

The Impact of Cognitive Traits, Mindful Attention, Personal States, Road Environment and Various Driving Behaviors on Mind Wandering during Every Day Driving

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ABSTRACT

Wandering of mind while performing various routine tasks has been shown to increase errors and impair task performance. In this study, the impact of self-reported mind wandering among different variables is observed according to driver's cognitive traits (such as tendency towards mindful attention, awareness and cognitive failure), demographic characteristics (age and gender), personal states (including feeling tired, happy, relaxed or stressed) driving behavior (such as violation, aggressive violation, lapses and mistake) and road environment. Three hundred and ten participants (237 males and 73 females) completed a self-administered questionnaire ((Mindful Attention and Awareness Scale (MAAS), Cognitive Failures Questionnaire (CFQ) and Driver Behavior Questionnaire (DBQ) along with study specific question related to mind wandering during different personal states and road environment. The participants were selected by non-probability purposive sampling technique. Total 360 questionnaires were distributing among those participants who usually drive on long route within city after taking their consents. Out of them only 310 responses were received so the response was approx. 86%. Common reasons behind such mind wandering were found to be inattention, cognitive failure and aggressive driving behavior leading to fatal car crashes and accidents. According to results finding, almost all participants reported mind wandering during driving at least some of the time ($p < 0.005$) Respondents who reported mind wandering were mostly male (mean value $M=3.13$, $F=2.90$) and were more likely to report mind wandering during every day driving wandering on familiar roads (84%). Altogether, the outcome suggests that mind wandering is a common phenomenon during every day driving. However further research can be done to get stronger relation of mind wandering with other variables.

INTRODUCTION

Over the few decades, there is an increase in research to find out the impact and nature of work unrelated thoughts specially mind wandering during every day driving. Researchers also suggest that tasks unrelated thoughts and other mental activities are sometime coupled with every day task to some extent. There are several other distractions that affect the performance of a driver while he drives. The demographic characteristics like age, gender and cognitive traits such as stress and tiredness and road familiarity and unfamiliarity are usually associated with inattention and the occurrence of mind wandering mind wandering during driving. The phenomenon of mind wandering during performing variety of tasks has shown to maximize the errors with impairment in work performances. Mind wandering usually occur when the required attention of a person diverts from a primary task to a task unrelated thoughts. Mind wandering, which is also referred as day dreaming is a type of a spontaneous work not related thought or a sudden mental thought,

which may usually result in the cognitive control failure. It is often experience by most of the people while some evidence suggest that it occupies around 30%-35% of waking hours of an individual. Mind wandering can be caused when the attention of a person diverts from the present task to some mental thoughts which are not related to his/her assign tasks. MW is usually not related to every day's activity but has shown to impact the performances of individual. The researchers are busy in investigating the real concept of Mind Wandering and also suggest that there are potential causes that can promote such phenomenon. During driving, the events of Mind wandering are very common. Various drivers were asked to share their experience of mind wandering during different driving situations, such as driving on familiar or unfamiliar roads or driving in their own car or unfamiliar car. The result revealed that most of the driver's report mind wandering least occasionally and others least likely experienced mind wandering during driving in their own car on familiar roads.

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CONCLUSION

The study aimed to determine the impact of traits (mindful attention and cognitive failure), personal states, demographic characteristics (Age and Gender), (MAAS), Cognitive traits and various driving behavior (DBQ) subscales, (violation, aggressive violation, lapses and mistake) on mind wandering. The result of the study shows that there is a significant positive impact of MW

with MAAS, CFQ and DBQ sub scales as the p value of these variables is <0.005 . Hence we will reject their null hypothesis and accept the alternate hypothesis that is “there is significant impact of MASS, CFQ & DBQ subscales on mind wandering. Although no significant impact was found between MW, age and gender and there is also a weak relation possess between them. So we are failed to reject the null hypothesis that there is significant impact of demographic characteristics (age and gender) on mind wandering.