours are explained below.

Uniqueness and group concern motivations were selected as the focus since they highlight either self- or other-related drives. We believe that the motives of both uniqueness and concern for the group are appropriate in hitchhiking context, as giving a lift to a hitchhiker is an other-related act by nature. For instance, elevated feelings of responsibility increase the likelihood of taking the hitchhiker (Campbell, 1974). On the other hand, deviating from the norm for picking up a hitchhiker might also be serving to fulfil the uniqueness need of the individuals. Since psychological studies examining hitchhiking are very rare and existing literature mainly focuses on situational determinants of picking up a hitchhiker and hitchhiker profiles (e.g., Guéguen & Fischer-Lokou, 2004; Guéguen & Lamy, 2009), in the current study we aimed to investigate the motivations of drivers who pick up hitchhikers. We suggest that picking a hitchhiker within campus would be a group-focused behaviour, and it could lead to loyal conformity (Packer, 2008) towards a positive social behaviour. Thus, the context could be one of the main determinants of the likelihood of conformity for hitchhiking on campus (as suggested by Griskevicius et al., 2006).

Besides the group-focused behaviour of hitchhiking, the self-focused, uniqueness motivation in both active and passive self-related behaviours were examined. To this end, speeding was considered an active behaviour that is concerned with only the individuals’ self-paced tasks in driving. Especially, young drivers are open to normative influences of their passengers, and have a higher tendency to speed when they have a peer in the car (Conner, Smith, & McMillan, 2003; Fleiter, Lennon, & Watson, 2010; Simons-Morton, Lerner, & Singer, 2005). In the light of this literature, speeding can be considered as a manifestation of uniqueness as explored in the current investigation. We suggest that, in other words, for speeding on campus, deviance could work with people’s desire to express individuality and uniqueness as it provides people with a positive unique self-image. Thus, instead of the context, the individuals themselves could be one of the main determinants of the likelihood of deviance for speeding on campus (as suggested by Griskevicius et al., 2006).

While speeding is an active form of self-related behaviour, seat belt use does not require the individual’s active and constant engagement. That is, drivers can and do constantly check and adjust their speeding, but a seat belt is put on only once for each trip, which makes it a relatively passive protective behaviour. Some studies report that an important predictor of seat belt use is habit (Çalışır & Lehto, 2002). In contrast to the habit hypothesis, Litt and colleagues found that high school students perceived the same-sex norm of seat-belt use lower than the reported use, and they conformed to these low perceived norms (Litt, Lewis, Linkenbach, Lande, & Neighbors, 2014). We suggest that for seat belt use on campus, neither conformity nor deviance would work. On the contrary, the dominant use or non-use habits of seat belt would be determinative. Thus, the behaviour itself could be the main indicator of the likelihood of conformity and deviance for seat belt usage on campus (as suggested by Griskevicius et al., 2006).

Taken together, we predicted that the social behaviour of picking up hitchhikers may activate the loyal conformity goal (Packer, 2008). Secondly, speeding has been pointed out to be a means to self-presentation (e.g., Fleiter et al., 2010); therefore, it may activate uniqueness and deviance goals. Finally, the habitual nature of seat belt use (Çalışır & Lehto, 2002) may differentiate it from the former two as neither following nor deviating from the norms would trigger an already established habit.

1.4.1. Hypotheses of the present study

Essentially, in the first hypotheses for hitchhiking and speeding studies, our focus is the positive norm conditions and we compare the positive and negative message frames. In the second hypotheses, our focus is the positive message frame conditions and we compare the two norm conditions.

Therefore, the following hypotheses were tested for hitchhiking on campus:

1.1. When the norm is to pick up a hitchhiker, positively framed messages are expected to lead to higher intentions compared to the negatively framed messages.
1.2. The positively framed messages are expected to lead to higher intentions when the norm is to pick up a hitchhiker compared to the case when the norm is to not pick up.

Secondly, the following hypotheses were tested for speeding on campus:

2.1. When the norm is to not obey the speed limits, positively framed messages (emphasizing the good attributes of individuals who obey the speed limits) are expected to lead to higher intentions compared to the negatively framed messages (emphasizing the bad attributes of individuals who do not obey).

---

1 Hitchhiking and picking up hitchhikers are not prohibited by laws and regulations in study location.
2.2. The positively framed messages are expected to lead to higher intentions when the norm is to not obey the speed limits compared to the case when the norm is to obey.

Lastly, we expected no influence of any message frames on seat belt use intentions because of dominant usage or non-usage habits of seat belt.

2. Method

2.1. Participants

For all three studies, data was collected in Middle East Technical University; an urban campus university in Turkey, which is known with high group identification among its members. Seven-hundred-and-sixteen people had started working on one of the three surveys, but the sample size dropped to 472 after excluding the participants who did not complete the survey, or worked on the survey too short or too long (i.e., a few seconds, or hours). Although the participants were randomly assigned to one of the three studies, excluding those participants resulted in imbalanced sample sizes across those studies. The distribution of the participants to the studies of hitchhiking, speeding and seat belt were as follows: 249, 79, and 144, respectively (see Table 1).

