

spatial disorientation

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Spatial Disorientation and Visual Illusion

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Spatial Disorientation and Visual Illusion

Spatial disorientation is the phenomenon that is experienced by the underwater driver and the airplane pilots that induces the inability of the individual to determine the original true body position and the motion that affects the altitude relative to the earth or the surrounding. In this case, most of the clue that experiences the phenomenal is derived from the sensations received from the eyes, ears, or the human muscle (Gil-Cabrera, Jaime, et al. 2020). Thus the motion change abrupt the sense organ, resulting in the overestimation of the degree change's content. Notably, the spatial disorientation in the aircraft can be induced from the flight situation resulting from the visual misinterpretation. Consequently, the visual illusion is the visual condition characterized by the visual percept that most of the time appears to differ from reality. The study's imperative is to determine the effects associated with spatial disorientation, the various safety situations, and the different ways to mitigate the situation.

Effects emanating from Spatial disorientation and visual illusion

Various effects are associated with ¹spatial disorientation and visual illusion, and the loss of situational awareness on human performance. For instance, if not well corrected, the spatial disorientation can result in the loss of effective control of the flight. In this context, once the aircraft enters the condition in which the pilot cannot be distinct from the visual horizon, most of the time, the inner ear's drift continues to be uncorrected. The situation causes the pilot to have deficient the proficient use of the gyroscopic flight instrument. This error builds and facilitates the aircraft's loss of control through the diving turn, referred to as the graveyard spiral. The pilot remains unaware of the aircraft turning, thus causing the accident.

Approaches to mitigate these effects

Various methods can address the safety situation, especially whenever the pilot is facing impaired decision-making and judgment fatigue and stress. For instance, the pilot can personally experience the kind of the sensory Barany chair that enables them to be more prepared to recognize the sensory illusion's presence whenever it occurs during the flight and thus enable them to take immediate and better appropriate actions. In this case, the pilot can obtain the training that enables them to control proficiently from the reference to the instruments (Kang, Yun, & Kim, 2020). When the pilots are flying at night, they should ensure that they reduce the reliance on the flight instruments. The pilots should study and ensure that they come more familiar with the unique geographical conditions in the locations that the flight is intended, consequently. In the visual illusion in the flight process, the pilot should be more confident in the use of the instruments and ensure that they ignore the rest of the conflicting signals that the body gives them.

There are various risk mitigation processes associated with the situation and can be used to improve human performance. For instance, the pilot involved should clarify and understand the requirement they are supposed to have if the scenario happens. For instance, on the eve of the reduced visibility, the pilot should ensure that they mitigate the accident's occurrence through the use of the flight instruments. More so, there should be effective communication incase the pilot begins to experience the visual illusion. In this case, it will be easier for the pilot to hand over the aircraft's control to the other party to mitigate the occurrence of the accident.

To conclude, the pilot needs to understand the effects associated with spatial disorientation and the visual illusion that can affect the progress of the work. More so, they should be aware of the various techniques that they should use to mitigate the situation in case it happens.

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