Scientific Research Publishing

Psychology, 2021, 12, 1379-1383
https://www.scirp.org/journal/psych
ISSN Online: 2152-7199
ISSN Print: 2152-7180

"Twisties" and Olympic Games: A Role for Hypnosis in Top-Level Athletes Who Have Lost the Sense of the Self in Aerial Space?

Edoardo Casiglia[1,2], Valérie Tikhonoff[2]

[1]Studium Patavinum, University of Padua, Padua, Italy
[2]Department of Medicine, University of Padua, Padua, Italy
Email: edoardo.casiglia@unipd.it

How to cite this paper: Casiglia, E., & Tikhonoff, V. (2021). "Twisties" and Olympic Games: A Role for Hypnosis in Top-Level Athletes Who Have Lost the Sense of the Self in Aerial Space? *Psychology, 12,* 1379-1383.
https://doi.org/10.4236/psych.2021.129086

Received: August 3, 2021
Accepted: September 11, 2021
Published: September 14, 2021

Abstract

"Twisties", rarely affecting top-level predisposed young people engaged in athletic evolution and recently observed during the 2020 *Olympic Games*, sometimes have a psychodynamic origin (dissociation accompanied by depersonalization and derealisation) and could be treated with adequate hypnotic suggestions. This could shorten the recovery of these athletes through the awareness of a repressed trauma and/or a direct intervention on body awareness.

Keywords

Hypnosis, Olympic Games, Top-Level Athletics, Hypnosis, Depersonalization, Derealisation, Therapy

1. Introduction

Disorders called "twisties", climbed to the fore during the 2020 *Olympic Games* held in 2021, are often associated to (or even produced by) a partial detachment from the sense of self (Jáuregui Renaud, 2015). They are quite rare, and more frequent in adolescence and early post-adolescence, that is, in the age in which athletic performance is higher, at least from a physical point of view. Twisties recently caused the retirement of a top-level athlete from some competitions.

Twisties, curiously not yet explicitly mentioned in medical literature, occur most of the time in an asymptomatic or paucisymptomatic way in the general population, which does not notice it, while they reveal themselves more easily and take on a crucial role in aeronautical and spatial medicine as well as in some sports disciplines that require great coordination skills, in particular in those in-

cluding vaulting, overturning, pike jumps etc. (Bradshaw, 2004; Dainis, 1981; Seifert et al., 2010). The aerial phase of these exercises is very demanding (Seifert et al., 2010) and requires enormous coordination and a very pronounced sense of the Self in the three-dimensional space, not different from the one requested to the astronauts or to the pilots of modern highly-sophisticated military airplanes (Douglas, 2009; Messerschmid et al., 2004).

2. Danger of Twisties

Pilots and astronauts are selected and long trained to prevent twisties from developing during flight. It is normally not so for athletes. When occurring in the course of the sports disciplines mentioned above, twisties are very dangerous and can lead to serious physical trauma. Low-level athletes, on the contrary, do not usually face activities so demanding from a spatial point of view.

3. Pathogenetic Considerations

Twisties recognize a varied and vague pathogenesis, both of physical and psychodynamic nature.

Top-level athletics strongly engage the system of self-recognition in space, particularly insula (salience detection and body awareness), precuneus (self-referential processing), anterior cingulate (emotional processing), and thalamus as "sensory relay station" also implied in dissociation (Merckelbach & Muris, 2001) and in self-recognition (Krause-Utz et al., 2017). The disorder is described among athletes as a dissolution of the sense of space and/or a loss of awareness of one's presence. In some cases they are attributed to physical trauma or epilepsy (Heydrich et al., 2019), other times they can derive from psychic causes and more precisely from the onset of a sense of depersonalization and derealisation (D&D) following a psychic trauma or a post-traumatic stress disorders (PTSD) in predisposed personalities (Edwards & Angus, 1972; Krause-Utz et al., 2017).

Although no remote diagnosis can be made based on the information reported by the press, in the case that occurred at the *2020 Olympics Games*, people close to the athlete concerned (who publicly spoke about it) actually mentioned a D&D state, perhaps deriving from a PTSD or a previous abuse. But it must be absolutely clear that the case indirectly mentioned here is not used as a clinical case, given the insufficiency of data and the inadequate and not appropriate context, but only as a theoretical occasion to generally discuss a remarkable phenomenon of considerable interest, suggesting, for its treatment, the possibility of hypnotic therapy.