2.2. Procedure

The participants were reached via e-mail announcements and social media to complete a survey on traffic behaviour, voluntarily. When they clicked on the link provided they were randomly assigned to one of the three studies, after approving the informed consent form. Then, they read the cover story that they would read and evaluate some texts for publication in the university newspaper. This cover story was designed parallel to the procedure of Blanton et al. (2001) to make sure that the students would not suspect an effort to change their attitudes, and react negatively by perceiving the material duplicitious. Depending on the study the participants assigned, they were randomly given one of the two norm manipulations, which were designed to inform that the group norm was to be picking up a hitchhiker vs. not picking up a hitchhiker (Study 1); obeying the speed limit on campus vs. not obeying the speed limit on campus (Study 2); or using seat belt vs. not using seat belt (Study 3). Then, they answered the manipulation check question, and as filler to back-up our cover, they were asked to write down if they have any comments regarding the paragraph they had just read. Later, the participants were randomly assigned to either positive or negative message frame manipulation condition. For this, they read a short paragraph explaining a bogus study, the purpose of which was to manipulate the participants’ perception of how the group evaluates a typical individual who picks up a hitchhiker vs. not picks up a hitchhiker (Study 1); obeys the speed limit on campus vs. not obeys the speed limit on campus (Study 2); or uses a seat belt vs. not uses a seat belt (Study 3). After reading this paragraph, they were asked to answer three filler questions about it, again to support the text-evaluation cover. Finally, they indicated their intention and willingness to pick up a hitchhiker, obey the speed limit on campus, or use a seat belt while driving on campus. In addition, participants were asked to write down their justification for not picking-up a hitchhiker/not obeying speed limits/not using a seat belt, if any. Subsequently, they filled in the identification with the university scale, questions about their driving behaviours, and demographics. At the end of the survey, they were debriefed and thanked for their participation. On average, it took 6.76 min (about 6 min and 46 s) for participants to complete the survey (SD = 3.24).

Although random assignment was applied, since some cases were excluded due to being ineligible for the analyses, the number of participants in each condition of each study was imbalanced, but still acceptable (see Table 2).

2.3. Instruments

2.3.1. Norm manipulation and manipulation check

Following Blanton et al. (2001), a short paragraph was prepared for hitchhiking, speeding, and seat belt use to be used in the current study (see the Appendix for the complete vignettes). First, the participants read the importance of the behaviour. Then, in the positive norm condition, participants read “… during the last one year, 68% of the METU sticker owners picked up

Table 1
Demographics of participants in each study.

<table>
<thead>
<tr>
<th></th>
<th>Hitchhiking</th>
<th>Speeding</th>
<th>Seat Belt</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>249</td>
<td>79</td>
<td>144</td>
</tr>
<tr>
<td>Female (%)</td>
<td>45</td>
<td>39.2</td>
<td>52.8</td>
</tr>
<tr>
<td>Mean Age (SD)</td>
<td>37.43 (11.39)</td>
<td>39.63 (10.47)</td>
<td>34.46 (10.32)</td>
</tr>
<tr>
<td>Student and Research Assistant (%)</td>
<td>40</td>
<td>20.6</td>
<td>50.1</td>
</tr>
<tr>
<td>Academic Staff and Graduate Student (%)</td>
<td>71.5</td>
<td>74.7</td>
<td>68.1</td>
</tr>
<tr>
<td>Administrative Staff (%)</td>
<td>7.2</td>
<td>16.5</td>
<td>4.2</td>
</tr>
<tr>
<td>METU member more than 10 years (%)</td>
<td>48.4</td>
<td>64.6</td>
<td>43.1</td>
</tr>
</tbody>
</table>

* Graduate students working as research assistants are also regarded as academic staff.
In the negative norm condition, they read, “… 68% of the METU sticker owners did not pick up a hitchhiker” or “did not obey the speed limit” or “did not use a seat belt on campus.”

As a manipulation check, the participants answered the question “When you think of the METU members in general, what percent do you think picks up a hitchhiker?” or “obeys the speed limits” or “uses a seat belt on campus” using a slider from 0 to 100% with anchors of 0, 10, 20, 30 … 90, 100.

2.3.2. Message frame

For the message frame manipulation, the participants read another paragraph, which was prepared following Blanton et al. (2001) for the current study, describing a bogus study on the personality correlates of picking (or not picking) up a hitchhiker at METU, obeying (or not obeying) speed limit on campus, or using (or not using) a seat belt on campus, again depending on the study they were taking part (see the Appendix). In the uniqueness frames, the behaviour was associated with attributes regarding the personality characteristics, while in the group benefit frames it was associated with socially related characteristics. All studies included positive and negative frames, and uniqueness frame. In addition to those, hitchhiking study included group benefit frame (see Table 2).

