The mediation effect of emotion dysregulation in the relationship between anger and aggression on the road in a sample of Spanish drivers

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Aggressive behaviour on the road is one of the most studied topics in human factors, given it has been related to both risky behaviour and traffic crashes. While previous research has proposed trait driving anger as one of the better predictors, mediation variables which could explain this relationship have not deserved attention. The current research aimed to explore the mediation effect of emotion regulation in this relationship. The sample consisted of 472 Spanish drivers, who completed a set of self-reports regarding trait driving anger, frequency of aggressive behaviours at the wheel, and difficulties in emotion regulation. The results showed significant relationship among the variables in almost all the cases. Furthermore, a SEM analysis showed that difficulties in emotion regulation significantly mediated the relationship between trait driving anger and each way of the aggressive behaviours (verbal, physical, using own vehicle, and displaced). These results have important implications in the design of strategies focused on the improvement of emotion regulation to reduce aggressive behaviours in drivers. Finally, the limitations of the study are commented.

Keywords: Trait driving anger; Driving aggression; Emotion regulation

Introduction

Research on aggressive behaviour on the road has deserved more and more attention in the last years, as it has been closely related to outcomes such as risky behaviour behind the wheel (Zhang & Chan, 2016) and even crash-related events (Herrero-Fernández & Fonseca-Baeza, 2017). One of the most internationally replicated theoretical approaches regarding aggressive behaviour on the road is the Deffenbacher´s classification of the ways of aggressive expression (Deffenbacher, Lynch, Oetting, & Swaim, 2002). It states that aggressions can be conducted in five ways: verbally (e.g. calling names aloud), physically (e.g. shaking the fist to express anger), using own vehicle (e.g. speeding up to disturb another driver), displacedly (e.g. screaming at the people who share the space in the vehicle), and adaptatively or constructively (e.g. breathing deeply to calm oneself). This model has been replicated in many countries, such as Germany (Brandenburg, Oehl, & Hartwig, 2019), Spain (Herrero-Fernández, 2011b), Mexico (Alcazar-Olán, Deffenbacher, Reyes, Hernández, & Casas, 2018), Brazil (Olandoski, Bianchi, & Delhomme, 2019), or Malaysia (Sullman, Stephens, & Yong, 2015). However, only the study conducted in Spain replicated the original five-factor structure. On the whole, it can be appreciated that adaptative or constructive aggressive expression is the most frequent one while physical expression is the less frequent one (Herrero-Fernández, 2015b; Sullman, et al., 2015).

To date, several driving-aggression predictors have been explored. First of all, the effect of age, gender and driving experience has been analysed with respect to the way of expressing driving anger. Regarding age, almost all the studies agree on the negative relationship between age and the frequency of maladaptive ways of anger expression behind the wheel (Deffenbacher, Kemper, & Richards, 2007; Herrero-Fernández, 2011b). As far as gender is concerned, however, the results are not clear-cut, but, in general, the

effect sizes are very low. This implies that although some of the effects could be statistically significant, the relevance of the results is very low. For example, in the study carried out in German, significant differences were observed when using own vehicle way of aggression, with male drivers scoring higher than female ones (Brandemburg, et al. 2019). In the case of the study performed in Mexico, males scored higher in physical aggression whereas females did so in silent verbal aggression (Alcazar-Olán, et al., 2018). In the case of the study with Brazilian drivers, female drivers scored higher in adaptive / constructive way of expressing anger (Olandowski, et al., 2019). Finally, in the case of the study with Malaysian drivers, males scored higher in physical expression, using own vehicle expression, and in the total score. Ultimately, driving experience seems not to be related to aggression on the road, not when measured by years with driving license (Lajunen & Summala, 1995; Schwebel, Severson, Ball, & Rizzo, 2006), nor when measured by the distance driven (Brandenburg, et al., 2019; Herrero-Fernández, Fonseca-Baeza, & Pla-Sancho, 2014).