4. D&D in Hypnosis

D&D, together with dissociation, are always present in hypnosis, including the neutral one (*i.e.* when not expressly desired), and can be also deliberately produced. In our Clinical and Experimental Hypnosis Laboratory in Padua and

Turin (Casiglia, 2015) we have often produced very intense states of D&D for experimental and didactic purposes. Interestingly, the above-mentioned brain centres (insula, precuneus, anterior cingulate and thalamus) are always involved in experimental hypnotic tasks, as demonstrated by functional magnetic resonance and electroencephalogram (Casiglia et al., 2012b; Casiglia et al., 2020). The cerebellum too is involved (Casiglia et al., 2020). The cerebellum has historically been associated with the control of spatial balance (highly necessary in top-level athletes), but our studies showed that it is also implicated in the use of subjective consciousness and in "hypnoic dissociation with D&D" (Casiglia et al., 2020).

5. A Therapeutic Role for Hypnosis?

What is of paramount practical importance is that, just as hypnosis produces D&D in people in hypnotic trance, it often resolves them equally well in people who suffer from these disorders (Kluft, 1992; Nash et al., 1984), unless they are of organic origin only. In our Laboratory cited above (Casiglia et al., 2012a) we have been both producing and solving many cases of spontaneous D&D of varying degrees of intensity by employing suitable commands before de-hypnotization, commands that have the ability to act even in the post-hypnotic period. This post-hypnotic period can last indefinitely if the phenomenon is exclusively of a psychodynamic nature and if its causes are removed in hypnosis (Casiglia, 2015).

Psychodynamic twisties, which can end an athlete's career, require psychotherapy that seeks out and resolves any trauma and sometimes drug therapy (Meneses et al., 2021; Appel, 2020). If this treatment is long-lasting, the career is ruined anyway, with serious damage not only human but also economic.

We suggest that in these athletes a hypnotic treatment can solve or contribute to solving the problem of twisties in a shorter time, even in one or two sessions, both allowing through age regression/revivification the very rapid identification, for instance by hypnotic age regression (Giordano et al., 2012), of a removed trauma, either by administering suggestions in therapeutic settings aimed at raising awareness of the trauma and/or depriving it of its pathogenic value (Gold & Quiñones, 2020; Spiegel & Cardena, 1990).

The experimental demonstration of this theory in the case of twisties is difficult, due to the rarity of these phenomena in the high-level sports field and their merely subjective nature. In our opinion, this is a path that is worth taking for the quick and safe recovery of these sporting excellences.

6. Conclusion

This paper is addressed at hypnosis scholars, as well as psychologists and medical doctors who use hypnosis, and finally to those who deal with sports psychology. Its purpose is to accent the possible role of hypnosis in accelerating and improving the clinical course of high-level athletes suffering from twisties.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

Appel, P. R (2020). Post-Traumatic Stress in the Medical Setting. *American Journal of Clinical Hypnosis, 63,* 112-127. https://doi.org/10.1080/00029157.2020.1742086

Bradshaw, E. (2004). Target-Directed Running in Gymnastics: A Preliminary Exploration of Vaulting. *Sports Biomechanics, 3,* 125-144. https://doi.org/10.1080/14763140408522834

Casiglia, E. (2015). *Treatise of Hypnosis and Other Modifications of Consciousness.* CLEUP.

Casiglia, E., Finatti, F., Tikhonoff, V., Stabile, M. R., Mitolo, M., Albertini, F., Gasparotti, F., Facco, E., Lapenta, A. M., Gasparotti, F., & Venneri, A. (2020). Mechanisms of Hypnotic Analgesia Explained by Functional Magnetic Resonance (fMRI). *International Journal of Clinical and Experimental Hypnosis, 68,* 1-15. https://doi.org/10.1080/00207144.2020.1685331

Casiglia, E., Tikhonoff, V., Giordano, N., Andreatta, E., Regaldo, G., Tosello, M. T., Rossi, A. M., Bordin, D., Giacomello, M., & Facco, E. (2012a). Measured Outcomes with Hypnosis as an Experimental Tool in a Cardiovascular Physiology Laboratory. *International Journal of Clinical and Experimental Hypnosis, 60,* 241-261. https://doi.org/10.1080/00207144.2012.648078

