

“The White Line Fever; A Great Peril”: ‘Exploring the Less Addressed Psychological Phenomenon, Highway Hypnosis’

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ABSTRACT

High way Hypnosis is a light hypnotic/trance like state induced by the monotony of driving a motor vehicle, usually on long, straight roads uninterrupted by crossings, municipalities or other visually distracting factors; which usually occurs in a background of fatigue responsible for a high rate of road traffic accidents and life-threatening injury. Highway hypnosis is a less/little addressed issue with only a handful of existing reviews and studies. Through this article, the investigator has taken the effort to bring the phenomenon to discussion keeping in mind its impact on social health. **Materials and Methods:** Several ‘Electronic databases’, including PubMed, APA Psych Info, Springer Nature, Google Scholar, WHO, Web of Science, Embase, Wiley, Wikipedia, Research Gate, Medline, Academia, Healthline etc. were widely searched for this article.

Keywords: *White Line Fever, Highway Hypnosis, Peril, Exploring, Psychology, Phenomenon, Less Addressed*

“Human Subconscious mind is 30,000 times powerful than the conscious mind”.

- ‘Anonymous’

‘My friend Manu’ once told me that he had a strange experience while driving a distance of 10 km from his office to home during the night. He does not have any idea how he has driven 50 kms instead of 10 kms while claiming that, he was never been asleep but does not remember how he ended up 40 kms away from his home. What Manu experienced was a trance like hypnotic state known as the Highway hypnosis. It does not take a hypnotist to induce a hypnotic state of mind. In fact, we are all constantly moving in and out of these fluid hypnotic states as we engage in normal daily activities, such as day dreaming, studying, watching television, and even driving our cars. These transitions are so natural that they usually go undetected, except there is a high risk of road traffic accidents and potential life-threatening injuries. ¹ Humans are fundamentally conscious beings. We all have the intrinsic capacity to reflect on our own ideas, feelings, and behaviours. This fact can help us when interacting with the subconscious mind. Though it contains a vast amount of human information, the Subconscious Mind is less well-known than the Conscious Mind. It's an effective instrument that can help us accomplish our goals much more quickly than we could

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on our own. ² The Subconscious Mind is a potent instrument that has been generally disregarded in favour of the Conscious Mind. When it works for us, it frequently does what we couldn't, especially if we recognize its potential and make good use of it. The power of subconscious mind remains limitless. ² The Infinite Intelligence, also known as Collective Intelligence, Universal Mind, or Universal Consciousness, is accessible to the Subconscious Mind. Many people experience ideas just come in to their mind out of nowhere that they had no prior knowledge of. The Subconscious Mind, which is connected to Infinite Intelligence, is responsible for this. ³ High way Hypnosis is a light hypnotic/trance like state induced by fatigue while driving a vehicle. The Subconscious mind and autonomic nervous system will take control of driving skills. The subconscious is quite skilled at driving, just as it is at walking, swimming, or riding a bike. When the person drive, the subconscious mind handles most of the driving while the conscious mind engages in higher-order cognitive tasks like planning your meal or thinking about household chores and financial obligations. ⁴ For a very long time, hypo vigilance and weariness have been considered likely causes of traffic accidents. The causes of fatigue and drowsy driving are varied. Variations in activation, arousal, alertness, and vigilance can be connected to a variety of physiological and psychophysiological processes. Although many driving-related factors may influence these processes, it is challenging to pinpoint them precisely due to how intricate and interconnected human functioning is. ⁵

METHODOLOGY

The following article is based on data searched/collected from a wide source of books, National & International journals, Internet sources (Including WHO, Wikipedia, Healthline, BBC, Forbes etc.) and various databases including PubMed, Science Direct, APA Psych Info, Google Scholar, BMC, Wiley, Research Gate, Springer Nature, Academia etc. Also, more than 30 articles including case reports and research reviews are explored and utilised in the present article.

WHAT IS WHITE LINE FEVER?