Specifically, in the hitchhiking scenario, in the first condition (positive uniqueness) picking up a hitchhiker was associated with being helpful and thoughtful, but not with being selfish and insensitive; and in the second condition (negative uniqueness) not picking up a hitchhiker was associated with being selfish and insensitive, and not being helpful and thoughtful. However, in the other two conditions, picking up was associated with valuing solidarity within campus and having a high sense of social responsibility, but not being callous and irresponsible (positive group concern; and vice versa in negative group concern frame for not picking up).

In speeding and seat belt studies, there were only two conditions. In the first condition people who obey the speed limits (or use a seat belt) were praised as being cautious and conscientious, and not thoughtless and risky-behaving (positive uniqueness); or people who violate the speed limits (or don’t use a seat belt) were disapproved as thoughtless and risky-behaving, and not cautious and conscientious (negative uniqueness).

2.3.3. Intention

For the dependent variable of the current study, the participants indicated their intention and willingness of picking up a hitchhiker, obeying speed limits, or using a seat belt on campus in four questions following the suggestions of Ajzen (2002). The questions for hitchhiking were as follows: “If I would encounter a hitchhiker, I would pick him/her up,” “… I would consider picking him/her up,” and “… I would feel that I should pick him/her up.” All the questions were answered on a 5-point Likert scale from “strongly agree” to “strongly disagree.” The Cronbach’s alphas of the intention measures were 0.90, 0.88, and 0.86, respectively for hitchhiking, speeding, and seat belt studies.

2.3.4. University identification

To assess participants’ identification with university, the following questions were generated: “How important is it to you to be a member of METU?” “To what extend do you define yourself as a member of METU?” “How happy are you as a member of METU?” Participants answered the questions on a five-point Likert scale from “very much” to “not at all.” Cronbach’s alphas for each study were as follows; 0.90, 0.86, 0.87, respectively for hitchhiking, speeding, and seat belt studies.

2.3.5. Demographics

The following demographic characteristics of the sample were obtained: campus sticker type (academic, administrative, student, and other types), whether receiving graduate education at university (for academic sticker owners), and level of education (for administrative sticker owners), number of years spent as a member of university, age, and gender.

2.4. Data analysis plan

First, the manipulation checks were tested for each study. As expected, the participants in the positive norm condition evaluated the likelihood of an average driver to pick up a hitchhiker on campus, obey speed limit, or use a seat belt higher (M = 56.96, SD = 17.76; M = 60.72, SD = 20.54; M = 69.45, SD = 17.82; respectively) than participants in the negative norm.
condition \((M = 38.89, SD = 17.09; M = 35.78, SD = 17.59; M = 58.37, SD = 20.62; \) respectively), \(t(245) = 8.14, p < 0.001; t(77) = 5.61, p < 0.001; t(141) = 3.45, p = 0.001; \) respectively. Moreover, participants’ perception of norm did not differ in the levels of message frame, \(F(3, 246) = 0.28, p = 0.84; t(77) = 0.47, p = 0.64; t(140) = 1.47, p > 0.15; \) respectively.

Besides manipulation checks, four sets of analyses were conducted for each behaviour. First, an analysis of variance (ANOVA) was conducted to see whether the message frame conditions created any difference in relevant intentions towards the target behaviour (i.e. picking up a hitchhiker, obeying the speed limit, and using a seat belt). Second, the analysis of covariance (ANCOVA) was used to assess whether the intention scores differ across the message frame conditions, after controlling for identification. Third, another ANCOVA was conducted to assess whether the intention scores differ across the message frame conditions, after controlling for age, gender, and the sticker type. Only the significant results of these analyses are reported below. Finally, several ANOVAs were conducted for the high and low identification levels with METU to investigate whether the message frames work differently in different identification levels.

3. Results

3.1. Hitchhiking study

In order to test whether the participants differ on their intentions to pick up a hitchhiker depending on the conditions, a series of ANOVAs conducted both for the scale score of 4 intention items, and for each item separately. However, among those, only the first item of “If I would encounter a hitchhiker, I would pick him/her up” was significantly predicted. This item was the only one that directly asks the intentions of the participants. Moreover, in their first empirical study on deviance regulation, Blanton and Christie (2003) used a single-item measure asking the likelihood of committing a behaviour, which corresponded to the semantically same item as the first DV item of the current study. In addition, Ainley and Patrick (2006) suggest that single item measures deliver meaningful information for unambiguous and narrowly defined content. However, single item scales have been also developed and validated for broader constructs such as attitudes (Bergkvist & Rossiter, 2007), empathy (Konrath, Meier, & Bushman, 2018), narcissism (Konrath, Meier, & Bushman, 2014), and self-esteem (e.g., Robins, Hendin, & Trzesniewski, 2001). Following this vein of research, we relied on the single-item measurement of intention for the analyses, and only those analyses pertaining to this item are reported hereafter.