Among the different psychological variables analysed, research has evidenced that one of the most relevant ones in the prediction of aggressive behaviour behind the wheel is anger. From a state-trait theoretical viewpoint, state anger is referred to the level of anger that one experiences in a specific moment or situation, whereas trait anger is referred to as a general tendency to experience feelings of anger (Spielberger, Krasner, & Solomon, 1988). This theoretical approach has been applied specifically in driving contexts, so trait driving anger is defined as the propensity to feeling anger while driving, as a personality trait (Deffenbacher, Oetting, & Lynch, 1994). In general, research has shown larger correlations between state anger and aggression on the road than between trait driving anger and aggression on the road (Herrero-Fernández, 2016; Deffenbacher, Filetti, Richards, Lynch, & Oetting, 2003). However, whereas the analysis of state anger

usually requires the implementation of experimental paradigms, such as simulation studies, trait studies are easier from a methodological viewpoint. Besides, trait studies give information about people's general tendencies regarding getting angry. All in all, the relationship between trait driving anger and driving aggression has been replicated in several studies, which—in general—have shown moderate relationships between both constructs (Bogdan, Mairean, & Havarneanu, 2016; Brandenburg et al., 2019; Delhomme & Villieux, 2010; Herrero-Fernández, 2011b, 2013; Sullman et al., 2015).

However, although most research has analysed the relationship between both constructs as a direct one, some studies have proposed the existence of third variables that could explain this relationship, in a kind of a mediation process. For example, one of the studies found that aggressive thoughts related to driving contexts mediated significantly in the relationship between trait driving anger and aggression on the road, with a large effect size (Bogdan-Ganea & Herrero-Fernandez, 2018). A similar study found that rumination (considered as a temporal maintenance of aggressive thoughts) mediated also between anger and the history of aggressive behaviours (Suhr & Nesbit, 2013). Even though both studies analysed driving specific variables as mediators, some other general variables could act as mediators in this relationship as well, such as emotion dysregulation.

Emotion regulation has been defined as the process that generates, maintains or buffers the experience of emotions or behaviours related to the experience of an emotion (Eisenberg & Spinrad, 2004). In recent years, it has become clear that while a certain strategy may prove adaptive in a particular emotional situation, it may lead to maladaptive outcomes in another (Shafir, Thiruchselvam, Suri, Gross, & Sheppes, 2016). In this sense, emotion regulation has been considered as a process that allows monitoring, evaluation and modulation of emotional reactions (Valente et al., 2017). Therefore, people would

activate processes of emotion regulation in relation to an objective, such as reducing a negative affective state in which a person has been intensely involved. This could be understood as regulation through the use of dysfunctional emotional regulation strategies, since negative emotions would trigger the activation of inappropriate regulation strategies, producing more intense and uncontrolled reactions (Hervas & Vazquez, 2013). Consequently, the attempts of control exercised by the individual in the face of negative emotions can be counterproductive since they would increase emotional dysregulation (Mancke, Herpertz, Kleindienst, & Bertsch, 2017).

In this line, Gross' theoretical approach proposes the existence of a series of phases (situation, attention, interpretation and response) where multiple strategies of emotional regulation can be established depending on the phase in which the person is. However, dysfunctional strategies of emotional regulation will influence emotional experience, expression and behavioral manifestation, leading, at times, to important risks for physical and mental health (Gross & Levenson, 1995). Likewise, the level of intensity of negative emotions may favour certain strategies of emotional dysregulation determining the degree of activation in emotional response systems (Dixon-Gordon, Aldao, & De Los Reyes, 2015). An important element that contributes to dysregulation is trying to regulate emotions in a precipitous way, for which it is necessary an active process of both elaboration of the emotion and its understanding. This process allows high intensity emotions to decline progressively (Gross, 2015; Gross & Jazaieri, 2014). Therefore, not only do intense or traumatic emotions need emotional processing, but this active process is also necessary for any kind of positive or negative emotion. Some authors point out that emotional rejection (negative judgments in the face of one's own emotional experience), problems of emotional neglect (not devoting attentional resources to emotional information), emotional confusion (the ability to name emotions clearly), and

interference with life contribute to the dysregulation of emotions (Hallion, Steinman, Tolin, & Diefenbach, 2018).

In relation to this, both negative emotions and dysregulation of emotions have been observed to influence risky and aggressive driving (Eherenfreund-Hager, Taubman – Ben-Ari, Toledo, & Farah, 2017; Navon & Taubman-Ben-Ari, 2019; Qu, Dai, Zhao, Zhang, & Ge, 2016). In the specific case of aggressive driving, impulse control difficulties has been suggested as the most relevant emotion dysregulation predictor of aggressive behavior (Šeibokaitė, Endriulaitienė, Sullman, Markšaitytė, & Žardeckaitė-Matulaitienė, 2017; Trógolo, Melchior, & Medrano, 2014), as well as difficulties engaged in goal-directed behavior (Šeibokaitė, et al., 2017). However, to our knowledge, no studies have been conducted relating emotion dysregulation with the specific ways of aggression assessed by the DAX.