Highway Hypnosis, A.K.A (Also known as) White line Fever or Road Hypnosis is a type of altered state of consciousness in which a person is capable of operating a car, truck, or other motor vehicle for long distances while reacting to outside stimuli in a safe and appropriate way without being aware of doing so. ⁶ The conscious mind of the driver appears to be entirely focused elsewhere in this situation, but it nevertheless appears to be processing the information required to drive safely. Highway hypnosis is an example of the widespread phenomenon of automaticity. ⁷ As Jim Horne, Researcher from the Sleep Research Centre in Loughborough University observed; the person is not necessarily inattentive but he is in a slightly different state. He is not completely engaged in the task of driving and it is not advisable at all. It's like reading a newspaper at breakfast but not taking in the words because of listening to what's going on in the kitchen, he added. ⁷

HISTORY OF HIGHWAY/ROAD HYPNOSIS

The concept was first described in a 1921 article that mentioned the phenomenon of "Road Hypnotism": driving in a trance-like state while gazing at a fixed point. Miles' 1929 research *Sleeping with the Eyes Open* similarly addressed the issue and made the case that drivers might indeed doze off while keeping their eyes open. In the 1950s, it was widely accepted that this phenomenon could account for the mysterious automobile accidents. ^{8, 9} GW Williams created the phrase "highway hypnosis" in 1963. Some theorists assert that the

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consciousness can experience hypnotic dissociation, which is based on Ernest Hilgard's theory. ^{8,1}



Figure 01: Landscape of a Classical Highway

HIGHWAY HYPNOSIS: PROCESS INVOLVED

Building on the theories of Ernest Hilgard that hypnosis is an altered state of awareness, Psychologists hold that the consciousness can develop hypnotic dissociation. In highway hypnosis, one stream of consciousness (subconscious mind) is driving the car while the other stream of consciousness (conscious mind) is focused elsewhere, dealing with other cognitive matters. Amnesia can even develop for the dissociated consciousness that drove the automobile. The phenomenon is a typical process of automaticity explained under cognitive psychology. ^{1,8}

- ψ **Automaticity:** Automaticity is the ability to do things without occupying the mind with the low-level details required, allowing it to become an automatic response pattern or habit. It is usually the result of learning, repetition, and practice. The quality of a behaviour or mental process that can be carried out rapidly and without effort or explicit intention (an automatic process). In brain imaging studies, automatic processes show dramatic decreases in cortical activity. ^{10,11}
- ψ **Muscle Memory:** A form of procedural memory that involves consolidating a specific motor task in to memory through repetition, which has been used synonymously with motor learning. When a movement is repeated over time, the brain creates a long-term muscle memory for that task, eventually allowing it to be performed with little to no conscious effort. This process decreases the need for attention and creates maximum efficiency within the motor and memory systems. Motor learning results in muscle memory, whereby the acquired motor skill can be performed without conscious effort. Muscle memory is found in many everyday activities that become automatic and improve with practice, such as riding bikes, driving motor vehicles, playing ball sports, typing on keyboards, dancing, playing musical instruments etc. ^{11,12}

HIGHWAY HYPNOSIS CONTRIBUTING FACTORS

ψ **Monotonous/Endless Roads**

The majority of the study that has been done on highway hypnosis indicates that boredom is a major factor in this phenomenon. A driving simulator was utilized in a 2003 study to examine how road monotony affected 56 seasoned male drivers. For 40 minutes at a time, the participants "drove" on two separate virtual roadways. Both roads were flat, but the first had just one kind of natural scenery: evenly spaced pine trees on either side. Multiple visual components, such as trees, farms, signs, and people, could be seen along the second route.

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Additionally, the landscape was occasionally broken up by flat bridges and overpasses. The more monotonous the road, the more the drivers tended to show signs of exhaustion, as indicated by large steering motions. The fact that their tiredness peaked after around 20 minutes of driving was also remarkable. This shows that highway hypnosis may occur suddenly on boring stretches of road, rather than only after extended durations of driving. ^{13,5}

ψ Brain Inattention

Another study from 2004 found that the oculomotor system, which governs eye movements, also contributes to highway hypnosis. The brain starts to rely less on retinal feedback and starts to rely more on extra-retinal feedback. In other words, the brain starts to become less vigilant and start to become less aware of visual inputs. ^{13,14}

ψ Fatigue/Sleepiness

When tired, there is a higher chance of going into highway hypnosis. Both weariness and the monotony of the drive can reduce mental awareness. In either scenario, processing what is seen by the brain is slower than usual, relying instead on mental predictability and autopilot. Even if the person does not exactly fall asleep, other variables like the monotonous road, the blending white lines, and the eternally stretching trees into the horizon might work in concert with fatigue to put into a trance-like state. Longer commutes potentially increase the risk of highway hypnosis. ¹³

SYMPTOMS

The warning symptoms might include; ¹³

- ψ Sleepiness
- ψ Loss of concentration
- ψ Wandering thoughts
- ψ A dull or dazed feeling
- ψ Slow reaction time
- ψ Heavy eyelids or frequent blinking
- ψ Mental Fogginess

IMPACT OF HIGHWAY HYPNOSIS/CHALLENGES ON SOCIAL HEALTH

While the person experiencing might be technically awake and operating on autopilot, highway hypnosis could have serious consequences such as road traffic accidents and resultant grave injuries.