The Levene’s Test was not significant, therefore, we proceeded to test our hypothesis, \(F(7, 241) = 1.14, p = 0.34. \) The results of the ANOVA pointed that the intentions to pick up a hitchhiker was differed across conditions, \(F(7, 241) = 2.33, p = 0.03. \) The post hoc analyses indicated that the intentions of the participants in positive norm-positive uniqueness frame condition \((M = 4.07, SD = 0.92)\) was significantly higher than the intentions of the participants in the positive norm-negative uniqueness frame condition \((M = 2.96, SD = 1.08)\) (see Table 3).

To see the effect of the identification level in this analysis, an ANCOVA was conducted as identification was included as a covariate. The Levene’s Test allowed us to conduct the ANCOVA, \(F(7, 239) = 1.16, p = 0.33. \) The results indicate that after controlling for identification, there was a significant difference between the participants in different conditions in their intentions, \(F(7, 246) = 2.29, p = 0.03. \) The post hoc analyses revealed that, similar to the ANOVA results, the participants in positive norm-positive uniqueness frame condition reported significantly higher intention to pick up a hitchhiker than the participants in the positive norm-negative uniqueness frame condition. Moreover, after controlling for age, gender, and the sticker type, the mean differences among conditions were retained, \(F(7, 227) = 2.25, p = 0.03. \) The participants in the positive norm-positive uniqueness frame condition reported higher intentions to pick up a hitchhiker than participants in the positive norm-negative uniqueness frame condition and the negative norm-positive uniqueness frame condition \((M = 3.57, SD = 1.07).^2 \)

3.2. Speeding study

An ANOVA was performed to test whether the participants across conditions differed on their intentions to obey speed limits. As in hitchhiking study, only the first item of “I will obey the speed limits on campus in the following days” revealed significant results, and reported here. The Levene’s Test was significant, \(F(3, 75) = 3.05, p = 0.03, \) but the ANOVA results indicated that the groups differed on their intentions to obey speed limits, \(F(3, 75) = 3.01, p = 0.04. \) The participants in the positive norm-negative uniqueness frame condition reported higher intentions to obey speed limits \((M = 4.57, SD = 0.68)\) than the participants in the positive norm-positive uniqueness frame condition \((M = 3.96, SD = 0.96), \) the negative norm-positive uniqueness frame condition \((M = 3.69, SD = 1.14), \) and the negative norm-negative uniqueness frame condition \((M = 4.81, SD = 1.22) \) (see Table 3). The results indicate that the negative frame is more effective to increase conformity than the positive frame. In addition, none of the frames worked better (that is none of the other conditions significantly differed from each other)

\(^2\) The means of positive norm-positive group benefit \((M = 3.29, SD = 1.24)\) and the positive norm-negative group benefit \((M = 3.35, SD = 1.09)\) conditions did not differ, contrary to the hypothesis 1.1. The means of positive norm-positive uniqueness and the negative norm-positive uniqueness conditions, and the means of positive norm-positive group benefit and the negative norm-positive group benefit \((M = 3.61, SD = 1.26)\) conditions did not differ, contrary to the hypothesis 1.2.

\(^3\) The means of negative norm-positive uniqueness \((M = 3.57, SD = 1.07), \) the negative norm-negative uniqueness \((M = 3.57, SD = 1.07), \) and positive norm-positive uniqueness \((M = 3.57, SD = 1.07)\) conditions did not differ, contrary to the hypotheses 2.1 and 2.2.
when the norm is to not obey speed limits. The group differences remained the same after controlling for identification, age, gender, and sticker type.

3.3. Seat belt study

Along with an ANOVA for the effect of message frame on the intentions to use a seat belt, ANCOVAs for the possible covariates of identification, perceived norm of seat belt use, age, and gender were run for both the scale score and each intention items. As hypothesized, none of the groups differed from each other in terms of their intentions to use seat belt in any analysis. The means of each condition on the scale score of intention to use seat belt was as follows: 4.63 (SD = 0.69), 4.60 (SD = 0.92), 4.69 (SD = 0.69), and 4.49 (SD = 0.80) in a 5-point Likert scale, respectively. Therefore, these high and close mean scores resulted in low variance in intention (possibly, an indication of the “habit” of frequent seat belt use across samples), and thus reduced the ability of the message frame to have an effect on intentions (see Table 3).

3.4. Identification

Apart from the analyses on the overall sample, it was investigated that whether the participants with high and low identification with the university were affected differently from the manipulations, and have differed on their intentions in each condition. Several ANOVAs were conducted to test the role of identification.

