

Tinnitus, lucid dreaming and awakening. An online survey and theoretical implications.

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Abstract / Objectives

Tinnitus can cause significant distress when it persists continuously. However, previous studies have discovered an intriguing phenomenon: in nearly all individuals with tinnitus, the presence of tinnitus is notably absent during dreams. Furthermore, patients occasionally mention that tinnitus is not present during nocturnal awakenings. The objective of the current investigation is to validate previous findings regarding tinnitus-free dreams in the majority of individuals with tinnitus, while also gaining a deeper understanding of the manifestations of tinnitus at awakening and during dreams, notably specifically during lucid dreams.

Material and Methods

195 tinnitus patients answered an online survey focusing on tinnitus, dreams, and awakening (TDA) on the mutual-help community Siopi between July 2023 and May 2024. The sample comprised 71 women and 105 men (18 missing values), with a mean age of 50.98 ± 13.49 years (18 missing values), and a mean time since tinnitus onset of 7.98 ± 9.17 years (48 missing values).. All participants gave their informed consent by accepting the general conditions of use and data management policy of Siopi.

Results

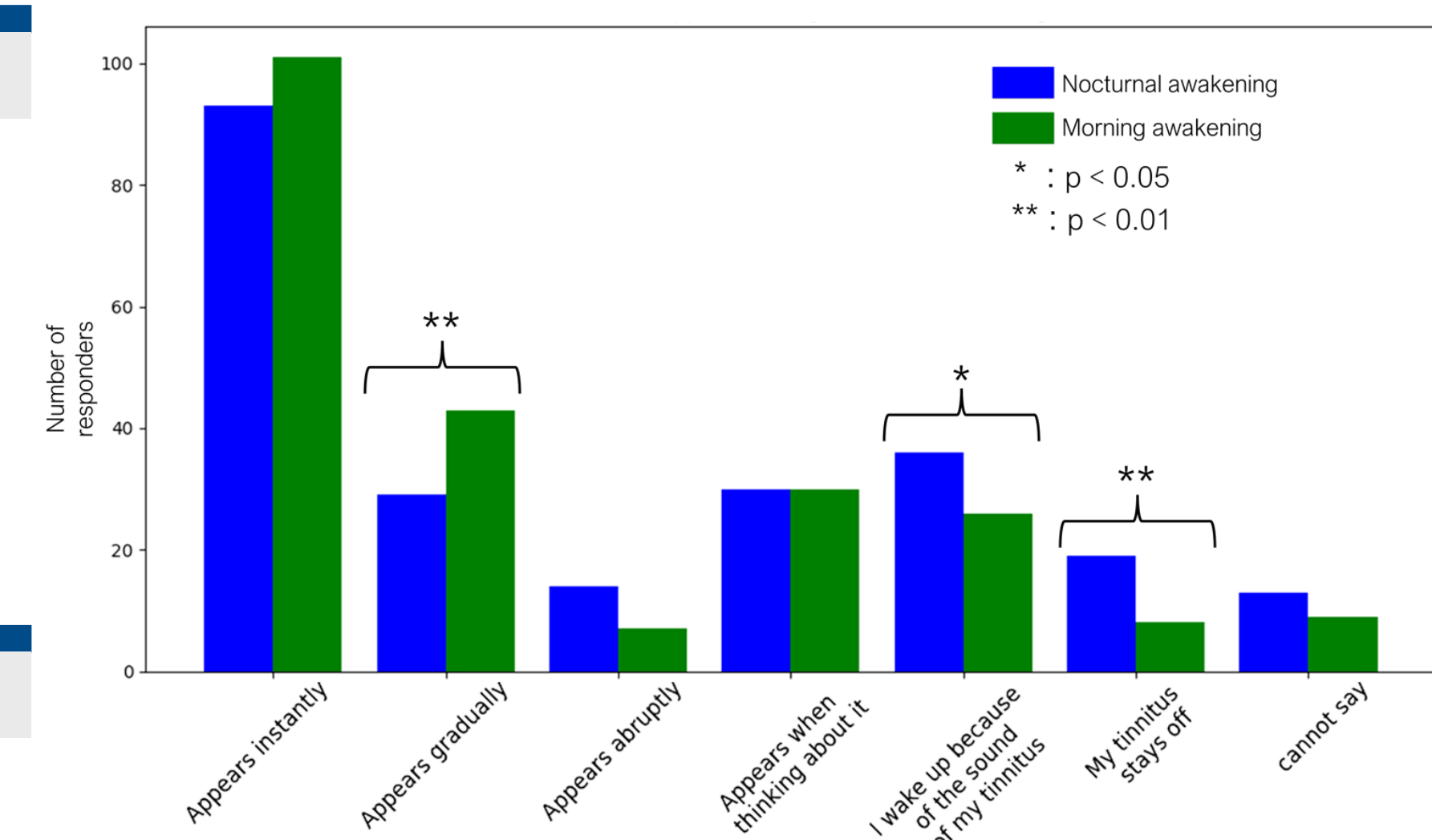
Tinnitus and dreaming	Percentage	Tinnitus and awakening	Percentage
Do you remember your dreams ?	Missing : 0/194	Tinnitus higher when awakening from a dream	Missing : 57/160*
<i>I often remember my dreams</i>	22.7 %	<i>No, it decreases</i>	1.0 %
<i>I sometimes remember my dreams</i>	59.8 %	<i>No</i>	64.1 %
<i>I do not remember my dreams</i>	16.0 %	<i>Yes sometimes</i>	21.4 %
<i>I do not dream</i>	1.5 %	<i>Yes, this happens most of the time, I am sure of it</i>	13.6 %
Do you hear your tinnitus in your dreams ?	Missing : 0/160*	Nocturnal awakening influence on tinnitus	Missing : 0/194
<i>I hear my tinnitus in my dreams</i>	3.1 %	<i>Cannot say</i>	6.7 %