Therefore, the aim of the current research is to analyze the relationship of emotion dysregulation with both trait driving anger and the different ways of aggressive expressions behind the wheel. Furthermore, the hypothesis of the mediation effect of emotion dysregulation in the relationship between trait driving anger and aggressive behavior will be tested.

Method

Participants

The sample consisted of 472 participants taken incidentally from the Spanish general population. Therefore, it cannot be considered as representative of the general population of Spanish drivers. All of them had a valid driving license. Out of the total participants, 158 (33.5%) were male, 311 (65.9%) female and 3 (0.6%) non-binary gendered. Regarding age, this ranged between 18 and 76 (M = 35.66, SD = 12.39). Most of the

participants (295, 62.5%) had a university degree, whereas 2 (0.4%) had not finished their primary studies, 24 (5.1%) had completed their primary studies, 46 (9.7%) had secondary studies, and 105 (22.3%) had professional training. As far as their marital status is concerned, 204 (43.2%) were single, 225 (47.7%) were married, 40 (8.5%) were divorced, and 3 (0.7%) were widowers. Finally, they drove a mean of between 1 and 20000 Km a week (M = 363.26, SD = 1359.75, Mdn = 150, IQR = 260). All of the participants were voluntary and did not receive any compensation for participating.

Instruments

The following instruments were used to measure the variables of the study. All the internal consistency values refer to the current sample.

Driving Anger Scale (DAS). The DAS questionnaire is a 5-point Likert scale (1 = Not at All; 5 = Very Much) that assesses trait driving anger by measuring the level of anger a driver experiences in the situations the items describe. The DAS is associated with aggressive tendencies behind the wheel. The 14-item short form of the DAS (Deffenbacher et al., 1994) was adapted to Spanish (Herrero-Fernández, 2011a) as a unidimensional scale; consequently, the higher the score, the greater the propensity of the driver to experience anger behind the wheel. The internal consistency was high (α = .87).

Difficulties in Emotion Regulation Scale (DERS). The DERS (Gratz & Roemer, 2004) is a 28-item self-report that assesses difficulties in emotion regulation through five factors: Lack of control (α = .91), Emotion rejection (α = .92), Life interference (α = .85), lack of emotional attention (α = .87), and emotional confusion (α = .90). The scale is responded in a 5-point Likert scale (1 = almost never – 5 = almost always), so the higher the score is, the worse the ability of the participant for emotion regulation becomes. Then,

it can be taken as a measure of emotion dysregulation. The Spanish version of the DERS was used in the current study (Hervás & Jodar, 2008).

Driving Anger Expression Inventory (DAX). The original version of the DAX (Deffenbacher et al., 2002) was adapted with a Spanish sample (Herrero-Fernández, 2011b), and a short version made of 22 items was developed (Herrero-Fernández, Oliva-Macías, & Parada-Fernández, 2019). This short version was used in the current research. It is a four-point Likert scale (1 = Almost Never to 4 = Almost Always) that assess the frequency of different ways of anger expression behind the wheel: Verbal (α = .90), Physical (α = .81), Using Own Vehicle (α = .82), Displaced (α = .75) and Adaptive (α = .88).

Procedure

The participants completed the set questionnaires on the Internet through a Google Form link which was distributed via social media (Facebook, WhatsApp, email, and so on) in order to attain a larger sample size from the general population of Spanish drivers. This method is validated as prior research has shown no differences between psychometric properties (reliability and validity) or scores of self-reports completed by paper-and-pencil method and on the Internet (Herrero-Fernández, 2015a). There were no missing data in the questionnaires completed via Google Form, as every item had to be answered to be able to complete the poll and send it off.

Participants were informed of the anonymity and voluntary nature of their participation, after which both the informed consent and the information sheet explaining the main goals of the study were presented and signed twice (one copy for the participant and the other for the researchers). This study is a part of an extensive project which was approved by the Research Ethics Board of the European University of the Atlantic.