For all the conditions of three studies, median splits for identification scale scores were performed separately, and dummy coded high and low identification variables were created. Then, to test whether the identification level has affected the intentions, ANOVAs were conducted for each condition, using the dummy coded identification. The ANOVAs were conducted both for the scale score of intention to pick up a hitchhiker, and for the first item of the scale that is reported in the hypothesis testing.

As a result, it is revealed that participants in the positive norm-positive uniqueness condition and the positive norm-negative group benefit condition have differed on their intentions depending on their identification levels. Among participants in the positive norm-positive uniqueness frame condition, the participants who have identified themselves highly with the university (M = 4.47, SD = 0.64) had higher intentions to pick up hitchhikers than low identifiers (M = 3.64, SD = 1.01), F (1, 27) = 7.00, p = 0.01. The results suggest that when the manipulation promotes a positive norm in a self-focused manner, highly identified individuals would be more likely to conform to this norm than low identifiers.

Conversely, among the participants in the positive norm-negative group benefit frame condition, the ones with low identification with the university (M = 3.68, SD = 1.06) had significantly higher intentions to pick up hitchhikers than high identifiers (M = 2.88, SD = 1.03), F (1, 33) = 5.24, p = 0.03, using the single-item as dependent variable. These results display the reverse relationship between identification and intentions to pick up hitchhikers, when the manipulation includes a disapproval to the ones who does not conform to a positive norm by emphasizing its group level importance. In this case, the low identifiers indicated high intention of conformity to the group norm of picking up a hitchhiker than high identifiers.

When the analyses were conducted for the speeding study, in none of the conditions the speeding intentions differed significantly depending on their identification level. The results suggest that speeding intentions are not related with identification with the group.

For the seat belt study, the scale score of intentions to use seat belt was used. It is found that among participants in the negative norm-negative uniqueness frame condition, the higher identified individuals (M = 4.76, SD = 0.43) were significantly more inclined to deviate from the norm and use seat belt than low identifiers (M = 4.24, SD = 0.98), F (1, 39) = 4.83, p = 0.03. The results suggest that identification level has an influence on seat belt use when the norm is negative and it is disapproved by the society.
4. Discussion

The main purpose of the current studies was to examine when the individuals will prefer to conform and when to deviate, and which motivation is stronger for these acts: uniqueness or group concern.

In the hitchhiking study, the participants displayed higher intentions to pick up a hitchhiker in the positive frame condition: The norm is to do so, and the ones who follow the norm are appraised. Confirming our hypothesis, the social behaviour of helping seems to work with loyal conformity (Packer, 2008). The context seems to be the one of the main determinants of the likelihood of conformity for hitchhiking on campus (Griskevicius et al., 2006).

The speeding study confirmed the deviance regulation theory’s principle of grounding the persuasive message on the deviant behaviour. The DRT proposed that if the aim is to increase conformity, one should communicate the negative attributes of deviants. In line with this proposition, Elliott (1993) has also revealed in his meta-analysis that when the baseline conformity is low, negative frames are more effective. This effect was seen in the speeding study, where the participants were more likely to perform the normative behaviour when the message is negatively framed. As we expected, for speeding on campus, deviance seems to work with people’s desire to express individuality and uniqueness by providing people a positive unique self-image. The individuals seem to be one of the main determinants of the likelihood of deviance for speeding on campus (Griskevicius et al., 2006).

As expected, no effect was found for the seat belt study, where the scale score means for intention to use seat belt were high in each condition. It is also noteworthy that in none of the studies the counter-normative conditions emerged as the most or the least effective ones.

What stands out here as a take-home message is that among the driver behaviours, the positive active behaviour (i.e. needs constant decision making and action, and is socially desirable) of picking up a hitchhiker was promoted by the positively framed message (i.e. picking up hitchhikers is good), while the negative active behaviour (i.e. needs constant decision making and action, and is socially undesirable) of violation as in speeding was discouraged by the negatively framed message (i.e. not obeying the speed limits on campus is bad).

4.1. Nature of the behaviours

The behaviours in the current study were selected to be able to compare each in the deviance and conformity context, and this aim was satisfied with divergent results in each study. Blanton and Christie (2003) expect that different behaviours might trigger different expectations from individuals. Although hitchhiking was not much distinct from them, the texts in speeding and seat belt studies were identical other than the behaviour in query, therefore the difference in results might arise from the nature of the behaviours and active goals of the individuals.