<i>Sometimes I hear it, sometimes no</i>	4.4 %	<i>Tinnitus appears instantly</i>	47.9 %
<i>Not hearing tinnitus in my dreams</i>	92.5 %	<i>My tinnitus wakes me up</i>	18.0 %
Dreams about tinnitus ?	Missing : 0/160*	<i>Sometimes my tinnitus stays off</i>	9.8 %
<i>Yes, I had had a positive dream about my tinnitus</i>	2.5 %	<i>Tinnitus appears gradually</i>	14.4 %
<i>Yes I had had a nightmare about my tinnitus</i>	12.5 %	<i>Tinnitus appears abruptly after a while</i>	7.2 %
<i>Yes and it often happens</i>	4.4 %	<i>Tinnitus appears when thinking about it</i>	15.5 %
<i>No I never had a dream about my tinnitus</i>	83.1 %	Morning awakening influence on tinnitus	Missing : 0/194
Do you do lucid dreams ?	Missing : 0/160*	<i>Cannot say</i>	4.6 %
<i>Yes it has happened to me, but it is rare</i>	44.4 %	<i>Tinnitus appears instantly</i>	52.1 %
<i>Yes I often do lucid dreams</i>	11.2 %	<i>My tinnitus wakes me up</i>	12.9 %
<i>Yes, and I have trained to have them whenever I want</i>	0.6 %	<i>Sometimes my tinnitus stays off</i>	4.6 %
<i>No, I never had a lucid dream</i>	43.8 %	<i>Tinnitus appears gradually</i>	21.6 %
Hear tinnitus during lucid dreams ?	Missing : 111/160*	<i>Tinnitus appears abruptly after a while</i>	4.1 %
<i>Not concerned</i>	55.1 %	<i>Tinnitus appears when thinking about it</i>	15.5 %
<i>No, I don't</i>	32.7 %	Nap influence on tinnitus	Missing : 0/194
<i>Sometimes I hear it, sometimes no</i>	2.0 %	<i>Cannot say / never do a nap</i>	18.6 %
<i>Yes, I do</i>	10.2 %	<i>It decreases my tinnitus</i>	13.4 %
Hear external sounds during lucid dreams ?	Missing : 111/160*	<i>Doing a nap has no impact on my tinnitus</i>	32.5 %
<i>Not concerned</i>	61.2 %	<i>It increases for a moment (10 min, 1 hour) then goes back to normal</i>	24.2 %
<i>No, I don't</i>	26.5 %	<i>It increases my tinnitus until the next sleep episode</i>	13.9 %
<i>Yes, I do</i>	12.2 %	<i>The sound of my tinnitus changes/a new sound appears</i>	6.7 %
		<i>The same things happen when I extend my sleep in the morning</i>	9.8 %