Results

First, the relationships among all the variables were analysed through bivariate Pearson´s *r* correlation coefficient. The results are detailed in Table 1. As can be observed, almost all of the variables were significantly related to each other, and they did so in the expected direction (positively in all the cases except in the case of the adaptative aggression). The only variable which was not significantly related to neither trait driving anger nor to the different ways of aggressive behaviour was lack of emotional attention. With respect to the other emotion regulation variables, they were significantly correlated with both trait driving anger and the different ways of aggressive driving ranging from .11 to .35. Finally, regarding age and driving experience, it can be observed that whereas age correlated significantly with almost all the variables, driving experience was only significantly related with lack of emotional attention.

[Table 1]

Secondly, gender differences in all the variables were explored. The results showed that there were significant effects only in the case of physical expression, $t(471) = 2.11$, $p = .035$, so male (M = 1.41, SD = 2.26) scored higher than female (M = 0.97, SD = 2.10), and in the case of displaced aggression, $t(473) = -2.27$, $p = .024$, so female drivers (M = 1.21, SD = 1.93) scored higher than male drivers (M = 0.82, SD = 1.43). There were no significant effects by gender in the case of trait driving anger, emotion dysregulation variables, and the other driving aggression variables.

Thirdly, based on previous results, a multiple mediation model was analysed through SEM in order to analyse the mediation effect of emotion dysregulation (mediator

variables) in the relationship between trait driving anger (independent variable) and aggression on the road (dependent variables). Age, gender, and the adaptative way of aggressive expression were introduced as covariants of aggression on the road, given the previous relationships found. The five factors of emotion dysregulation were grouped into a latent variable (Construct Reliability = .75; Average Variance Explained = .42), as were the four ways of aggressive expression behind the wheel (Construct Reliability = .72; Average Variance Explained = .39). This analysis was conducted using EQS 6.1 software (Bentler, 2005) with the robust maximum likelihood method for estimating parameters. First of all, the multivariate normality was assessed through Mardia´s coefficient, with values lower than 7 indicating multivariate normality (Cohen, Cohen, West, & Aiken, 2002). Then, the results were interpreted through a global fit of the model, considering four fit indices: the quotient between $\chi^2_{\text{Satorra-Bentler}}$ and the degrees of freedom (df) of the model, which to be considered a good fit for the model should be lower than 3 (Carmines & McIver, 1981); the Root Mean Squared Error of Approximation (RMSEA), which should be lower than .06 (Hu & Bentler, 1999; Steiger, 1990); and the Non-Normed Fit Index (NNFI) and the Comparative Fit Index (CFI) with values above .90 indicating a good fit (Bentler & Bonnet, 1980). No error terms were allowed to covary, as there were no very large bivariate correlation coefficients among the variables. This implies there was no overlapping between pairs of variables; consequently, each one of them shows a relevant contribution to the variance of its respective latent factor. Furthermore, the significance of the path coefficients (direct effects) was considered, and mediation effects were assessed through the significance of the indirect effects (Hayes, 2013).

The results showed non multivariate normality (Mardia = 43.65) and a satisfactory fit was achieved according to the indices: $\chi^2_{\text{Satorra-Bentler}}/\text{df} = 2.32$, RMSEA = .054 (90% C.I: .042 – .065), NNFI = .93, CFI = .94. The results are detailed in Figure 1. As can be

observed, all the coefficients were significant except for the covariant gender. Besides, the direction of the relationships was as expected.

[Figure 1]

Next, mediation effects were tested. The results showed that emotion regulation significantly mediated the relationship between trait driving anger and aggressive behaviour behind the wheel (total effect: B = 0.70, S.E.B = 0.08, $p < .001$; indirect effect, B = 0.09, S.E.B = 0.03, $p = .005$). This mediation effect was partial, as the direct effect remained significant (B = 0.55, S.E.B = 0.13, $p < .001$). More specifically, it was verified that emotion regulation mediated significantly and partially in the relationship of trait driving anger with each way of aggressive expression: Verbal aggression (total effect: B = 0.06, S.E.B = 0.02, $p = .002$; direct effect, B = 0.28, S.E.B = 0.02, $p < .001$; indirect effect, B = 0.15, S.E.B = 0.02, $p < .001$), physical aggression (total effect: B = 0.03, S.E.B = 0.01, $p = .002$; direct effect, B = 0.11, S.E.B = 0.01, $p < .001$; indirect effect, B = 0.07, S.E.B = 0.01, $p < .001$), aggression using own vehicle (total effect: B = 0.05, S.E.B = 0.03, $p = .057$; direct effect, B = 0.19, S.E.B < 0.01, $p < .001$; indirect effect, B = 0.11, S.E.B = 0.05, $p = .019$), and displaced aggression (total effect: B = 0.02, S.E.B = 0.01, $p = .003$; direct effect, B = 0.07, S.E.B = 0.01, $p < .001$; indirect effect, B = 0.05, S.E.B = 0.01, $p < .001$).