4.1.1. Hitchhiking

Hitchhiking was selected as the behaviour of interest in the first study since it was a group-focused behaviour and therefore might reveal varying results for conformity or deviance. The relational and altruistic nature of hitchhiking might have evoked the conformity and group loyalty motivation in the individual, which consequently lets the individual follow the norm when it is praised. Rhee, Uleman, and Lee (1996) have predicted that individuals raised in collectivistic cultures would have higher social responsibility for the in-group members (as cited in Blanton & Christie, 2003). Moreover, Blanton and Christie (2003) specifically mention ought-self pursuit as a boundary condition for the DRT. The current investigation, conducted in a collectivistic sample (Hofstede Insights, n.d.), supports their suggested boundary condition, as the hitchhiking study results imply the social obligations, and therefore, ought-self through the altruistic nature of giving lift to a hitchhiker. Intentions to pick up hitchhikers was the highest, among all the other conditions, when the norm is to pick up and it is emphasized that picking up is as sign of good personality. These results suggest that conformity to a positive norm is best promoted by praising the ones who conform to this positive norm. Moreover, these results are also in line with the meta-analysis of Elliott (1993) that has demonstrated that positive messages are more effective when the baseline compliance of a behaviour is high.

We found divergent results for the effects of identification on the intentions to pick up a hitchhiker. When the positive norm is approved with individual focus, the conformity is stronger for high identification participants compared to low identification counterparts. On the other hand, when the deviance from the same positive norm was disapproved for the benefit of the group, the low identified participants displayed a strong conformity than high identifiers. These results might indicate that emphasizing the virtue of conforming is highly effective in already identified individuals for altruistic behaviour of picking up a hitchhiker. On the other hand, criticizing those who do not conform may create a reactance in highly identified individuals who would otherwise conform. Therefore, they conform much less while low identified individuals prefer to conform. Overall, the altruistic norm behaviour is highly promoted by positive frame. Specifically, while the negative frame backfires for high-identified individuals, it can be an appropriate strategy for low identifiers.

4.1.2. Speeding

Different from the hitchhiking behaviour, speeding was positively affected from the negative frame of the non-normative behaviour, probably because individuals can satisfy their personal needs of being unique through speeding. Many studies confirm that speeding is highly influenced by the social environment both in positive and negative ways, as in speeding
to impress the passenger peers, or in lowering speed to protect them (e.g., Fleiter et al., 2010; Simons-Morton et al., 2005). In line with this, the current study revealed that in speeding context, uniqueness motivation is stronger than conformity. Moreover, the levels of identification with the university did not affect the intentions to obey the speed limit. This finding further supported that speeding is motivated not by identification with the group, but by the need to be unique within the group.

4.1.3. Seat belt

In 2014, a comprehensive study (Ministry of Interior of the Republic of Turkey, 2015) was conducted by observing 635,426 cars for the drivers’ and front-seat passengers’ seat belt usage in Turkey. Among those observed cars, 383,606 were driving inner city. Across Turkey, 39.8% of drivers were wearing seat belt inner city, which can be considered as a mediocre rate. Although it would have been better to have the actual rates of use for the current sample, the intention to use seat belt was very high in each condition of the study. This can be either due to the socially desirable nature of seat belt use, which influences survey responding, or the intrinsic need for seat belt for safety, which leads to actual prevalent use of seat belt in the current sample. Indeed, as mentioned earlier, seat belt use is less likely to be influenced from outside forces, and it is mostly a matter of habit and general attitudes about the protective role of seat belts. Therefore, the current study confirms the literature by showing no impact of any message frames on the intentions, and thus supports the permanent nature of seat belt habit.

Moreover, this result may indicate that a manipulation might not be necessary in a country where the seat belt use is already high, like Scotland (97.8% rate of driver seat belt use; Seatbelt and mobile phone usage survey Scotland, 2014), which could result in a ceiling effect. On the other hand, in a country where the rates are low, a floor effect might occur for helping increase the seat belt use rate. In addition, seat belt use has consequences that are personal instead of social. In that case, it is clear that messages would not strongly affect behaviours that are more stable over time and more likely to be a result of individual’s existing attitudes rather than behaviours that are performed because of social influence.

The only effect found was of identification level when not using seat belt is the norm and it is disapproved. In this case, the deviation from the norm towards a more positive behaviour is more likely for strongly identified individuals than low identifiers. Contrary to the habitual nature of seat belt use, this result suggests high identification might motivate towards a positive deviation from the group. Moreover, the results indicate that to promote deviation from the negative norms, negative framing can be effective.

4.2. Nature of the group and group identification in traffic

Behaviours on-campus, for which norms and other members’ evaluations were presented, were expected to be influenced by university identification. However, three behaviours in three studies revealed different results in reaction to the same norm manipulation. Moreover, the level of identification had different effects on the behaviours. Besides the variant nature of the behaviours, these results may also point to the concept of group in traffic behaviour, and what the reference group is for the drivers.

Identifying oneself highly even with a relatively closed group like a university does not seem to have a consistent impact on individuals’ behaviours. Therefore, this issue of identification can be generalized into the whole traffic environment directly, and we can question whether there is an identification in traffic with the members of the same city or the same country or user groups. If we cannot see an effect even within a small group about behaviours in the closed environment of a campus, it might be harder to think of a group in the city, where the anonymity is much more secured and people cannot be held accountable of their actions.