Road hypnosis has been blamed for many accidents on highways across the world. Highway hypnosis has recently been blamed for some accidents on the first section of the Indian Samruddhi Expressway in Maharashtra. According to officials, since 2023, 39 people have died and 143 have been injured in collisions on the expressway. Highway officials intend to install billboards, signage, posters, and message boards along the Samruddhi Expressway to keep drivers interested through constructive distractions and prevent them from falling into highway hypnosis. ^{13,15}

PREVENTIVE INTERVENTIONS

ψ Taking a Break

The brain is more prone to go into autopilot mode, the longer a person spends doing a boring task.

When this occurs while driving, the person endangers both himself and other motorists in the area.

Making sure to budget adequate time for stops every hour or two when planning a road trip

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and moving around as much as possible after getting out of the car might help. [Walking quickly or sprinting continuously]. Also, a quick snooze can help one feel refreshed if they need to continue driving despite feeling tired. ¹³

ψ Having some Caffeine

Caffeine as in coffee or tea is a powerful stimulant. Caffeine will boost alertness and help focus on driving. ¹³ The Indian state of Kerala has developed a successful strategy to combat highway hypnosis. According to the ‘Kerala Model’, the Kerala police has implemented effective strategies to deal with road hypnosis and thus, reduce road traffic accidents. After an on-road experiment of sharing hot black coffee with drivers to keep them alert against fatigued night drives, the police are trying to move one step closer to a scientific mode of action plan that can mitigate late-night road accidents through an aggressive virtual awareness campaign. The interventions included offering both black coffee (Stimulant) and mass awareness programmes to ensure a safe and sound travel among night drivers by educating about the seriousness of highway hypnosis in which the driver zones out or drifts away in a trance during a long monotonous night journey and ends up in a dangerous collision. The program continues to be a big success and has gained several laurels and applauds from the public. ¹⁶

ψ Environmental Manipulation

Putting on loud music, radio, talking or singing while driving can help effectively in dealing with drowsiness. Also, rolling down the window to get a cool breeze or turning on the air conditioning as well as maintaining an upright posture while driving can prevent slipping in to a relaxed state. ¹³

ψ Eating Lightly

A heavy snack might induce drowsiness. It is recommended to have a light meal, less sugary before long drives. Also, avoiding alcohol intake is a crucial preventive measure. ¹³

ψ Sleep Hygiene

Getting enough sleep before a long drive is often pivotal in dealing with highway hypnosis. Avoiding night time drive and switching to a day time drive is also advisable. ¹³

IN POPULAR CINEMAS

Few notable ones include; ‘The Horror Show’ (1989) depicting, the protagonist Lance Henriksen getting Highway hypnosis. Another famous Hollywood movie goes by the name ‘White Line Fever’ also portrays the issues faced by motorists including truck drivers. ^{17, 18}

DISCUSSION

Highway hypnosis leaves the person less than fully conscious, so it could have major repercussions even though the person could be physically awake and running on autopilot. Although getting sucked into a long, monotonous road is very typical, one can reduce the risk by making preparations to keep themselves more awake. Highway hypnosis increases the risk of car accidents because it makes it harder for the individual to notice changes in the immediate environment. It may cause unexpected accident and serious harm to the individual and others. The Indian scenario shows a higher rate of accidents and people losing life due to highway hypnosis. As per the Indian Express reports (2022), Mumbai express highway is reported to be experiencing high rates of accidents due to Highway hypnosis. The Mumbai-Nagpur Expressway has seen an average of three accidents every day since the road was opened in December 2022, nearly 616 accidents have occurred on the expressway. In these accidents, 88 people have died while 660 were left injured. Its narrow straight lanes also pose a unique problem of visual fatigue with the driver witnessing the same scenery and having to drive on a monotonous road stretch. Highway hypnosis occurs when individuals zone out

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while driving a vehicle. ¹⁹ Due to continuous driving on a monotonous stretch for long hours, the drivers get hypnotized and sometimes lose control and reach a trance state resulting in losing control of the vehicle and leads to accidents. As it is a preventable phenomenon, prompt measures including creating awareness among motorists along with other preventive measures needs to be instituted.

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Conflict of Interest

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