Discussion

The current research aimed to explore the mediation effect of emotion dysregulation in the relationship between trait driving anger and the different ways of aggressive behaviour behind the wheel. Following the DAX theoretical approach, five ways of

aggressive expression were analysed: verbal, physical, using own vehicle, displaced, and adaptative / constructive. The results supported the hypothesis, as all of the indirect effects were significant.

First of all, the bivariate correlations analysis showed significant relationships among trait driving anger, the five ways of aggressive behaviour behind the wheel, and the dimensions of emotion dysregulation, except for lack of emotion attention. This variable showed non-significant correlation coefficients even with some of the other variables of emotion dysregulation. This same effect has been obtained in other research, as lack of emotional attention could be adaptive or maladaptive depending on the ability of the individual to regulate their emotions (Dimaggio et al., 2017; Jáuregui, Herrero-Fernández, & Estévez, 2016). Otherwise, the other four emotion dysregulation processes, as well as both trait driving anger and aggressive behaviour, are always maladaptive (Hervás & Jodar, 2008; Lischetzke & Eid, 2003). Finally, not surprisingly, age showed significant and negative relationships with the aggression measures, whereas driving experience did not correlate with them. Other studies have shown similar tendencies (Herrero-Fernández, 2011b; Herrero-Fernández, et al., 2014; Lajunen & Summala, 1995; Schwebel, et al., 2006).

Therefore, whereas the relationship between trait driving anger and driving aggression is well-known and supported (Bogdan et al., 2016; Brandenburg et al., 2019; Delhomme & Villieux, 2010; Herrero-Fernández, 2011b, 2013; Sullman et al., 2015), to date, the role of emotion regulation had not been studied. The only similar study to the current one found that reappraisal strategies reduced the number of violations while driving (Biassoni, Balzarotti, Giamporcaro, & Ciceri, 2016). However, there is some research in which emotion regulation has been negatively related to general anger and aggression measures in different samples (Beames, O'Dean, Grisham, Moulds, & Denson,

2019; Ersan, 2020; Roberton, Daffern, & Bucks, 2015; Velotti et al., 2017). On the other hand, the Gross´s theoretical framework (Gross & Levenson, 1995) supports the idea that the level of intensity of negative emotions could lead strategies of emotional dysregulation, determining the degree of activation in emotional response systems (Dixon-Gordon et al., 2015; Valente et al., 2017). Then, the mediation effect of emotion regulation was tested though SEM.

The model fitted satisfactorily, and the signification of the indirect effects supported the hypothesis of emotion regulation explaining the relationship between trait driving anger and the four ways of maladaptive aggression when driving. This has several practical implications. First, trait driving anger is a relatively stable construct across time, so clinical interventions to modify it are very scarce and ineffective (Fajkowska, 2018; Hopwood et al., 2013). Consequently, trying to manage it in order to reduce the frequency of aggressive behaviours would have very limited efficacy. Otherwise, emotion (dys)regulation has proven to be a changeable construct. For example, the use of dialectical behaviour therapy (DBT) and mentalization-based therapy (MBT) has been shown to be effective in the regulation of emotions in patients with borderline personality disorder. Both therapies are intended to improve emotion regulation skills and patients are encouraged to train these skills on a regular basis. DBT assumes that improved skills will result in better emotion regulation (Barnicot & Crawford, 2019; Vogt & Norman, 2019). At the same time, mindfulness-based therapy is of particular importance for the regulation of emotions. Since the focus would be on the acceptance of emotions, emotional openness, emotional attention and emotional acceptance as a regulatory mechanism (Erisman & Roemer, 2010). In this line, one driver with a high propensity to experience anger while driving would behave less aggressively if they have been treated to improve their emotion regulation abilities than another driver with the same tendency