Besides anonymity and accountability, members of traffic may not be satisfying the criteria for being a group. Although drivers interact with, are interdependent on, and influence each other, and accept there are set norms, they are not acting towards a mutual goal that can be achieved together (characteristics of a group; Johnson & Johnson, 1987). Even, being alone in a traffic environment would be more pleasant for them. Indeed, importantly, their interdependence on each other is not because of their need for each other, but because of being affected from each other’s actions. Especially for campus drivers, we can suggest that being a group to achieve a mutual goal and even high identification could not lead to a clear effect in their traffic behaviours. Therefore, group identification and the idea of a reference group in traffic should be reconsidered.

5. Limitations and contributions

The current studies have many contributions to both the driver behaviour and social influence studies, along with some limitations. Although the participants in each sample tried to be recruited as representative of different status members within the university, the results would have benefited from having identical age ranges in all three studies, and balanced number of participants from each status. In addition, relying on a single item can be considered as a limitation, considering a consensus has not been reached with regards to the validity of these measures. Furthermore, a ceiling effect might have been observed in intention results of the seat belt study, since it would be inconclusive to measure an effect of a manipulation when the means of the scale score are already high.

Keeping these limitations in mind, first, this study is unique in applying the deviance regulation theory to the driver behaviour literature. Up to date, the traffic environment has not been examined from the approach of behaving differently from
the norm. Secondly, to our knowledge, this study is the first one in comparing different behaviours for deviance and conformity in traffic context. Moreover, no other studies have tried to uncover whether some behaviours are more likely to be motivated towards conformity, while others towards deviance.

In the current studies, three different traffic behaviours with distinct characteristics have been studied in comparison. These studies have potential implications for behaviour change. They reveal that different message frames work better for different behaviours. Therefore, it can be suggested for public service announcements and other social influence studies to adjust the message frames not only according to the norms, but also to the nature of the behaviours, whether they are group-focused or individual-focused, altruistic or self-centred, and so on.

Acknowledgement

We thank the anonymous reviewer for insightful comments. We also want to thank the Scientific and Technological Research Council of Turkey (TÜBİTAK) for supporting the authors. Lastly, we would like to thank to Turkish Academy of Sciences for TÜBA-GEBİP support.

A: Manipulation vignettes

A.1. Hitchhiking study

A.1.1. Norm manipulation
A.1.1.1. Norm manipulation – 1. Hitchhiking is getting lift by asking vehicles passing by for a free transportation. It stands as a frequently used means of transportation for people between 18 and 30, especially university students. A large-scale driver behaviour study conducted in recent years at METU revealed that picking up hitchhikers is very common among the METU member drivers (Sarıoglu, 2013). For example, during the last year, 68% of METU sticker owners picked up a hitchhiker.

A.1.1.2. Norm manipulation – 2. Hitchhiking is getting lift by asking vehicles passing by for a free transportation. It stands as a frequently used means of transportation for people between 18 and 30, especially university students. However, a large-scale driver behaviour study conducted in recent years at METU revealed that picking up hitchhikers is very uncommon among the METU member drivers (Sarıoglu, 2013). For example, during the last year, 68% of METU sticker owners did not pick up a hitchhiker.

A.1.2. Message frame
A.1.2.1. Message frame – 1. A recently completed research includes remarkable evaluations regarding drivers who pick up hitchhikers in METU. In this study, first, participants were asked to think about a typical driver who picks up hitchhikers and to list the first 5 adjectives that strikes. In the second part of the study, they were asked to evaluate 100 adjectives for how much they define drivers who pick up hitchhikers. According to the results of the study, drivers who pick up hitchhikers in METU campus were evaluated as helpful and thoughtful. Also, these drivers are viewed as not being selfish and insensitive.

A.1.2.2. Message frame – 2. A recently completed research includes remarkable evaluations regarding drivers who pick up hitchhikers in METU. In this study, first, participants were asked to think about a typical driver who doesn't pick up hitchhikers and to list the first 5 adjectives that strikes. In the second part of the study, they were asked to evaluate 100 adjectives for how much they define drivers who don't pick up hitchhikers. According to the results of the study, drivers who don't pick up hitchhikers in METU campus were evaluated as selfish and insensitive. Also, these drivers are viewed as not helpful and thoughtful.

A.1.2.3. Message frame – 3. A recently completed research includes remarkable evaluations regarding drivers who pick up hitchhikers in METU. In this study, first, participants were asked to think about a typical driver who picks up hitchhikers and to list the first 5 adjectives that strikes. In the second part of the study, they were asked to evaluate 100 adjectives for how much they define drivers who pick up hitchhikers. According to the results of the study, drivers who pick up hitchhikers in METU campus were evaluated as caring about cooperation on campus and having high sense of social responsibility. Also, these drivers are viewed as not being insensitive and irresponsible.