(* For these questions, only responders that reported remembering at least some of their dreams are reported)

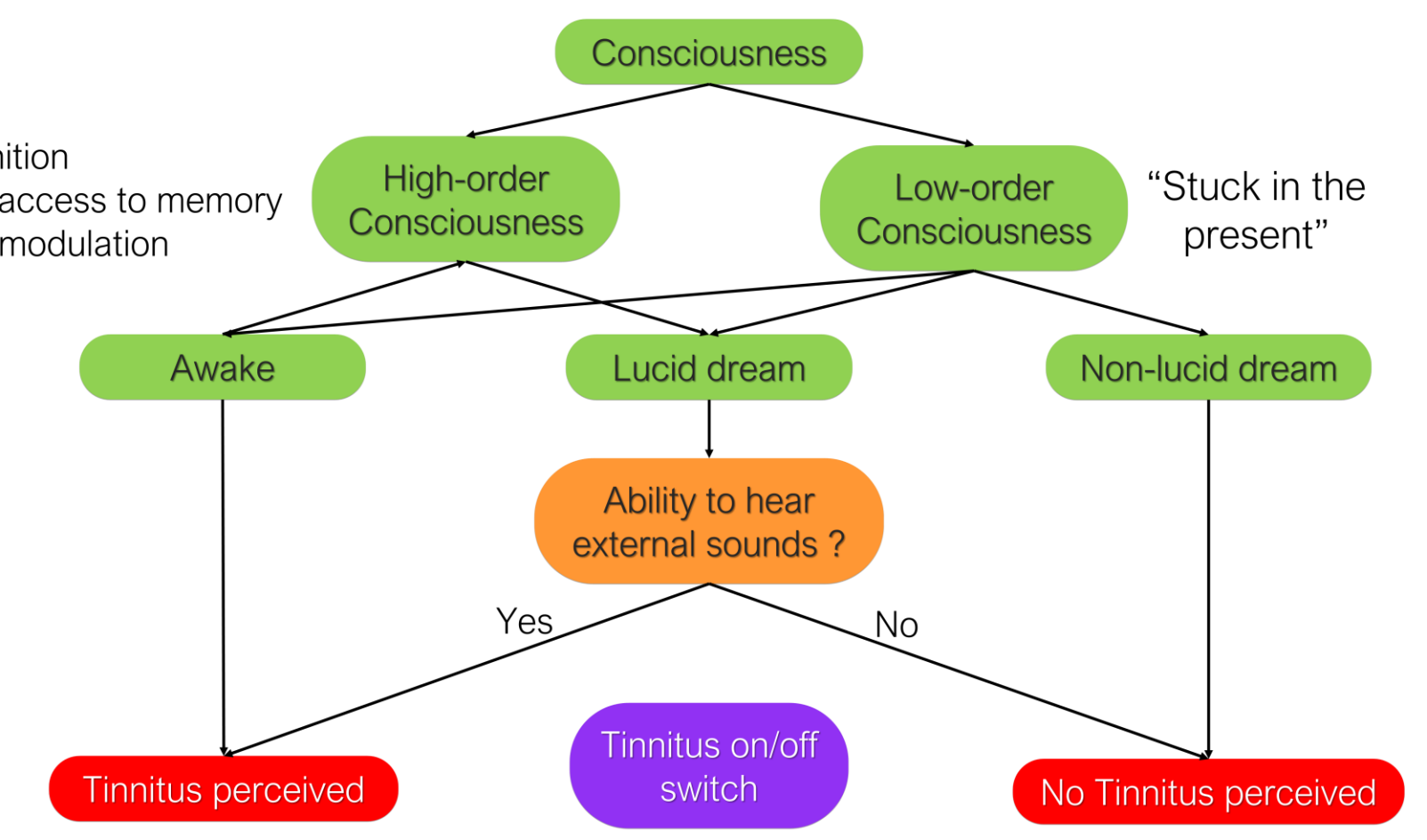
Tinnitus, Dreams and Awakening survey results (left)

Hearing tinnitus during lucid dreams			
		Yes / sometimes yes, sometimes no	No
Hearing external sounds during lucid dreams	Yes	7	1
	No	1	13

Cross-table on participants answers on tinnitus during lucid dreams. Only patients that could report on both questions were selected (patients that reported “not concerned/not being able to report” to either question or both were excluded)



Survey results on tinnitus temporality of manifestation upon awakening during nocturnal awakenings and in the morning (N=194). Wilcoxon test p-values were corrected with Benjamini Hochberg false discovery rate statistical corrections



- Metacognition
- Volitional access to memory
- Attention modulation

Revisited proposed model for characterization of tinnitus on/off switch location according to the integrative model of auditory phantom perception [1], taking into account observations made on lucid dreamers tinnitus perception.

Conclusion

- 92,5% of the 161 responders that reported remembering at least some of their dreams stated that they did not hear their tinnitus during their dreams, which is in accordance with past studies [2-3]. 83.1% reported that the concept of tinnitus was not present in their dreams.
- It was observed that it appears more frequent to hear one’s tinnitus during a lucid dream (7 / 22, 31.2%) than hearing tinnitus during normal dreams (12 / 160, 7.5 %). This suggests that the degree of lucidity during dreams has an impact on the odd of whether one will perceive tinnitus or not during such dreams.
- It appears that hearing tinnitus during a lucid dream is strongly associated with being able to perceive external sounds during one’s lucid dream. From this observation, we hence propose a revised version of an aspect of the integrative model of auditory phantom perception proposed by De Ridder and colleagues [1], on the supposed location of the “tinnitus on/off switch”.
- While tinnitus typically manifests immediately upon awakening, patients indicated that it can also emerge in various temporal patterns following awakening. A specific subgroup of patients reported an exacerbation of tinnitus when waking from both dreams and naps.

Références/ Acknowledgments

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2. De Ridder, D.; Joos, K.; Vanneste, S. The Enigma of the Tinnitus-Free Dream State in a Bayesian World. *Neural Plasticity* 2014, 2014, e612147, doi:10.1155/2014/612147.
3. Aazh, H.; Stevens, J.; Moore, B.C.J. Preliminary Examination of the Incidence of and Factors Related to Hearing Tinnitus in Dreams. *J Am Acad Audiol* 2021, 32, 76–82, doi:10.1055/s-0040-1718929.

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