but not having been treated in their emotion regulation strategies. Then, interventions based on improving emotion regulation abilities should be applied to drivers with a tendency to behave aggressively. Therefore, the psychological intervention of aggressive behavior should be focused on the training of skills related to conscious attention to the emotional experience, clarity of experience, acceptance of the emotional experience, proper emotional functioning and greater ability to control one's emotions. All this could facilitate a reduction in the tendency to emotional dysregulation in aggressive drivers. Finally, this kind of interventions could complement other therapies which have shown efficacy (Deffenbacher, 2016), such as acceptance-based interventions (Kazemeini, et al., 2013), relaxation-based interventions (Galovski, Blanchard, Malta, & Friedenberg, 2003; Kogan, Richards, & Deffenbacher, 2001, August), and behavioural interventions (Deffenbacher & Alcázar-Olán, 2011, August).

Following this novelty field of research, further subsequent research should focus on adapting those standard interventions based on improving emotion regulation to a driving context in order to reduce aggressive behaviours in a general context. Since emotion regulation allows modulating emotional responses through the activation of different strategies focused on emotion regulation, these will allow a rebalancing of the emotional state by activating more positive emotions, more adaptive cognitive or behavioural strategies, opening up, accepting and understanding their emotional states (McRae, & Gross, 2020). Given the specificity of this context, these interventions should be validated. Moreover, the current research has focused on trait driving anger as the theoretical cause of aggressive behaviours. However, given that the trait and the behaviours showed moderate relationships, future studies should analyse the effect of other relevant variables such as predictors of aggressive behaviour behind the wheel, general trait anger (Bogdan et al., 2016; Herrero-Fernández, 2013), sensation seeking and

impulsiveness (Dahlen, Martin, Ragan, & Kuhlman, 2005). On the other hand, future research should attempt to verify whether the current results are applicable to other road users in which anger and aggression have been studied also, such as cyclists (Oehl, Brandenburg, & Huemer, 2019) and pedestrians (Herrero-Fernandez, Oliva-Macias, & Parada-Fernandez, 2019). Finally, future studies should deepen the analyses of other possible mediators in the relationship between trait driving anger and aggressive tendencies behind the wheel, as all of the meditation effects were partial.

This research has encountered, however, some limitations. Apart from the fact of having assessed only the trait driving anger as predictor of aggressive behaviour (as previously acknowledged), this research is based on self-reports. While there are research supporting the validity of this methodology (Lajunen & Summala, 2003; Taubman-Ben-Ari, Eherenfreund-Hager, & Prato, 2016), behavioural measures (such as those based on driving simulation) should be considered in the future to verify the current results. On the other hand, the present research was carried out with a sample taken from the general population of Spanish drivers. While it gives a general perspective of the theoretical and empirical implications of the results, it should be replicated with clinical samples, such as people with propensity to road rage or even with intermittent explosive disorder, as this last disorder has been related to both aggressive and risky behaviour when driving (Galovski & Blanchard, 2002; Galovski, Blanchard, & Veazey, 2002). Moreover, the current results should be verified in samples from other countries, as the instruments used have shown different factorial structures in studies conducted in other countries. For example, the Spanish version of the DAX is the only one which retained the displaced aggression subscale. Finally, the sample was composed mainly of women. Future studies should replicate the results with samples including a greater number of men.

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Table 1. Mean and SD of all the variables, and bivariate correlation coefficients (Pearson´s *r*) among them

	Range	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12
1. TDA	14 – 70	38.08	9.93	-											
2. Verbal Agg.	5 – 20	4.83	4.59	.46***	-										
3. Physical Agg.	4 – 16	1.15	2.19	.30***	.57***	-									
4. Agg. with Vehicle	5 – 20	2.83	3.45	.37***	.48***	.54***	-								
5. Displaced Agg.	3 – 12	1.09	1.80	.25***	.35***	.43***	.48***	-							
6. Adaptive Agg.	5 – 20	12.39	5.10	- .26***	- .31***	-.19***	-.22***	-.17***	-						
7. Lack of control	9 – 45	17.10	7.70	.35***	.24***	.23***	.24***	.32***	-.17***	-					
8. Emotion rejection	7 – 35	15.23	7.21	.26***	.17***	.15**	.17***	.23***	-.11*	.70***	-				
9. Life interference	4 – 20	10.07	4.18	.20***	.11*	.09	.12*	.18***	-.07	.75***	.60***	-			
10. Lack of em. att.	4 – 20	9.48	3.83	.02	.03	.03	.09*	.04	-.05	.13***	.14***	.06	-		
11. Emotional conf.	4 – 20	7.89	3.50	.21***	.15**	.19***	.25***	.24***	-.08	.53***	.51***	.42***	.49***	-	
12. Age	†	†	†	-.07	- .18***	-.20***	-.22***	-.17***	.19***	-.19***	-.16***	-.21***	.05	-.20***	-
13. Driving Exp.	†	†	†	.04	.01	.08	.07	-.04	.01	-.04	-.02	-.04	.10*	.02	.06