A.1.2.4. Message frame – 4. A recently completed research includes remarkable evaluations regarding drivers who pick up hitchhikers in METU. In this study, first, participants were asked to think about a typical driver who doesn't pick up hitchhikers and to list the first 5 adjectives that strikes. In the second part of the study, they were asked to evaluate 100 adjectives for how much they define drivers who don't pick up hitchhikers. According to the results of the study, drivers who don't pick up hitchhikers in METU campus were evaluated as insensitive and irresponsible. Also, these drivers are viewed as not caring about cooperation on campus and having low sense of social responsibility.
A.2. Speeding study

A.2.1. Norm manipulation
A.2.1.1. Norm manipulation – 1. Obeying the speed limits plays an important role in preventing death and serious injuries as a result of a crash or emergency brake. According to the latest data from Turkey, most of the drivers obey the speed limits. A large-scale driver behaviour study conducted in recent years at METU revealed that most of the METU member drivers obey speed limits on campus (Sarıoglu, 2013). Study reveals that 68% of METU sticker owners obey the on-campus speed limits.

A.2.1.2. Norm manipulation – 2. Obeying the speed limits plays an important role in preventing death and serious injuries as a result of a crash or emergency brake. However, according to the latest data from Turkey, most of the drivers do not obey the speed limits. A large-scale driver behaviour study conducted in recent years at METU revealed that most of the METU member drivers do not obey speed limits on campus, neither (Sarıoglu, 2013). Study reveals that 68% of METU sticker owners do not obey the on-campus speed limits.

A.2.2. Message frame
A.2.2.1. Message frame – 1. A recently completed research includes remarkable evaluations regarding drivers who obey speed limits in METU. In this study, first, participants were asked to think about a typical driver who obeys the speed limits and to list the first 5 adjectives that strikes. In the second part of the study, they were asked to evaluate 100 adjectives for how much they define drivers who obey the speed limits. According to the results of the study, drivers who obey speed limits in METU campus were evaluated as cautious and conscientious. Also, these drivers are viewed as not behaving thoughtless and risky.

A.2.2.2. Message frame – 2. A recently completed research includes remarkable evaluations regarding drivers who do not obey speed limits in METU. In this study, first, participants were asked to think about a typical driver who does not obey the speed limits and to list the first 5 adjectives that strikes. In the second part of the study, they were asked to evaluate 100 adjectives for how much they define drivers who do not obey the speed limits. According to the results of the study, drivers who do not obey speed limits in METU campus were evaluated as behaving thoughtless and risky. Also, these drivers are viewed as not being cautious and conscientious.

A.3. Seat belt study

A.3.1. Norm manipulation
A.3.1.1. Norm manipulation – 1. Seat belt plays an important role in preventing death and serious injuries as a result of a crash or emergency brake by keeping drivers in their seats. According to the latest data from Turkey, most of the drivers use seat belt. A large-scale driver behaviour study conducted in recent years at METU revealed that most of the METU member drivers use seat belt, as well (Sarıoglu, 2013). Study reveals that 68% of METU sticker owners use seat belt.

A.3.1.2. Norm manipulation – 2. Seat belt plays an important role in preventing death and serious injuries as a result of a crash or emergency brake by keeping drivers in their seats. However, according to the latest data from Turkey, most of the drivers do not use seat belt. A large-scale driver behaviour study conducted in recent years at METU revealed do not use seat belt. Conducted in recent years in METU a large-scale driver behaviour study revealed that most of the METU member drivers do not use seat belt, neither (Sarıoglu, 2013). Study reveals that 68% of METU sticker owners do not use seat belt.

A.3.2. Message frame
A.3.2.1 Message frame – 1. A recently completed research includes remarkable evaluations regarding drivers who use seat belt in METU. In this study, first, participants were asked to think about a typical driver who uses seat belt and to list the first 5 adjectives that strikes. In the second part of the study, they were asked to evaluate 100 adjectives for how much they define drivers who use seat belt. According to the results of the study, drivers who use seat belt in METU campus were evaluated as cautious and conscientious. Also, these drivers are viewed as not behaving thoughtless and risky.

A.3.2.2. Message frame – 2. A recently completed research includes remarkable evaluations regarding drivers who don’t use seat belt in METU. In this study, first, participants were asked to think about a typical driver who doesn’t use seat belt and to list the first 5 adjectives that strikes. In the second part of the study, they were asked to evaluate 100 adjectives for how much they define drivers who don’t use seat belt. According to the results of the study, drivers who don’t use seat belt in METU campus were evaluated as behaving thoughtless and risky. Also, these drivers are viewed as not cautious and conscientious.
References


Konrath, S., Meier, B. P., & Bushman, B. J. (2014). Development and validation of the single item narcissism scale (SINS). *PLOS One*, 9(8), e103469.