Casiglia, E., Tikhonoff, V., Giordano, N., Regaldo, G., Facco, E., Marchetti, P., Schiff, S., Tosello, M. T., Giacomello, M., Rossi, A. M., & Amodio, P. (2012b). Relaxation versus Fractionation as Hypnotic Deepening: Do They Differ in Physiological Changes? *International Journal of Clinical and Experimental Hypnosis, 60,* 338-355. https://doi.org/10.1080/00207144.2012.675297

Dainis, A. (1981). A Model for Gymnastics Vaulting. *Medicine and Science in Sports and Exercise, 13,* 34-43. https://doi.org/10.1249/00005768-198101000-00016

Douglas, W. K. (2009). Preparation of the Astronaut. *Aviation Space and Environmental Medicine, 80,* 503. https://doi.org/10.3357/ASEM.26003.2009

Edwards, J. G., & Angus, J. W. (1972). Depersonalization. *British Journal of Psychiatry, 120,* 242-244. https://doi.org/10.1192/bjp.120.555.242

Giordano. N., Tikhonoff, V., Tosello, M. T., Lapenta, A. M., & Casiglia, E. (2012). An Experimental Approach to Hypnotic Age Regression: Controlled Study over 10 Healthy Participants. *Contemporary Hypnosis and Integrative Therapy, 29,* 271-283.

Gold, S. N., & Quiñones, M. (2020). Applicability of Hypnosis to the Treatment of Complex PTSD and Dissociation. *American Journal of Clinical Hypnosis, 63,* 78-94. https://doi.org/10.1080/00029157.2020.1789546

Heydrich, L., Marillier, G., Evans, N., Seeck, M., & Blanke, O. (2019). Depersonalization- and Derealization-Like Phenomena of Epileptic Origin. *Annals of Clinical and Translational Neurology, 6,* 1739-1747. https://doi.org/10.1002/acn3.50870

Jáuregui Renaud, K. (2015). Vestibular Function and Depersonalizationv/Derealization Symptoms. *Multisensory Research, 28,* 637-651. https://doi.org/10.1163/22134808-00002480

Kluft, R. P. (1992). The Use of Hypnosis with Dissociative Disorders. *Psychiatric Medicine, 10,* 31-46.

Krause-Utz, A., Frost, R., Winte, D., Bernet, M., & Elzinga, B. M. (2017). Dissociation and Alterations in Brain Function and Structure: Implications for Borderline Personality Disorder. *Current Psychiatry Reports, 19,* 6-27. https://doi.org/10.1007/s11920-017-0757-y

Meneses, E., Kinslow, K., McKenney, M., & Elkbuli, A. (2021). Post-Traumatic Stress Disorder in Adult and Pediatric Trauma Populations: A Literature Review. *Journal of Surgery and Research, 259,* 357-362. https://doi.org/10.1016/j.jss.2020.09.023

Merckelbach, H., & Muris, P. (2001). The Causal Link between Self-Reported Trauma and Dissociation: A Critical Review. *Behaviour Research and Therapy, 39,* 245-254. https://doi.org/10.1016/S0005-7967(99)00181-3

Messerschmid, E., Haignere, J. P., Damian, K., & Damann, V. (2004). The European Astronaut Centre prepares for International Space Station Operations. *Acta Astronautica, 54,* 527-539. https://doi.org/10.1016/S0094-5765(03)00207-8

Nash, M. R., Lynn, S. J., & Stanley, S. M. (1984). The Direct Hypnotic Suggestion of Altered Mind/Body Perception. *American Journal of Clinical Hypnosis, 27,* 95-102. https://doi.org/10.1080/00029157.1984.10402863

Seifert, L., Vantorre, J., Lemaitre, F., Chollet, D., Toussaint, H. M., & Vilas-Boas, J. P. (2010). Different Profiles of the Aerial Start Phase in Front Crawl. *Journal of Strength and Conditioning Research/National Strength & Conditioning Association*, *24,* 507-516. https://doi.org/10.1519/JSC.0b013e3181c06a0e

Spiegel, D., & Cardena, E. (1990). New Uses of Hypnosis in the Treatment of Posttraumatic Stress Disorder. *Journal of Clinical Psychiatry, 51,* 44-46.