Note. “Range” indicates de possible range of each variable, considering the number of items and the scoring system. TDA: Trait driving anger; Agg.: Aggression; Lack of em. att.: Lack of emotional attention; Emotional conf.: Emotional confusion.

†: See Participants section.

* $p < .05$, ** $p < .01$, *** $p < .001$.

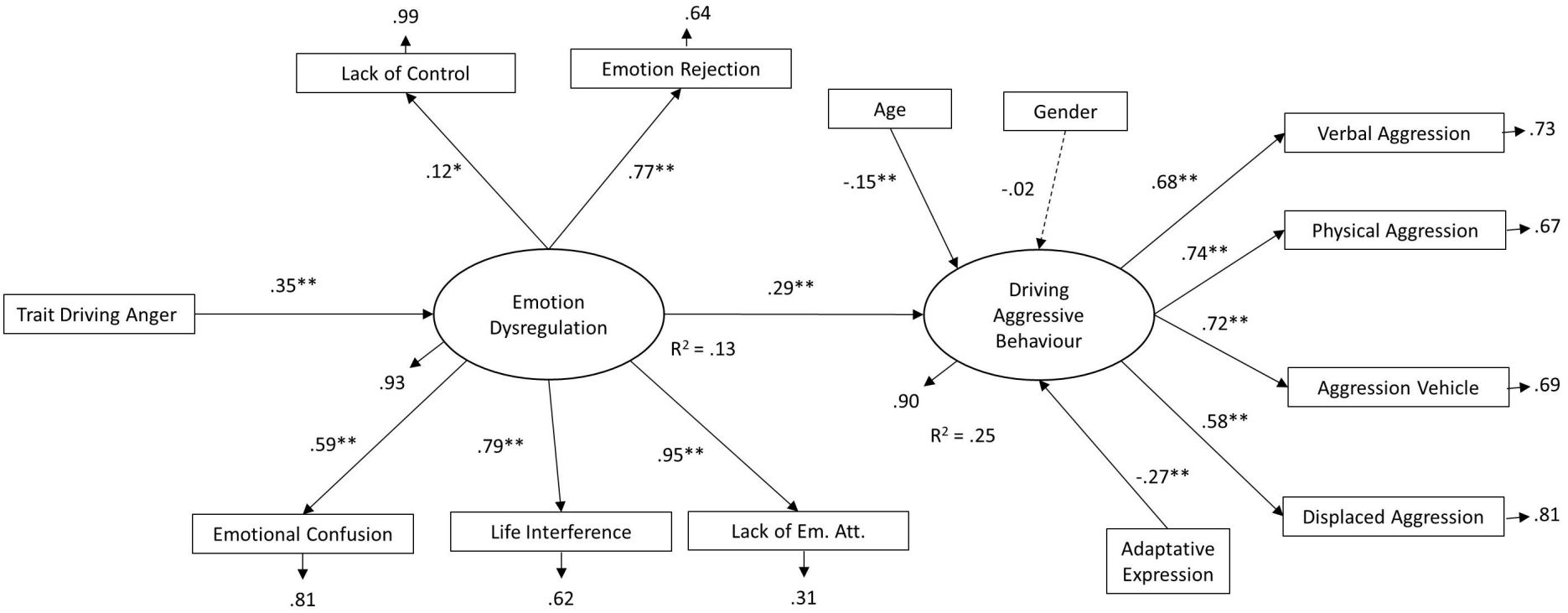

Figure 1. Multiple mediation model with the mediation effect of emotion dysregulation in the relationship between trait driving anger and driving aggression. Note. Lack of Em. Att.: Lack of emotional attention. The dotted line indicates a non-significant relationship.

* $p < .01$, ** $p < .001$.